

## CHAPTER II

### LITERATURE REVIEW

#### A. The Nature of Online Reading

Broadly speaking about reading there are two types of reading activity regarding to this technology era. Reading may mean looking at the printed-text on the paper in order to understand the content and to comprehend it (paper based reading). This is the first type of reading. The second type of reading in this era is online based reading which refers to read materials on screen taken from the internet. As the statement “Internet is now a central source of that information” (Lyman & Varian, 2003 cited in Leu, 2011: 8), it means that the users of internet are increasing by each day.

“Out of 18.0 million college students, 17.1 million (95.0%) go online at least once in a month during 2007 and out of 18.2 million, 17.4 million (95.7%) use Internet once in a month during 2008 in United States of America (USA)” (Williamson, 2008 cited in Loan, 2012). This fact shows that the use of internet among the college students is increasing by years. It suggests a change to the way how students read. Liu in Loan (2012) argued that the purpose and the nature of traditional reading have been changed into another method which is now briefer, more linear, and less structured. Furthermore, it is observed that people seemed less

engaged in the extensive reading and lack the ability to read deeply in the hypertext environment.

“Reading is conceptualized as an interactive cognitive process in which readers interact with the text using their prior knowledge” (Li, 2010: 185). Thus, in reading online the interaction will happen between the cognitive and the texts taken online from the internet. It is very possible the text will be read still on the screen rather than being printed on the papers. This particular reading-online will give chances to the students to switch from the reading task to another activity on the screen such as checking their milis, Facebook, Twitter, and any other pages that might perhaps opened in the same time. The fact of switching activities enabled the interaction between the readers’ cognitive and the text becomes lessened. This is supported by Salam (2008) who investigated that it became more common among the students to work on more than one window on their computer at the same time while they are working on their academic project or searching online materials. Once they get their computer which is connected to the internet they tend to open multi pages on it and keep switching from one to another. As what Salam (2008) stated that:

While listening to online music from Yahoo Music, he logged onto his class discussion forum room the MUSO site. Before he started his academic routines, he had already opened the Chat and Friendster websites to communicate with his friends, and at the same time, he had opened the eBook library from the University website and the Google search engine as the tools to search for the material he needed (p.250)

Students seem accustomed to work multilayered tasks on their electronic devices when they are connected to internet. Multilayer task will set the students into the condition where they work simultaneously which can lessen their engagement to their main purpose of reading. This action also gives them high possibility of being distracted.

Moreover, Aamodt (2009) added distractions abound on most people's computer screens. The reading speed reported in academic studies does not include delays induced by clicking away from the text to see the new email that just received or check out what's new on your favorite blog or social networking. In one study, workers switched tasks about every three minutes and took over 23 minutes on average to return to a task. The frequent task switching costs time and interferes with the concentration needed to think deeply about what you read. It is actually happen to students also.

In the same forum, Liu (2009) the chairman and professor of English at the University of California, Santa Barbara, stated that initially, any new information media seems to degrade reading because it disturbs the balance between focal and peripheral attention. For the internet and computer are considered as the new media for reading in this research, therefore it may degrade the students' balance of focal attention toward the reading material.

Another one who participated in this forum was Mark who is a professor in the Department of Informatics, University of California,

Irvine. She studies human-computer interaction. In this forum she gave an opinion which can be inferred that reading online is not just about reading text in isolation. When you read news, or blogs or fiction, you are reading one document in a networked maze of an unpredicted amount of information. Her own research shows that people are continually distracted when working with digital information. They switch simple activities an average of every three minutes (e.g. reading email or IM) and switch projects about every 10 minutes. It is just not possible to engage in deep thought about a topic when the reader switches so rapidly.

