Misconception of reading literacy and its impacts on literacy acculturation in school

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ABSTRACT

Literacy competencies are important for students to keep abreast of the pace in the 4.0 industrial age. Misunderstanding of the concept of literacy may result in the incorrect application of literacy acculturation. This study is aimed at 1) describing teachers' misconceptions of reading literacy and 2) describing the implementation of students' reading literacy acculturation at school. Data were collected from teachers' and students' statements and activities during the literacy acculturation activities in the participating schools from 19 regencies in East Java, Indonesia. Additional data were in the forms of documents and field notes obtained from observation, interviews, questionnaires, and documentary studies. The results show that: 1) the concept of literacy is understood as literal and mechanistic reading, and 2) schools tend to apply formal literacy activities by asking students to read texts 15 minutes before classes begin. Several problems are found in most research sites in which there is no follow-up on the given free reading assignments, teachers and school principals neither become literacy models, the availability of fiction and non-fiction books is limited, and students are not highly motivated to follow the reading literacy program. This study implies the urgent need to improve all school stakeholders understanding of the literacy concept and provide better activities for the implementation of the reading literacy acculturation program in schools.

Keywords: reading literacy, literacy concept, literacy acculturation

INTRODUCTION

Understanding terms is important for mastering knowledge. A misconception may result in a low mastery of knowledge. The study by Paul Suparno; Gonen & Kocakaya (in Veloo & Mat Ali, 2014) shows that students' misconception about learning the natural-science subject (NSS) results in a low achievement of students in Senior High School (SHS) in the subject of natural sciences. Such misconception becomes the cause of students' doubt in learning new concepts in the learning process.

Students' misconception about some subject matters has become a focus of research since the 1980s. Some of the studies show that such misconception is not only experienced by students. The studies by *Committee on Undergraduate Science Education and National Research Council* year 1997 and Sadia year 2004 (in Veloo & Mat Ali, 2014) shows that teacher experience a lot of misconception. Incorrect understanding of a concept by teachers can result in students experiencing misconception. Teachers' misconceptions about a subject matter can become the cause of learning that is not up to the target.

The use of information and communication technology (ICT) in various fields supports the acceleration of information production. The application of the technology of *cybernetics, the internet of things (IoT), and networking* enforces the acceleration of information production (Devi *et al*., 2020; Lase, 2019). In 2015, the *Mobile Electronic Market* recorded a total of seven billion world inhabitants who owned smartphones. During the Covid-19 pandemic, Google has

processed 100 Petabytes (PB) of information per day with three million servers, Facebook 300 PBs per day, and YouTube 1000 PBs of videos per day. In 2012, Big Data has recorded total data of 2.3 trillion Gigabytes (GB); in 2020, has rocketed to 43 trillion GBs of data per day (Wahono, 2021; LIPI, 2020). These show that the increase of data accelerates very fast.

Besides the great amounts of data that are produced, the variation of the produced data is also wide. They are in the form of written texts, videos, photos, pictures, and so on. All is possible through the services of IoT. The fast increment of information is not complemented by the increase in knowledge (Wahono, 2021). Data that are produced in large amounts and wide varieties have not been processed to become knowledge. In 1988, John Naisbitt (in Wahono, 2021) states accurately, *"We are drowning in data, but starving for knowledge!"*

Abilities to manage data become knowledge that can be used for various purposes. With knowledge, man can make estimations and predictions about what will happen in the future, analyze the association, correlation, and organization of data and attributes, as well as make decisions and policies. This condition requires one to optimize the abilities to think and be literate. The ability to literate is not only to receive information as much as possible, but also to retrieve, give meaning, categorize, select, and utilize information to face, tackle, and solve problems in various fields of life (Harsiati & Priyatni, 2017b). An adagio arises within the informational society; that is "Those who master information rule" (Ahmed *et al.*, 2021), meaning that in the society of information, mastery of information (literation) is needed. By mastering information, one can manage and utilize it to master knowledge, utilize the information for various purposes, solve problems, and produce various new constructive ideas. All these activities require literacy.

Being literate is not merely being able to spell and read words; but also relates to higher thinking skills to reason (Berry *et al.*, 2019a; Perry, 2012a). A reader does a series of activities of identifying text contents, interpreting, and reacting critically and creatively to find the significance, values, and functions of texts and utilize it for daily life needs, development of science, and development of self (Harsiati, 2018b; Harsiati & Priyatni, 2017a).

