Student candidates' literacy analysis using an ICT-based tool

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Abstract. This study aims to determine the readiness of schools in implementing the policy of school literacy movement as an effort to form literate generations and to analyze complex readiness in terms of facilities and school culture. This research was conducted in elementary schools in Pekalongan city and regency totaling 39 schools. This research uses qualitative research method. Data analysis uses the Miles and Huberman model steps as for steps (1) data reduction, (2) data presentation, and (3) drawing conclusions / verification. Data is collected through observation and interviews. The results of the study show that there are five principles of school literacy, namely 1). It should be in accordance with the developmental stages of student characteristics. 2) it uses a variety of texts and paying attention to the needs of students. 3) It must be in an integrated and sustainable manner. 4). It involves oral communication skills. 5) It should consider diversity. Of these five principles, in average, some schools only prepared the materials for schools, not the culture of school literacy. It has not yet been built in an integrated and sustainable manner considering that preparing literate generation should focus on sustainable processes that will benefit in the long time. Therefore, results of this study are important to be used as a reference for schools and policy makers in preparing schools so that they are ready to implement the school literacy movement for literate generations.

1. Introduction

Reading is one of the most important functions in life. All learning processes are based on reading skills [1]. Children with good habit of reading ability will have higher level of success in school and in life or in the community and it can open opportunities for a better life. Kern mentions "Reading is the heart of education" [2]. For the Muslim community, God's first commandment to the Prophet Muhammad was "Reading (Iqra)".

Ironically, the evaluations conducted by the Program for International Student Assessment (PISA), organized by the Organization for Economic Cooperation and Development (OECD), illustrate that in the two assessment periods held in 2009 and 2012, Indonesian students ranked 64 out of 65 participating countries in mathematics, science and reading. Although the 2015 PISA results have been increasing but it has not been encouraging enough. The low competency of students in these three fields proves that there must be something wrong in managing education. The low level of understanding of the reading shows that the education process has not developed the competencies and interests of students...
in knowledge. The present practice of education carried out in elementary schools also shows that schools have not functioned as learning organizations that make all citizens as lifelong learners; this is closely related to students' interest in reading which has not been fully developed in childhood.

In the Indonesian context, public reading interest is still very worrying [3]. This is due to various problems in some major cities in Indonesia, such as: the inadequate libraries which are required to be available in the modern city. There are only a small number of the readers in the libraries in big cities. In Jakarta, for example, out of about 10 million people, only 200 people visit the library / day and only 20% of them borrow books. This means that most people do not read. Of the more than 250,000 schools in Indonesia, only 5% of them have a library. This also means that many students do not read. Children spend more time watching TV than reading. They do not even read in their schools, where they spend most of their time. In addition, schools do not have programs to foster a culture of reading, this is like jumping from pre-literary to post-literary condition without getting into literary conditions or culture. The culture of watching has dominated the community.

In order to increase reading interest in early grade of elementary students which should be the foundation of literacy at the next level [4], the government through the Ministry of Education and Culture developed the School Literacy Movement (GLS). GLS is a comprehensive effort involving all school members (teachers, students, parents / students’ guardians) and the community, as part of the education ecosystem [5].

Literacy derives from Latin littera (letters) which means involving mastery of writing systems and accompanying conventions. However, literacy is primarily related to language and how the language is used. The written language system is secondary. When talking about language, it certainly cannot be separated from the talk of culture because language itself is part of culture. Thus, defining the term literacy must certainly include the elements surrounding the language itself, namely the socio-cultural situation.

However, the Prague Declaration in 2003 stated that literacy also covers how one communicates in society. Literacy also means practices and social relations related to knowledge, language, and culture (UNESCO). The UNESCO Declaration also states that information literacy is also related to the ability to identify, determine, find, evaluate, create effectively and organized, use and communicate information to overcome various problems [6]. These abilities need to be possessed by each individual as a condition for participating in an information society, and that is part of basic human rights concerning lifelong learning [7].

Relating to education, School Literacy is a business or activity that is participatory in nature by involving school members (students, teachers, headmasters, education staff, school supervisors, School Committees, parents / students’ guardians), academics, publishers, mass media, community (community leaders who can represent exemplary, business world, etc.).

