Since literacy deals with the ability to read and write therefore information using technologies is really vast developed. In this digital era, students of English need to get accustomed to various disciplines, such as computer, ICT, and media literacy. Digital literacy deals with social practices and conceptions through digital texts. This reveals four main elements, i.e.: understanding cultural, social, and historical contexts of technology use; critical thinking and analysis; reflective practice; and facility with the functional skills and tools of digital technology production. This is a qualitative study which examined students’ critical digital literacy when they did online reading activity outside the class. The data were collected by using questionnaire. The subject of this research were the fourth semester students of English Department of Universitas Tidar Magelang. The findings navigate students with their critical digital literacy and understanding of the text with their background knowledge and interpret text effectively. This research implies to the concept of online class implementation, especially in reading class.

Keywords: students of English; critical digital literacy; online reading

INTRODUCTION

Literacy is actually an ability of the readers to comprehend what is being stated and noted. The level of such ability depends on how the readers understand the words and also the meaning since written communication is also a meaning making activity (Chen 2017). They might understand the words, but on the other hand they might not catch what are actually stated through those words. Being unable to grasp the meaning of what are stated leads to incorrect reaction to the words stated. Literacy covers five major fields, that is, basic literacy, visual literacy, library literacy, media literacy and technology literacy.

Basic literacy resembles activities in basic skills such as reading, listening, speaking, writing, and counting (Mulia 2016). These activities improve the level of human ability. By having those skills in life, human beings are able to support their own life. The second kind of literacy is library literacy. This is the continuing ability of the former literacy. Library literacy makes the readers understand and have good comprehension on differentiating between fiction and non-fiction, having the ability to make use of book catalogue and index finding the intended books. Library literacy also covers the ability to understand the written works including finding the information in the text, getting the summary of the text, and stating the position of the text based on a specific point of view. The third literacy is visual literacy. This is the ability to comprehend the visual texts which can be related to technology literacy. Visualization of texts might need more energy to get the meaning transferred. The next is media literacy. This is the ability to understand many kinds of text presented in many kinds of media. Being able to handle such media can lead the readers to have good understanding of the meaning making process through the media. The technology literacy, then, covers the ability to work...
with, to make use of technology and to understand how to deal with the activities with internet. The ethics how to behave with those instrument and media are also included. The lack of literacy among students, especially student teacher or pre-service teacher, in Indonesia is realized by the government. It searched for outstanding activities to boost students’ literacy at school.

Indonesian government has launched the literacy program namely National Literacy Movement as stated in the Regulation of Ministry of Education and Culture Number 23 in 2015 about implementing good characters. This ministry formed national groups to organize the literacy activities in the underbow units. In this digital era, students of English need to get accustomed with various disciplines such as: computer literacy, ICT literacy and media literacy. During the vast development of information and technology, digital literacy is badly needed to cope with the development.

The teaching learning process outside of the classroom by providing structured conversations in teacher-led and controlled in the virtual learning environment (VLE) has been supported by the internet (Tan 2013). The environment is created by the teacher based on the condition and situation of the students. The teacher himself knows his class and his students better. With this background knowledge, the teacher can create and structures activities matched and suitable with condition of the students. By using teacher’s guidance the activities will run smoothly and effectively. She also urges that the internet has provided facilitation in conducting online classroom. The facilitation is self-directed and independent (Cote & Milliner 2018). The term facilitation here means that the teacher is free to select particular kinds of activities without any interference from others. The teacher sets the classroom, selects the activities, sets the assessment, and also sets the rules of his own classroom. This will encourage students to be familiar with such virtual classroom with particular platform. In other words, they are forced to get used with the technology through the platform of the virtual class. The condition encourages students to have good digital literacy in order to go along with the information and technology development (Daley et al. 2020) when students face reading difficulty (Hikmah & Pranata 2019) along their online reading activities.