However, the literacy of Indonesian learners is still low. The study by PISA (Fenanlampir *et al.*, 2019a) shows that Indonesian students are the 3rd ranking from the bottom on the scores of PISA (mathematics, NSS, and reading). More than 70% of students are at the low level in mathematics (TIMSS), and no student is at the top level (*advanced level*) (Harsiati & Priyatni, 2017a). The results of AKSI show the achievement of Indonesian students (in mathematics, reading, and science) is in the inadequate category; (77.13%) for mathematics, 46.83% for reading, and 73.61% for science (Stacey, 2011a). The ones that are in the adequate category are 20.58% for mathematics, 47.11% for reading, and 25.38% for science. The ones that belong to the good are 2.29% for mathematics; 6.06% for reading, and 1.01% for science (Stacey, 2011b). In the same situation, the test results for PIAAC or Programme for the International Assessment of Adult Competencies in 2016 for the competency level of adults are very poor (Sujarwo, 2015). Indonesia is at the lowest level in all the kinds of competencies that are needed to find work as members of the community.

Considering the low level of literacy in Indonesian students, efforts are needed to tackle the problem. There are at least16 competencies to be improved for the students for them to be prepared for adaptation in the 21st society (General Directorate of Teacher and Education, 2018). These competencies are categorized into three groups of competencies; namely basic literacy, higher thinking skills, and quality of character (Subandiyah, 2017). Basic literacy competency is needed by a person to be able to apply the competencies in doing daily errands (Upton, 2021). These are reading and writing (literacy), mathematics (numeracy), science (scientific literacy), information and communication technology (ICT literacy), financial ability (financial literacy), and culture and civics (cultural and civic literacy) (Prawiro, 2019; Simsek & Simsek, 2020).

Accordingly, higher-order thinking competency is needed by a person to cope with very complex life challenges (Kim *et al.*, 2020; Singh *et al.*, 2020). The competencies include critical thinking/problem solving, creativity, and communication and collaboration (Saptono *et al.*, 2020). Quality of character refers to the ability to cope with problems or changes that one faces in one's environment (commonly stated as "good at"). This includes curiosity, initiative, persistence/grit, adaptability, leadership, and social and cultural awareness (Ummah, 2020).

Besides all of these, Junaidi (2020) states that to satisfy the demands of the 4.0 Industrial era, graduates must be prepared with new literacy competencies including data literacy, technology literacy, and humanity literacy (formulated as being a human being with good deeds based on the understanding of religious faiths). The problem is how to facilitate the young generation with all this literacy in the 4.0 Industrial era.

There has been much research on literacy competencies conducted by previous researchers. A study by the Ministry of Education and Culture on 6,500 students in the 10th grade in 34 provinces reports that the literacy competence level of Indonesian students is 489 (61% in a score range of 200 to 800), meaning that it is good enough. In the survey on literacy by Tanoto Foundation, it is reported that, out of 298 schools that are studied by the Education and Culture Ministry, only 9% have the initiatives to provide non-package reading materials to develop students' literacy (Pikiran Rakyat.com, n.d.).

A study by UNESCO in 2016 (Hutapea, 2019) shows that Indonesian students' reading habits are very low. Of the 61 countries included in the study, Indonesian students are in the 60th rank (Hutapea, 2019). A survey conducted by the Education and Culture Ministry reports that the cause for the low level of students' literacy competencies is the limited availability of access to reading materials and the low level of the reading culture, especially in remote areas. In the aspect of reading literacy competencies, the PISA tryouts show that only 30% of the students reach level-two competence, the competence to identify main ideas and find explicit information in texts of medium and long word counts (Hartanto, 2019).

Some studies are focused on the levels of literacy competencies and one study is devoted to the dimensions that cause students' low level of literacy competencies, namely the limited availability of reading accessed on the foregoing research results, a study needs to be done on the misconception of literacy in the teachers' perspectives in its connection to the acculturation of literacy for school students. Such a study on literacy misconception in connection to students' literacy acculturation is important as an effort to understand the problems related to students' literacy competencies.

The present study aims to describe the teachers' misconception of reading literacy as related to literacy acculturation for students in the school. Acculturation activities are efforts in developing acculturation, namely the socio-cultural processes to establish cultures to become stable habits or customs (Departemen Pendidikan Nasional, 2008). In terminology, acculturation is implanting cultural values to form personalities (Widyani, 2016; Wiedarti, 2016). Based on this concept, acculturation of reading literacy means an activity to implant the values of reading as a medium for mastering information.