Whereas, the order of the print is linear and the print material is static where the Internet surfing is rather non-linear and more interactive and reader is free to read in any direction (Birkerts, 1994 cited in Loan 2012). The younger generations who are growing up in the digital environment have lack the ability to read deeply and to sustain a prolonged engagement in reading (Birkerts, 1994 in Loan, 2012). Bikerts further observes that the digital environment tends to encourage people to explore many topics extensively, but at a more superficial level. It is also supported by an investigation conducted by Salam in 2008 that he found students often lost their prior intention to search certain relevant information about what they concerned, but they tend to end up focusing on less necessary information that was more attractive and fit their curiosity, instead. This shows how the internet becomes very powerful in challenging the students to commit to their priorities to explore the

information they need without being distracted by other interesting information provided on it.

As stated by Poole (2008) that amount of college students' reading is more to be in online form suggests that reading online needs to get paid closer attention. Moreover, Poole argued that online reading is being common among the college students in many forms such as journal, e-book, e-mail exchange, and website. Gathering information online may require even more sophisticated reading comprehension strategies (Leu et al., 2011). It is sure that facing the sophisticated words will make students take more efforts to comprehend the text that is why they need help to overcome this. The combination of reading comprehension and digital literacy is an important instructional focus and can be incorporated into any given subject area.

Looking at how the internet is taking place as the main reading materials provider among the students, it seems that reading online is a very special issue that should get closer attention. It is more challenging and more sophisticated. It seems that there are still many educators who fail to understand the interconnection between the levels of information provided in the internet and the students' ability to read and comprehend them while "internet is now a central source of that information" (Lyman & Varian, 2003, in Leu 2007: 8). That failure has important consequences for education in the twenty-first century when learning is increasingly dependent on the ability to read and comprehend complex information at

high levels (Alexander & Jetton, 2002 cited in Leu, 2008: 2). This is why it is considered being crucial to accommodate students with special ability and strategies to face the changing method of reading from traditional reading to online reading.

## **B. Reading On screen**

The researcher needs to put some theories about reading on screen. It is because, related to online reading, reading on screen is unavoidable to happen. It is also really close related to the reading online as the main tool is computers or any other hi-tech tools for reading. Reading on screen has its own challenges towards the readers. Tough the challenges are a bit different from reading online; it is need to be concern as it can affect the comprehension process of students reading. For the challenges at the on screen reading is more about multitasking therefore it affects more on the technical matters of reading such , reading speed, accuracy, and eyes fatigue.

In on screen reading, the students will not always get connected to the internet. This means it is possible that they read the reading material on the electronic screen, whether it is connected to the internet or not. Although there is no connection to the internet, it doesn't mean that the students will not get any kinds of destructions because they are still about to deal with the computer. This matter will create problems to their comprehension and their ability to extract the information. In all of the

possible applications in which users may find themselves difficult in extracting and comprehending the required information while reading from screen (e.g., word processors, databases, electronic mail) (Dillon, 1998). It is because a large number of the characteristics of text and computers can influence their ability to do extract and to comprehend the information. Moreover, in the same journal the author also revealed the major findings that screen reading is intently slower and also reported that it was also less accurate, more fatiguing and considered inferior to paper print.

Compare to paper based reading, screen based reading has certain matters that brings some disadvantages for the readers. According to Dillon (1998), it was common to find experimental findings that suggest silent reading from screen is significantly slower than reading from paper. Moreover, the way how brain absorb the information is also different when it comes from paper and when it comes from electronic devices. In The Opinion Pages of New York Times, five experts who come from different fields conduct a discussion on October 2009 about the differences in the way the brain takes in or absorbs information when it is presented electronically versus on paper. The experts are including Alan Liu, an English professor, Sandra Aamodt, author, "Welcome to Your Brain", Maryanne Wolf, a professor of child development, David Gelernter, a computer scientist and Gloria Mark, professor of informatics. Aamodt stated that Electronic reading has become progressively easier as computer screens have improved and readers have grown accustomed to using them.