Digital literacy involves social practices and conceptions including meaning making in digital texts (Dashtestani & Hojatpanah 2020). As stated previously that this process involves the ability to understand words and to comprehend the meaning by using the words. This digital literacy reveals four main elements i.e. understanding cultural, social, and historical contexts of technology use; critical thinking and analysis; reflective practice; and facility with the functional skills and tools of digital technology production. In understanding cultural, social, and historical context, digital literacy plays a very important role in maintaining social relationship among the people. This is the results of the ability urged in understanding meaning behind words in social and cultural context. By doing so, people can grasp the meaning without any friction in communication. The critical thinking and analysis forced the readers to provide sufficient data before giving any statements. The data will support the analysis done after reading the digital texts (Burgess, Price & Caverly 2012). Reflective practice depicts how readers comprehend the information presented. The practice shows how fast readers achieve their best performance in reading. Facility with the functional skills and tools of digital technology production means that the readers are facilitated with skills to
utilize tools in using many kinds of platforms supported by the internet. Reading digital texts needs ample prior knowledge and sociocultural context of the readers themselves (Liansari & Nuroh 2018). Prior knowledge will help the readers analyze the information from the digital text to bear any critical thinking needed to get the target contents (Santisteban, Díez-Bedmar & Castellví 2020). It is also supported by integrated interpretation brought along from the background knowledge.

Reading is a meaning-making process. Through this process, readers are able to access information from the materials read. The readers’ prior knowledge and the sociocultural context of the reading construct an integrated interpretation of the inputs (Chen 2017). Furthermore, he also states that what the readers have in their prior knowledge includes any information and ideas about the target contents. This also influence the way the readers see the reading material with its hidden agenda (Knight, Dooly & Barberà 2020). The sociocultural context is the environment surrounds the readers. This can include classrooms, informal environments, values, beliefs, and personal factors.

Critical reflection in the readers, in the perspective of constructivists’ theory, enable the readers to have their own understanding, interpretation, and knowledge by undergoing things and it is reflected on what they experience in life (Boluk & Carnicelli 2015). The ability to see things is basically reflected from the experience the readers face. How critical the reflection the readers have is influenced by their own interpretation and understanding. The EFL teaching and learning process is also based in the socio-cultural theory by Vygotsky (Alem 2019). The society provides abundant sources of learning exposures. In this condition the readers will be equipped with the mental settlement of being confident and respected. This enables meaningful interaction among the participants to critically reflect on the constraints or success of the classes (Watulak 2016). In addition, the learning from experience helps the learning in the process of transforming experience through critical reflection. The critical reflection is also shaped by the experts surrounds by setting the zone of proximal development. This zone enables readers reach the target content easily. This was rooted from Dewey, Piaget, and Lewin’s perspectives of integrated philosophy of reflection, interdependent/interactive psychological perspectives, and individual inner mental processing. Being confident and respected is the basic need in reaching the objectives in reading digital texts. Being secure in mind can help readers set up questions leading to critical thinking through some steps. The steps are setting questions, defining problems, examining evidence, analyzing assumptions and solving problems. Teachers are encouraged to set up activities promoting critical thinking.

As stated by Wade (1995), the characteristics of the activities which employ critical thinking are: (1) asking questions, (2) defining a problem, (3) examining evidence, (4) analyzing assumptions and biases, (5) avoiding emotional reasoning, (6) avoiding oversimplification, (7) considering other interpretations, and (8) tolerating ambiguity.

Besides for the arguments for the previous researchers stated before, this research also be based on digital literacy on pre-service teacher (Al-Hazza 2017), pre-service teacher exploration on the use of tablet technology for studying literacy (Grainger 2020), and the investigation of pre-service teacher readiness in the use of CALL in EFL context (Park & Son 2020). Furthermore, Pangrazio (2016) also did research in challenging, connecting, and cultivating
critical digital thinking. While McNaughton (2016) focused on critical reflection in relation with social responsiveness, Theobald, Gardner, & Long (2017) stressed their study on critical reflection in social work. Lastly, Whitaker & Reimer (2017) investigated critical reflection based on students concepts. Considering the previous research, the writer needs to expand research on critical digital literacy for students as pre service teacher by exploring their critical reflection in online reading class. Therefore this study uncovers whether the process of learning digital reading has implemented critical digital literacy and to what extent the learning of digital reading affect students’ critical digital literacy.

**RESEARCH METHOD**

This research employed descriptive qualitative approach. The data were collected through observation and questionnaire. The results of the questionnaire are the prior data of in-depth interview. The subject of the research is 120 pre-service teachers grouped into 4 classes. The observation was conducted by following the activities of the students in virtual classes. All activities and responses in those virtual classes were noted. Then, the questionnaire was distributed to the students via online class. The data from the questionnaire were the the basis of the in-depth interview. The interview was done based on the questionnaire submitted. The interview was conducted to have a triangulation of the bias data. The interview was conducted to 4 respondents who are selected randomly.