The current study's results are expected to increase perspectives on the misconception of literacy by teachers and its relation to literacy activities in the school so that it can be used as an input of basic thinking for the development of literacy activity strategies for students in the school.

METHOD

The study used the constructivist paradigm of the qualitative-phenomenological approach (Denzin & Lincoln, 2009) reconstructing teachers' literacy conception as a mental constructive form that is specifically understood by the individual teachers. The mental construction is abstract in nature as it is in the mind of the research subjects that is concretely expressed by statements, behaviours, or actions. Therefore, the understanding and meaning of the literacy concepts are elicited through reciprocal interaction between the researchers and the research subjects.

Based on the constructivist approach, the study used a hermeneutic method. The construction of the literacy concepts is done through interpreting the meaning of the social actions, that is, the statements and actions of the teachers and students in the process of literacy acculturation in the school. This is in accord with Dilthey, Betti, and Hirsch (Denzin & Lincoln, 2009) who state that understanding the objectification of human thoughts can be done by hermeneutics.

The research data were in the forms of statements and activities of teachers and students and objects that represent (a) concepts of reading literacy according to teachers, and (b) activities of literacy acculturation in the school. These data were obtained by way of observation, interviews, and questionnaires. The questionnaires were given to teachers of junior and senior high schools in East Java (There are 38 regencies and mayoralties in East Java). From the number of high schools in the province of East Java, a total of 58 questionnaires were given to and returned by teachers from 19 regencies and mayoralties. The selection of the data sources was based on the representativeness of the area, types of schools, and level of schools that are presented in Table 1.

Table 1. Sources of research data

No	Location	State/Islamic Junior	State/Islamic Senior	Vocational	Total
1	Batu	1	0	0	1
2	Kota Malang	2	2	0	4
3	Kab Malang	1	1	0	2
4	Lamongan	2	1	1	4
5	Ngawi	2	1	3	6
6	Magetan	1	0	1	2
7	Ponorogo	1	1	2	4
8	Kediri	3	2	3	8
9	Pasuruan	3	1	1	5
10	Nganjuk	1	3	2	6
11	Blitar	1	1	0	2
12	Tuban	1	0	1	2
13	Probolinggo	2	0	0	2
14	Lumajang	0	1	0	1
15	Bondowoso	2	1	0	3
16	Jombang	2	0	0	2
17	Banyuwangi	2	0	0	2
18	Jember	1	0	0	1
19	Lumajang	0	1	0	1

Data sources in Table 1 are not equal in terms of numbers. This is due to the different numbers of questionnaires that were returned by the informants that had been determined before.

The returned questionnaires were analyzed in the frame of the teacher's perspectives of the literacy concepts and their activities in the literacy acculturation of students' reading in the school. Following this, observation, documentary studies, or interviews were conducted to obtain more in-depth and complete data about the literacy concepts and efforts of reading literacy acculturation in the school.

The observation was conducted during classroom learning. It was facilitated with video recording using photo recording devices. To obtain more complete data, interviews were conducted using an interview guide as the instrument. The documentary study was done on the lesson plans written by the teachers. The documentary study was done using documentary checklists as instruments.

The collected data were analysed qualitatively following the steps of qualitative data analysis (Miles & Hubberman, 1992; Sugiyono, 2013) consisting of the procedure of data reduction, data interpretation, data description, and conclusion drawing. This data analysis procedure was done side by side with the data collection process. Final analyses were done after data collection was complete by focusing on the main problems of the study. After being identified, the data were interpreted in line with the contexts, discussed for meanings, and finally, conclusions were made following the hermeneutic approach. In all these processes, the researchers also acted as the main instruments of the study.

FINDING AND DISCUSSION

Findings
The findings of the study consist of two main groups of presentation. These are (1) misconceptions of reading literacy by teachers, and (2) reading literacy acculturation for students in the school. These are presented as follows.

The misconception about reading literacy by teachers

This section of the research results presents the misconception of reading literacy in teachers. Results are presented in Table 2.