School Literacy is a social movement with collaborative support from various elements. Habituation to reading students is one of the efforts taken to make it happen. This habituation is carried out for 15 minutes of reading activities (the teacher reads the books and the school members read silently, which is adjusted to the school context or target). When reading habit is formed, then it will be directed to the development stage, and learning (accompanied by targets based on Curriculum 2013). Variations in activities can be a combination of developing receptive and productive skills.

In the pocket book of the School Literacy Movement (The Ministry of Education and Culture) it is stated that the General Purpose of the School Literacy Movement is to develop students' character through acculturation of the school literacy ecosystem manifested in the School Literacy Movement so that they become lifelong learners. Whereas the specific objectives are to develop literacy culture for students’ reading and writing in schools, to increase the capability of citizens and the school environment to be literate, to make schools as a fun and child-friendly learning park so that school citizens are able to manage knowledge, to maintain continuity of learning by presenting various reading books and accommodating various reading strategies.

Literate generation is a term for a group of people who are literate in literacy, technology, and information, having critical thinking, sensitive to the environment or even sensitive to politics. A person
is said to be literate if he is able to understand something because he reads the right information and does something based on his understanding of the contents of the reading. When learning is done with the social culture and information enrichment, it would be able to develop students’ literacy skills because literacy has been developing not only related to simple literacy skills.

Literacy develops with a broad understanding of meaning, so literacy is no longer restricted but various in meaning (multi literacies). There are various kinds of literacy, such as computer literacy, media literacy, technology literacy, economic literacy, information literacy, and even moral and spiritual literacy. Literacy enables younger generation to be literate. Improving literacy skills in learning is in line with the goals of education, namely the development of potential students to become human beings who believe and devote to God Almighty, become noble, healthy, knowledgeable, capable, creative, independent, and democratic and responsible citizens (Ministry of National Education).

This goal can be obtained by students if they have become literate persons. Students with enough literacy are able to equip themselves with the expected abilities. The process of developing language and literary skills is carried out by developing their cognitive abilities, analysis, synthesis, evaluation, and creation through a direct study of social conditions by using careful and critical thinking skills. The process of understanding the younger generation of social phenomena with direct recognition will make it easier for them to develop their competencies. The young generation must be familiar with reading various information and accessing it from electronic media and mass media. In addition, they need to adapt to the times so that they become literate generation of Muslims who are literate in information, able to think critically and to solve social problems with the information they obtain.

However, in its development some schools could not apply the GLS optimally, and even some other schools have not applied this policy, so the goal of GLS has not been achieved properly.

2. Method
The method used in this study is a qualitative research method. Data analysis used the Miles and Huberman models with the following steps (1) data collection, (2) data reduction, (2) data presentation, and (3) drawing conclusions / verification. The research sample was taken randomly from elementary schools in cities and regencies with 39 elementary schools. Data were collected through observation and interviews. The data were analyzed using percentage descriptive analysis, which illustrated the research findings data with percentages to see the trend of research variables. Interviews were used to obtain information verbally from parents about their understanding and treatment. Observations were functioned as data triangulation to find out the real conditions. The instrument indicator was developed by considering two sides of the literacy environment, both physical and non-physical.

3. Result and discussion

3.1. Research results
The results of the study can be seen from the following figure 1.
The research findings area described in some parts, namely:

3.1.1. **Support and guidance from the school.** Support and guidance have been good; this can be seen from the results that 75% of headmasters are committed to implementing school literacy. Teachers and headmasters have also become literacy models, it can be seen that 75% of teachers and headmasters are willing to do so. However, it is not supported by the socialization of the school literacy movement policy that can be seen from the data that only 62% of schools stated that they had attended socialization while the others who have not participated stated that they did not understand this activity as well as the rules and policies in school to make this program successful. This is evident in the data that of 85% of schools that have carried out 15-minute reading before lessons, it only 77% of them carried out it in one semester.

3.1.2. **The environment with various reading material.** Data shows that the level of the environment with various reading material is still sufficient, it seems that only 64% of schools have reading corner in class, 60% of schools already have comfortable reading zones with non-lesson reading material, 60% of schools have provided written works to encourage their literacy. The texts and labeling provided have high in percentage, data shows 77% of schools have labeled them and 75% have provided many various books.

3.1.3. **Experiencing an interactive, integrated and sustainable manner.** The data of literacy interaction show that 75% of teachers have become models of literacy. Integration of the literacy process can be illustrated by 72% of the data on parental involvement in this program, and 58% of schools that have links to parents. The data of sustainability show that only 25% of schools have reading journals and only 26% have regular evaluation.