The questions in the questionnaire involve: (1) sticking on individual perspective while reading, (2) checking factual issues while reading, (3) seeing the text from other’s perspective, (4) finding difficulties while reading hoax information, (5) figuring out facts, opinions, and fictions, (6) figuring out information bias, and (7) finding solution when reading confusing or jumbled information.

After the data were collected, they were then analyzed by using qualitative data analysis. The procedure of data processing includes: (1) observation, (2) distributing questionnaire, (3) compiling the results of questionnaire, (4) reviewing the results of questionnaire, (5) analyzing the data, and (6) drawing conclusion.

**FINDINGS AND DISCUSSIONS**

This section deals with the research findings and discussions of the results for answering the research questions. There are two research questions and they are elaborated below.

The observation was done to get the preliminary data of what the process of learning reading is like. The pre-service teachers were given interesting and problematic digital texts (Al-Hazza 2017). Then, they were asked to critically think of how the problems are solved in the texts that leads them to critical digital literacy (Liansari & Nuroh 2018). They were asked to write questions on the information that they were doubted of. The questions then were asked to the class and let the class discuss the answers. After the discussion, they were to define the actual problems in the texts. The problems led them to have a comprehensive understanding of the problems in the text. To solve the problems, they were asked to search for sufficient data and proof to supports the solutions. The solutions were discussed to avoid the influence of emotional reasoning and oversimplifications. Finally, they came to the solution to the problems. The activities involve raising questions, defining problems, examining evidence and analyzing assumption. The activity also avoids
emotional reasoning and oversimplification. It supports other interpretations. It also avoids ambiguity. The results show that they did the critical digital literacy (Knight, Dooly & Barberà 2020) like what the writers have presented previously that there were no follow up of the solutions. Therefore they don’t have such factual critical thinking of the texts.

This section deals with a detailed explanation of critical digital literacy of pre-service teachers (Knight, Dooly & Barberà 2020). After the pre-service teacher found the solutions of the problems in the digital texts, then they were given questionnaire. The questionnaire consisted of 7 questions and they were asked to tick on the boxes reflecting whether they strongly agree, agree, disagree, and strongly disagree. The level of pre-service teacher literacy is seen from 7 points of view. They are: (1) sticking on individual perspective while reading, (2) checking factual issues while reading, (3) seeing the text from other’s perspective, (4) finding difficulties while reading hoax information, (5) able to figure out facts, opinions, and fictions, (6) able to figure out information bias, and (7) able to find solution when reading confusing or jumbled information. The results of the questionnaire are elaborated as follows.

When the pre-service teachers read the digital texts, they mostly did not stick onto the individual perspective while reading (Burgess, Price, & Caverly 2012). It is supported by more than a half of the respondents. Figure 1 shows that while reading on line texts, most of the respondents (59%) strongly disagree that they stick on individual perspective, while 8% of them disagree with the statement. Those who agree with the statement are 23% and 10% strongly agree with it.

The Critical Digital Literacy of Pre-service Teachers

The individual perspective actually also influence the pre-service teachers’ understanding of the digital texts although it is supported only 33% of the total respondents. Like what Wade has mentioned that individual perspective influence the understanding as the prior knowledge of the digital texts (Burgess, Price & Caverly 2012). In comparison to those who don’t stick onto the individual perspective as much as 67%. It shows that the pre-service teacher actually get into the reading directly when they read the digital texts. The individual perspective and prior background knowledge do not interfere the understanding of the texts. This fact also reveals that the pre-service teachers are digitally literate. The result of interview below supports it (Note: RSC: researcher, RPD: respondent).
RSC : Do you stick onto your own perspective while reading texts?
RPD-1 : Yes, at the beginning, Ma’am. But while reading, I follow the writer’s perspective.
RPD-2 : Yes, Ma’am. But, I usually find out the writer’s position after reading the text for a while.

In terms of checking factual issues while reading, most of the respondents or 86% state that they check the factual issue while reading. This is in line with what (Wade 1995) and (Cote & Milliner 2018) have stated that finding facts is part of the critical thinking activity after the problem is defined. How they find the fact is independent and self-directed. On the other hand only 14% do not check the fact while reading. From this results, it shows that pre-service teachers has good digital literacy since they mostly check any information and fact presented in the digital text whether the information is correct and valid or not. They do not believe the information presented in the text directly. By checking the facts, they keep on having correct information from the digital texts. This is supported by the results of the following interview.