Table 2. Misconception of reading literacy

Concept	In Teacher	Lexical Meaning	Meaning in Literature	Misconception
Reading literacy	The habit of reading, the hobby of reading, the volition of reading Skills reading, listening, speaking, writing	1) Ability to understand texts (explicit and implicit) and use them to develop self and potential, ability to develop knowledge and potential, and ability to convey ideas in writing to participate in social interaction (Indonesian Dictionary) 2) Condition of being literate (Chambers English Dictionary) 3) Simple ability to read and write; having some skill or competence; and an element of learning (describes, have had a variety of meanings, considerably altering over time (*summarised by* McGarry (1991A, 1994) and by Snavely and Cooper (1997)	1) Mastering information. 2) Ability to identify text contents, interpret, react critically and creatively to find significance, values, and functions of text and use it for daily needs to develop science and self. 3) Informal definition of the simples literacy form is the ability to use language in its written form; literate people can read, write, and understand their mother tongue 4) More formally, literacy is conventionally understood as the ability to use graphic symbols to represent oral language [so that] what is collectively known by the group is externalized and remains in space and time (McGarry 1991B)	Literacy is given a shallower meaning than that of the lexicon and terminology, namely as the habit, hobby, and will to read
Reading	Pronouncing written words or symbols to obtain information in texts	1) Seeing and understanding the contents of what is written (by pronouncing loudly or silently) 2) Spelling or pronouncing what is written 3) Pronouncing 4) Knowing; predicting 5) Calculating; understanding	A series of activities of identifying text contents, interpreting reacting critically and creatively to find significance, values, and functions of text and use it for daily needs to develop science, knowledge, and self	Understanding of reading is literal, not reaching the interpretive and metacognitive levels

From Table 2, it can be seen that there is a misconception about reading literacy by teachers. Some teachers see reading literacy as the habit of reading; some see it as the hobby of reading, and others see it as the will to read. Some teachers see reading literacy as a hobby and will to read. Some even say that reading literacy is anything as long as "students have a reading activity". Meanwhile, concerning the activities, while somebody is reading, no opinion is given. The level of text understanding that must be achieved is not given any attention either. Reading literacy is understood in general as the activity of reading.

Reading literacy is understood in a shallower sense than it means lexically and academically. In Kamus Besar Bahasa Indonesia (KBBI) V (Great Dictionary of the Indonesian Language) (Badan Pengembangan Bahasa dan Perbukuan) (Institute of Language and Book Development), literacy of reading and writing is defined as the ability to understand text contents (explicitly and implicitly) and use it to develop knowledge and self potentials and the ability to convey ideas or opinions in a written form to be able to participate in the social environment. This basic dictionary meaning of reading and writing literacy is deeper and wider than that

understood by the teachers. In the dictionary meaning, reading and writing literacy carries the meaning that, in their reading activities, readers comprehend text contents explicitly and implicitly, categorize and select important information in the text, and use the acquired information to develop knowledge and self-potential.

Reading in literacy activities is distinguished from that in the contexts of the learning process. This can be seen from the discourses, activities, and efforts in facilitating the development of reading literacy acculturation for the students in the school. In this case, the objectives of the running of the reading literacy acculturation have not been accurately defined. Some schools which have carried out reading literacy acculturation state that the activities are carried out so that students have the habits of reading.

On the other hand, reading is defined as the activity to pronounce and define words and sentences in texts (grabbing the literal meaning of the text). This is represented in the forms of learning activities assigned to students. Students are required to take turns in reading the text loudly. One student reads a paragraph, followed by other students reading the next paragraphs until the end of the text.

Literacy acculturation activities in the school

Literacy acculturation is the process of implanting the habits of reading in the students. This can be seen from the activity of assigning students to read texts freely 15 minutes before classes begin. This activity is done at school in the following scheme as presented in Table 3.

Table 3. Reading literacy acculturation in the school

No.	Form of activity	Number of teachers in charge	Teacher's note for not doing the activity
1.	Assignment to student		
	Assign students to read freely for 15 minutes before class	70% of 58	The activity is not done because of the limited number of books. The library is located on the second floor, not enough time. Before class, time is spent memorizing short chapters from the Koran.
	Assign students to write a journal of the result of their reading before class	30% of 58	Students do not have reading diaries yet as the literacy activity is not yet well planned
	Assign students to write a portfolio of their reading activities	30% of 58	Still in the form of a plan, not yet scheduled
	Assign students to display their reading portfolios	20% of 58	Still in the form of a plan, not yet scheduled
2.	Supporting facilities from school		
	Display of literacy slogans on school walls and corridors	50% of 58	No employee is especially in charge; no funds available yet
	Display of posters of literacy actions	70% of 58	No employee is especially in charge; no funds are available yet
	Provision of the reading corner in the classroom	50% of 58	There is the school library; but no facility; the number of books is limited
	Provision of fiction and non-fiction books in the library	80% of 58	The number of books is not adequate; resources are still constrained
3.	Efforts to motivate students		
	Literacy festival	50% of 58	No schedule yet; constraints of facilities
	Literacy awards	40% of 58	No schedule yet
	Teachers read freely for 15 minutes before classes	60% of 58	Not yet scheduled
	The school principal and academic staff read freely for 15 minutes before classes	10% 58	At the designated time, the school principal is often not in the office