3.2. **Discussion**

The results of the research findings are discussed from two domains of literacy environment, namely the physical environment related to infrastructure facilities, books, exposure also some other physical literacy environment as well as non-physical literacy environment related to school literacy culture.

3.2.1. **Environmental physical literacy.** Data were obtained from 7 indicators that could describe the profile of the physical literacy environment, about the book, the number of books, the type of book, the place to store books, labeling and several other aspects of the physical environment.
It could be concluded that in average, school has provided a good physical literacy environment, but their main focus is on school learning so that the process of environmental literacy is only intended to help achieve school goals, this can be seen from the books and labeling provided which are related to school lessons. It has been known that increasing literacy is not only limited to reading, writing, and calculating related to school lessons [8]. In addition, the fondness and reading culture will be an important point in achieving a literate generation [7]. This requires material and environmental literacy that takes into account children's interests and developmental levels [4]. Children often need recreational reading materials such as children's literature [9], uncomplicated books that do not need to think hard to understand, so children enjoy the literacy process [10]. They do not always need to read the curriculum which demands certain burdens on the children. Therefore, reading activities would not reach the goal of literacy.

3.2.2. Non-physical literacy environment. Data obtained from 7 indicators can describe the profile of non-physical literacy environment related to literacy culture formed such as support and motivation for reading or learning, literacy interaction, habituation of reading activities, and examples of literacy implementation in the daily life and school culture.

From the data above, it can be concluded that the schools have designed learning support, they also motivate and encourage their students to read and learn. Unfortunately, the focus is only on the objectives and formal school tasks. Instead of focusing on school lessons, it is more important to maintain the literacy habituation, various materials of reading texts and other literacy activities. Since schooling is not the same as learning, it does not mean that when children are seen learning for their school assignments, they enjoy the process and the learning process occurs because learning requires a process of curiosity, thought, enjoyment, and meaning for children [8].

That literacy interaction is also very much needed to be an example for children in literacy activities is not of concern. Montessori mentions that a child's brain is also called an absorbent mind which is like a sponge that can absorb water around it uniquely [11]. Likewise, the child's brain, it will absorb all by observing information and activities around him without being seen "learning", so when the teacher reads and the child observes, in fact he is experiencing a process of cultural literacy which he will naturally model as stated by Joyce et al. [12].

Communication between parents and their teachers in schools is also important to note since this is part of the integration and ongoing process of literacy. It is expected that children are able to continue what they experience in school at home. Nevertheless, this process is not optimal, the data show that most parents only communicate with teacher twice in one semester, namely when first entering and when taking student Term Report Book. Therefore, the continuity of child development cannot be monitored in detail. One important principle in literacy is integration and sustainability, because building a culture of literacy must be continuous and integrated between schools and families [2] as a general principle in education that families and schools are an important parts of the three centers education.

Both of the above environments, both physical and non-physical, must be well prepared so that literacy goals can be achieved. As the seven principles of literacy education presented by Kern [2], namely: (1) literacy involves interpretation; the speaker and reader or listener participate in the act of interpretation, (2) literacy involves collaboration; that is there is a collaboration between two parties namely the writer / speaker and the reader / listener. (3) literacy involves conventions; that is, people reading and writing or listening and speaking are determined by cultural conventions / agreements (not universal) that develop through use and are modified for individual purposes. The Convention here includes rules of language both oral and written; (4) literacy involves cultural knowledge; because reading and writing or listening and speaking function in systems of attitudes, beliefs, habits, ideals, and certain values. (5) literacy involves problem solving; because words are always attached to the linguistic context and the situation that surrounds them, the act of listening, speaking, reading, and writing involves an effort to imagine the relationships between words, phrases, sentences, units of meaning, text- text, and worlds. (6) literacy involves reflection and self-reflection; readers / listeners and writers / speakers think of the language and its relationships with the world and themselves. After they are in a
communication situation they think about what they have said, how to say it, and why say it; (7) literacy involves the use of language; namely literacy which is not limited to systems of language (oral / written) requiring knowledge of how language is used both in oral and written contexts to create a discourse or dialogue.