RSC : Do you always check every information presented in the text you read?
RPD-1 : Yes, Ma’am. But not all, I usually check it when I read awkward information. I mean, when I read a text, and I think I find it unusual I will check the information from other digital resources.
RPD-2 : I don’t easily believe information, Ma’am. I just check the information I read.

The results of the interview above clearly support the statement that the pre-service teachers do not easily believe the information form digital texts. They are digitally literate.

Figure 2 shows the distribution of the statement that the respondents check the factual issues while reading. For the fact that the respondents check the factual issues while reading, 67 % of them agree with it while 19% others strongly agree. Those who disagree share 14% and none strongly disagree with the statement.

![Figure 2: Checking factual issues while reading](image)

The fact that the respondents see the the text from other’s perspective is presented in Figure 3. The respondents mostly (61%) agree with the statement. The other 19%, 18%, and 2% disagree, strongly agree, and strongly disagree with the statement.
The results of the questionnaire for the statement whether the respondent see the text from other’s perspective show that most of the respondents or 80% see the text from other’s perspective. They usually stand on the writer’s perspectives to easily understand and get the meaning of the information presented in the digital texts. This condition leads the pre-service teacher to figure out the feeling and deep meaning that the writer shares in the texts. These results are also supported by the results of following interview.

RSC : When reading, How do you see the texts?
RPD-1 : At the beginning, I see the text at a glance. After I read it, I know how I position myself. I usually stand on the writer’s perspective.
RPD-2 : For me, I can easily stand on the writer’s perspective only from reading the first sentences in the opening.

From this interview, it can be stated that the pre-service teacher have the ability to position themselves onto the writer’s perspective while reading texts. They are digitally literate.

On the other hand, 20% of the respondents do not see the text from other’s perspective. It depicts that one fifth of the pre-service teachers still see the texts from their own perspectives. It leads the respondents to have different information since the perspective is not the same. Different information got from the text results in different reaction related to the problem solving needed. From this perspective, the pre-service teachers have good digital literacy. These results are also supported by the results of following interview.

RSC : When reading, How do you see the texts?
RPD-3 : I usually read texts based on my prior knowledge. I stand on my own perspective.

In terms of the statement that the readers find difficulties while reading hoax information, Figure 4 shows the results. Based on Figure 4, 49% of the respondents disagree, 37% of them agree, 9% strongly disagree, and 5% strongly agree with the statement. More than half of the respondents or 58% still find difficulties while reading a text containing hoax information. The process of checking the facts and issues do not always run well therefore the pre-service teachers still find difficulties when they are reading texts containing hoax information. They are unable to figure out hoax information from the digital texts.
Figure 4: Finding difficulties while reading hoax information

From this condition, the pre-service teacher should be aware that hoax information can lead to misleading in the process of understanding the digital texts. On the other hand, 42% of the respondents do not find any difficulties while reading texts that contain hoax information. Even though the readers are equipped with the ability to always check the information and issues while reading digital texts. This results is in line with (Al-Hazza 2017) that finding data and proof on what is being read is crucial since it help readers to always stay in correct path. Like what was stated by Respondent 3 (RPD-3) as follows.

RSC: Do you think that you find difficulties while reading texts containing hoax information?
RPD-3: I think it is difficult to differentiate which information is hoax and which one is not. All information looks similar and valid.

From this interview it can be summarized that checking whether the information is hoax or not is not an easy matter. The pre-service teachers still find obstacles in finding the correct facts. The interview with Respondent 4 (RPD-4) shows different result. He finds that checking the facts and issues is normal and he does not find any difficulties. The interview is as follows.

RSC: Do you think you find difficulties while reading texts containing hoax information?
RPD-4: I think it does not matter at all. I get used to check any information I read from other resources.

The next statement in the questionnaire is the fact that the respondents are able to figure out facts, opinions, and fictions are presented in Figure 5. The respondents mostly (78%) agree with the statement. The other 7%, 15% disagree and strongly agree, and no one says strongly disagree with the statement. The respondents who agree and strongly agree are 93%. It means that almost all respondents are able to figure out facts, opinions, and fiction from the digital texts.