The literacy acculturation activities at school begin with assigning students to read freely for 15 minutes before regular classes begin. Students are free to choose books to read following their interests. This activity is carried out by around 70% of the 58 teachers involved in the study. The other teachers do not do it. The assignment given to the students is completed by the requirement for the students to write a journal and portfolio logs of the results of their reading

activities. This activity is done by a small portion of the teachers (30%); the remaining 70% do not assign students to write the journals. Students are simply given 15 minutes to read whatever they want before the regular classes begin.

Teachers who do not assign students to do the 15-minute free reading before class state that books are not available and the library is on the second floor. Some teachers explain that, in their school, there is an activity of memorizing short verses from the Koran done in unison.

The assignment to the students to do the 15-minute free reading is not followed up by many of the teachers (around 70%) to assign their students to write a reading journal. Only a small number of the teachers (30%) assign the students to write a journal log for the free reading activity. No other alternative is done either. Students are not asked to submit a report of their reading in any other form. Students are simply asked to do the 15-minute free reading and no monitoring activities are done by the teachers.

The literacy acculturation activities are also complemented by the campaign for literacy posters (70%) and slogans (50%) displayed on the walls and corridors of the school. The teachers report this is not done; no posters nor slogans are displayed in the designated places. This is because of the limited availability of books and funds. The number of books in the library is not adequate to support student literacy development.

The roles of the school principal and teachers are very important in giving motivation to the students in the literacy acculturation program of the school. However, supports from the school principal and teachers is not maximal yet. The school principal and many teachers do not carry out the reading activities at the same time. The results of this study show that the school principal and the teachers have not become good models for the literacy acculturation program. For example, while students are doing their 15-minute free reading, the school principal is not found in the office. In the same way, while students are doing their free-reading activities, many teachers do not read.

These data show that the activities of literacy acculturation in the school are still formalities. Efforts are not made to develop the abilities to acquire information, interpret and analyse it, and use it for developmental purposes. Text understanding is still limited to the reading of words and sentences for 15 minutes before the regular classes begin. In a small number of schools, the free-reading activities are followed by the students writing small notes and filing the notes in a simple portfolio to be kept in the classroom. Most schools, however, do not do it.

Texts that are used in the free reading activities are mostly taken from textbooks used for instructional activities in the classroom, either kept in the library or stacked in the classroom corner. In most schools, the availability of books is limited and mostly consists of lesson books. The literacy strategy in the instructional processes implemented by many teachers merely consists of assigning the students to read texts loudly in turns. This subsequently is followed by answering the comprehension questions in the textbook.

Discussion
The misconception about reading literacy

It has been shown that, in one definition in the study, reading literacy is understood by many teachers as the activity to pronounce and understand words and sentences written explicitly in a text. This teacher's understanding of reading literacy is too shallow. It is different from the concept of reading literacy stated by experts and literature references. Literacy competencies are not confined to the activities of pronouncing and defining words and sentences. To have literacy requires the abilities of higher-order thinking and reasoning (Berry *et al*., 2019b; Perry, 2012b). In this case, readers carry out a series of activities of understanding text content, interpreting it, and reacting to it critically and creatively to find the significance, values, and functions of the text to be used for daily needs purposes and their self-development (Harsiati, 2018a; Harsiati & Priyatni, 2017a).

In the same way, the teachers' concept of literacy is not in accord with that defined by UNESCO, i.e., the ability to know, understand, interpret, create, communicate, calculated, and apply multimodal analytical materials (print, written, and others) related to various contexts (Dan, Institute of Research and Development Centre of Curriculum and Book, 2018). The concept of

literacy by UNESCO is more detailed and contains demands for understanding various texts in various contexts. In comparison with the UNESCO concept of literacy, the concept of literacy from the teachers' perspectives is much shallower.