The seven principles are also in line with Vygotsky's social learning theory, which emphasizes the interaction between "internal" and "external" aspects of learning and its emphasis on the social environment of learning [13]. According to Vygotsky's theory, cognitive function comes from the social interactions of each individual in cultural concepts. In Islam there is also a hadith narrated by Imam Bukhari and Muslim that every child is born in a state of fitrah, his parents will make it Jewish, Nashrani, or Majusi. Fitrah in that context can be interpreted as sacred and gifted which should be developed by their parents or the environment where they study. Then the maximum preparation of the environment both physically and non-physically will maximize the literacy skills in the Muslim generation so that a generation of literate Muslims can be formed.

In line with it, Kathy King-Dickman [14] and Donalyn Miller [15] mention that the importance of cultivating reading to students from an early age can be done by strengthening "internal" and "external" aspects and by giving special time to reading for students, letting students choose the reading materials that students like, and activating students’ metacognition in reading. Because students choose their own reading material that suits their interests [14,15], the teacher must provide much more various reading materials to make the students' reading comprehension better [16]. Then the maximum preparation of the environment both physically and non-physically will maximize student literacy skills to create literate generations.

4. Conclusion

Literacy ability is an important ability that must be possessed by students. In addition, family is an important part that must be ready and prepared because one of the principles of literacy is integration and sustainability to cultivate literacy not only in schools but also at home with family. Data from the findings indicate that family understanding of literacy is still lacking, as can be seen from the focus of guidance in the family that only focuses on the purpose of formal school lessons for the sake of doing homework or examinations. The average family is only high enough in the interaction literacy section that is related to the purpose of formal school education. In other side, the environment and family literacy culture have not been built in an integrated and sustainable manner considering that preparing literate generations should focus on sustainable and integrated processes that will benefit in long-term. The results of this study are important to be used as a reference for parents, schools and policy makers in preparing Islamic schools or families so that they will be ready to implement an integrated school literacy movement to form literate generations of Muslims.

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References

[1] Jill Barr-Walker 2016 Health literacy and libraries: a literature review Reference Services Review 44 2 191 - 205
[2] Kern R 2000 Literacy and Language Teaching (Oxford: Oxford UniversityPress)
[3] USAID PRIORITAS 2014 Pembelajaran Literasi Kelas Awal di LPTK [Online] Retrieved from: www.prioritaspendidikan.org
[4] Carol S, Beers J W and Smith J O 2010 A Principal's Guide to Literacy Instruction (New York: The Guilford Press)
[5] Direktorat Jenderal Pendidikan Dasar dan Menengah 2016 Panduan Gerakan Literasi Sekolah di Sekolah Dasar (Jakarta: Direktorat Jenderal Pendidikan Dasar dan Menengah, Kementerian Pendidikan dan Kebudayaan Republik Indonesia)

[6] Schryer E, Sloat E and Letourneau N 2015 Effects of an Animated Book Reading Intervention on Emergent Literacy Skill Development: An Early Pilot Study Journal of Early Intervention 37(2) 155 –171

[7] Baroody A E, Diamond K E 2016 Associations among preschool children’s classroom literacy environment, interest and engagement in literacy activities, and early reading skills Journal of Early Childhood Research 14(2) 146 –162

[8] Musthafa B 2014 Literasi Dini dan Literasi Remaja: Teori, Konsep, dan Praktik (Bandung: CREST)

[9] Huck C S 1987 Children Literature in the Elementary School (New York: Holt Rinehart)

[10] King C S E 2009 Digital literacies for the disengaged: creating after school contexts to support boys' game-based literacy skills On the Horizon 17 1 47 - 59

[11] Montessori M 2008 The Absorbent Mind (pikiran yang mudah menyerap). Terj. Daryanto. (Yogyakarta: Pustaka Pelajar)

[12] Joyce B, Weil M and Calhoun E 2011 Model Of Teaching: Model–Model Pembelajaran Edisi Kedelapan (Yogyakarta: Penerbit Pustaka Belajar)

[13] Kozulin A 2015 Vygotsky’s Theory of Cognitive Development International Encyclopedia of the Social & Behavioral Sciences (2nd Ed) 25

[14] King-Dickman K 2011 Learning to Love Reading in 30 Minutes a Day Interventions: What's Wrong

[15] Miller D 2010 Becoming a Classroom of Readers Reading to Learn 67 30-35

[16] Glass K T 2015 Chapter 1: Complex text and Disciplinary Literacy. In K. T. Glass, Complex Text Decode ASCD Express