The results as shown in Figure 5 indicate that the pre-service teacher did not find any difficulties in finding facts, opinions, and fiction from the texts. It is also supported by the results of the interview with R4 that he gets used to check any information presented in the text from other digital resources. The opinions and fiction in the text can also be figured out since the pre-service teachers are able to see the text from the writer’s perspective. They easily grasp the information and the writer’s stand on particular problems. The following interview supports this result.
Students’ Digital Literacy in Online Reading Class: A Critical Reflection on English Language Learners

RSC: Can you figure out the facts, opinions, and fiction from the texts you read?

RPD-2: Yes. I used to do it.

RPD-4: Yes. I can do it, too. It used to be like that.

Although 93% of the respondents find it easy to figure out the facts, opinion, and fiction from the texts, there are 7% of them still find it difficult to do. These respondents are unable to understand the facts, opinions, and fiction from the texts. This condition leads them to have incorrect comprehension and understanding of the texts and finally make them unable to solve the problem. These respondents need more guidance in handling the digital texts and doing critical literacy with the texts.

The results of the sixth statement in the questionnaire are shown in Figure 6. It shows that while reading, the respondents are able to figure out information bias. The respondents are 72% of them agree with it. 23% of them disagree and 5% of them strongly agree with it. None strongly disagrees with the statement.

The respondents who are able to find out information bias are 77% from the total respondents. It means that most of them have the ability to check the information whether it is opinion or facts or even bias. This ability helps them get the valid information and they are not influenced by hoax and bias. It can also be said that the pre-service teachers have owned the ability to understand and comprehend the text thoroughly without any interference of hoax and bias. They are digitally literate. This result is supported by the results of the interview as follows.
RSC : Can you identify the information bias from the texts?
RPD-2 : Yes, I can, Ma’am. But I have to read and reread to find out the information bias.
RPD-4 : Of course, Ma’am. I sometimes can easily find the information bias but sometimes I need to reread the text to figure it out.

On the other hand, there are still 23% of the respondents who are unable to find out information bias from the texts. These respondents are those who do not have the ability to check the hoax information, to figure out facts, opinions, and fiction. They still find it difficult to compare whether the information is valid or not. They also still face constraints in stating the facts and opinions. They are unable to judge whether there is information bias or not. The interview with Respondent 3 shows this result.

RSC : Can you identify the information bias from the texts?
RPD-3 : I find it difficult, Ma’am. It is really hard. All information seem to be all valid.

The results of the last statement in the questionnaire are figured out in Figure 7. It depicts the respond of the statement that while reading texts they are able to find solution when facing confusing or jumbled information. Most of the respondents (81%) strongly agree with the statement. Another 17% of them agree and 2% disagree with it. None strongly disagree with it.

From the figure, it can be stated that 98% of the respondents are able to find solution when reading texts containing confusing and jumbled information. This fact is supported by the other previous facts that the pre-service teachers are able to check the information, to find opinions and information bias. With this ability, they are able to find solution when reading texts containing unclear information. They are not panic, but on the other side they start to search for similar information from other digital resources and consequently they find what is wrong in the texts (Santisteban, Díez-Bedmar & Castellví 2020). The result is supported by the results of interview as follows.

RSC : Can you find any solution when you read a text and you are confused with the text?
RPD-4 : Sometimes Ma’am. But, I usually reread the text and I get the point.

As stated previously that coping with the vast development of information and technology, pre-service teachers are forced to be familiar with technology. More and more online classes are conducted due to the Covid-19 outbreak. Critical reading class used to be conducted regularly, but during the outbreak, it is conducted virtually. When the critical reading class is conducted online, more and more complicated texts are presented and the pre-service teacher
have limited time to comprehend and get the points of the texts. As seen in the results of the observation, they show that the critical digital literacy of the teachers is still limited due to the fact that they are able to find the critical solution of the problems presented in the texts but they are not able to make the follow up.

CONCLUSION

Based on the explanation and elaboration above, it can be concluded that the pre-service teacher have the experience of facing complicated texts in the critical reading class but they are not able to find the follow up of the solutions. When reading texts, they don’t stick on individual perspective but they try to see the texts from other’s perspective. They have the ability to identify facts, opinions and fiction to avoid information bias. They also have the ability to solve complicated problems. With such kinds of ability the pre-service teachers can organize themselves in joining the online reading class and manage the on line articles and reading. They will never be biased by the wrong information since they have learned critical digital literacy which leads them to be more informative in their daily life.

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