Meanwhile, if compared to the literacy concept suggested by the Programme for International Student Assessment (PISA), the teachers' concept is also shallower. According to PISA, literacy is defined as the reflection of cognitive competencies to translate the structure and characteristics of texts up to the understanding of natural phenomena. This literacy concept requires higher-order thinking abilities to acquire an understanding of various texts. Text comprehension is not only limited to textual understanding but also to contextual understanding in the form of the ability to construct knowledge and internalize life values. Teachers' understanding of literacy is, therefore, not accurate.

According to the studies by Committee on Undergraduate Science Education and National Research Council in 1997 and Sadia in 2004 (in Nurulwati, Arsaythamby Veloo, &Ruslan Mat Ali, 2014), a misconception occurs because the initial knowledge about students is based on common sense, and not on scientific research.

Activities of literacy acculturation

In the results of the present study, it can be concluded that the activities of literacy acculturation that is carried out in the school are formalities and shallow. Students are assigned to read freely for 15 minutes before regular classes begin. The activities of literacy acculturation are separated from the Indonesian language classes and other subject matter classes.

A small percentage of teachers (30%) give assignments to the students to report their reading activities in the form of a journal log. Some other teachers only assign students to do the free reading without a follow-up of doing any other activities. Students just do the free reading activity with no monitoring by the teachers.

What the teachers do in assigning students to do the 15-minute free reading without a follow-up activity of writing a report on the results of the reading activity seems to arrive from the teachers' misconception that reading literacy is merely a reading habit. Many teachers state that reading literacy means reading habits. Some of them even say that, in developing literacy, what matters is that students read.

Efforts to develop abilities to understand information, interpret and analyse it, and apply it in various contexts have not been done well. Understanding texts is confined to reading graphical symbols for 15 minutes before classes, some follow it up with writing a report in the form of brief notes to be compiled in a portfolio and keep it in class. In other schools, this follow-up activity is not even done.

Text types that are used in the literacy acculturation program are taken from classroom textbooks provided by the school that are kept in the library or classroom reading corners. In most schools, the availability of books is still very limited. Literacy development activities are carried out by some teachers by assigning students to read texts loudly in turns. After doing the loud reading, students are asked to answer the comprehension questions in the textbook.

The literacy acculturation activities that are facilitated by the school have not directed to the development of higher-order thinking abilities in reading. Efforts to habituate and develop literacy are literal and formal. Students' activities to do free reading, without guidance, are assumed to have been able to develop literacy competencies. The activities that are designed to develop literacy competencies are in the form of students' assignments to read written texts freely for 15 minutes before regular classes begin. This shows that the effort to develop literacy is separated from the learning processes of all subject matters.

Similar conditions are found in literacy development programs in Junior and Senior High Schools in Padang, Sumatera (Indriyani *et al.*, 2019). Indriyani's study shows that the major format of the literacy development activities consists of assigning students to read any book for 15 to 20 minutes before classes begin. Some schools do it twice a week; others do it daily.

All this shows that understanding of the concept of reading literacy needs to be improved. Literacy activities involve deeper and wider meanings than merely reading written texts

(Suwardana, 2018; Yunus *et al.*, 2018). Text types for practice for the students to read, for example, should be multimodal.

Understanding the concept of a term is very important to master knowledge. Misconception causes a low mastery of knowledge. A study by Paul Suparno; Gonen & Kocakaya (in Veloo & Mat Ali, 2014) shows that students' misconception in understanding materials of NSS has resulted in the low achievement of Senior High School students in the natural science subject matter. This is because such misconception makes the students feel doubtful about their understanding of new concepts they are studying.

Students' misconception about various subject matters has become the focus of research studies since the 1980s. From these studies, it has been found that misconception is experienced not only by students. The study conducted by Committee on Undergraduate Science Education and National Research Council in 1997 dan Sadia in 2004 (in Nurulwati, Arsaythamby Veloo, & Ruslan Mat Ali, 2014) shows that many teachers also experience misconceptions. Teachers' incorrect understanding of a concept can cause students to experience misconceptions.

In this relation, teachers' misconception of reading literacy has become a background in carrying out the reading literacy acculturation activities in the school. The acculturation activities mainly consist of assigning students to read texts, together and freely, for 15 minutes before regular classes. The literacy acculturation program is separated from regular classroom instructional processes. In some schools, students are assigned merely to do an independent reading without any monitoring activities.

Literacy acculturation can be implemented through regular classroom interactions for all subject matters; it does not need to have a specific time allotment. A short time also is not effective for the objective of developing students' literacy competencies. The following is stated by Rusydiyah (2020), "The use of digital literacy in the educational sector is not separated from the function of the class teacher". This means that the treatment of literacy in the school cannot be separated from the teachers' roles in the teaching-learning process. Therefore, the activities developing students' literacy acculturation and development must not be separated from classroom learning processes. All teachers must participate in these activities through both curricular and extracurricular programs.

The findings of the present study can be used as a basis for understanding why Indonesian students' literacy competencies are generally low. Results of the literacy assessment conducted by PISA in various periods show that Indonesian students' literacy levels in reading, science, and mathematics are always lower than that of students from other countries (Fenanlampir *et al.*, 2019b; Harsiati, 2018a; OECD, 2016; Stacey, 2011b). This can happen because the literacy test items by PISA tend to require high-order thinking competencies to respond to; namely interpreting, reflecting, and evaluating (Tampubolon, 2015). The reading skills that are tested are those of restating information; developing interpretation; and integrating, reflecting, and evaluating texts. In terms of science literacy (SL), the achievement of SL of the participants is low (total achievement level = 40) (Fausan *et al.*, 2021).

Ideally, habituation, development, and strategies for literacy should improve the basic literacy, cognitive competencies, and characters of students. It is these three dimensions of skills that must be developed in students via literacy activities for them to be able to face and adapt to their life in the 4.0 industrial era, 5.0 society, or the 21st century. Literacy development will terminate at students' abilities to access information skilfully to achieve their personal goals, develop knowledge and potential, and participate in social affairs.

Ki Hadjar Dewantoro has long launched the education principle called the "Tricon", namely continuous, convergent, and concentric meaning that education must last life long, integrating science and technology from inside and outside the country alike, and emphasizing gentle personalities originating from the national cultures of Indonesia (Hermawan & Zen, 2006; Priyatni & Nurhadi, 2017; Setiawan & Anton, 2013). Furthermore, achievement of the educational goals must be based on the "*among*" system that is based on two foundations, namely (1) natural disposition and (2) independence as the basic physical and mental strengths for the learners to be able to have strong personalities resulting from their thinking and doing, independently without any pressure and obstacle, in developing their self potentials.

About, according to the WEF report, the new appropriate educational vision that should be implemented is social and emotional learning via technology. Results of research on 213 students show that students who join social and emotional learning achieve a score mean that is an 11-percentile point higher than those who do not (Harsiati, 2018a).

This is in line with what is launched by the proponents of the Indonesian national education paradigm who are housed in the BSNP institute on the importance of creating a democratic atmosphere in the educational processes so that students dare to express their ideas appropriately (General Directorate of Teacher and Educational Manpower, 2018; Directorate of Development of Junior High School, 2017). It is expected that interaction and communication between teacher and students proceed harmoniously, and be enjoyable, inspiring, and motivating.

Changes need to be done in the education paradigm from teacher-centred learning to student-centred learning. To develop students' competencies in *collaboration, communication, critical thinking,* and *creativity*, the appropriate learning to be given should consist of problem-solving, collaborative learning, experiment, and project-based learning (Ruhl, 2015).

CONCLUSION

The development of information technology has an impact on the fast changes in various aspects of human life. The fast varied flow of information results in the emergence of demands for people to quickly acquire information for the development of selves and the world around them. It is why the development of literacy competencies becomes very important.

The development of students' literacy competencies is determined by teachers' roles and other school stakeholders. On the other hand, the concept of literacy keeps changing and widening. The present study shows that the concept of literacy has been understood by teachers in a shallow manner, i.e. as a habit of reading in a narrow sense. This is different from the literacy concept by UNESCO and the management of PISA which emphasize more on the abilities to acquire information and interpret and understand various texts. With a shallow understanding of the literacy concept, the activities of literacy acculturation for the students at the schools tend to be mechanistic and formalities so that students' achievement of literacy competencies is low.

Departing from the results of the study, there is a need for teachers to improve their understanding of the concept of literacy and provide models of literacy acculturation that can develop students' competencies in acquiring information and interpreting and understanding multimodal texts as an asset for developing selves and the environment around them.

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