Aamodt also stated that people read more slowly on screen, by as much as 20-30 percent and it is considered that the distractions abound online will cost time and interfere with the concentration needed to think about what the students read. It means that reading on screen requires more effort than reading on papers.

Another part of reading on screen that might be affected is the accuracy. As what have been described in same article by Andrew Dillon's there are recent well experiments report significantly poorer accuracy for such reading tasks on screens. It would seem that for routine spelling checks reading from screen is not less accurate than reading from paper but an accuracy performance does seem poorer to the screen reading than the paper-reading.

On screen reading is also considered more fatigue than reading on paper. In having an extensive reading on screen the eye will get eyestrain symptom. (Mutter et al in Dillon, 1998). According to Dillon (1998) eyestrain is a factor that differentiates on-screen reading from paper reading. Readers report higher fatigue when reading from a screen than from paper. There are some factors that can trigger the strain that attack the reader eyes therefore the eyes will get the symptoms such as difficult focusing, burning or irritation in the eyes, red, dry, or watery eyes, and/or headaches, neck aches, and back aches. Though these symptoms do not always lead to the permanent illness, the symptoms can influence the reading performance especially for the efficiency and the comfortably of



reading. As what Dillon, McKnight, and Richardson (1998) stated in the article, that in the area of screen reading this has manifested itself in speculation of increased visual fatigue and/or eyestrain when reading from screen as compared to paper. Some people may not take the fatigue symptom seriously because there are still some chances to get affected by switching to other available layers on the computer that are interesting. This factor cause the users tend to scan text rather than read each word.

After all the factors that potentially influenced by on – screen reading, one most important factor remains. It is the comprehension itself. Perhaps more important than the questions of speed and accuracy of reading is the effect on comprehension. From all the argument above about the factors that lead the bad effects happen, on screen reading seems effortful than paper-reading which means that the level of comprehension for on-screen reading will also take more effort for the good reading proficiency.

On – screen reading, can destruct readers' attention, it won't remain them without other destructions for the chance of multitasking. The largest problem with reading on the computer is that the attention is constantly being diverted (Martinsson, 2007). These diversions can happen come as a critical software update alert that pops up, an alert that the laptop battery needs charging; the other browser tab's needing attention, etc. Martinsson (2007) added readers of paper text typically concentrate fully on what they're doing, while readers screen text are either work

harder fighting off distractions or have resigned to giving the text only cursory attention.

### **C. Reading strategy**

Talking about reading it cannot be parted from the strategy that is used practically in reading. “Reading strategies are conscious or at certain conditions deliberate actions done by the reader to achieve a desired reading task” (Carrell, 1998 as cited in Ramli et al., 2011: 197 ). Many of researchers who concerned with the use of reading strategy practiced by EFL students believe that the use of appropriate strategy will give significant advantages to the reading performance. Furthermore, several studies have been done and shown that students can be good on screen reader as they do on paper if they are taught the necessary strategies (Chou, 2009). Moreover, Caverly et al. (cited in Lai et al., 2009: 154) states that:

Developmental students showed significant improvement in a teacher made reading comprehension test and a standardized reading test, as well as a significant growth was found using cognitive, metacognitive, and affective strategies in their study.

Anderson a researcher a professor of Linguistics and English Language at Brigham Young University, Provo, Utah who also serves as the Coordinator of the English Language Center who concern about reading online highlights that “strategic reading is not only a matter of knowing what strategies to use, but also the reader must know how to use a strategy successfully and orchestrate it use with other strategies”

(Anderson, 2003: 9). It is not sufficient to know about strategies; reader must be able to use them strategically. It simply can be understood that using strategy in reading is a crucial action which regards with the ability to choose the appropriate strategy. In order for the Internet tasks to be successful, teachers need to be aware of the online reading strategies that L2 learners use. He also argued more that it is cannot be assumed as a simple transfer of L2 reading skills and strategies from the hardcopy environment to the online environment.

A Study of English Reading Strategies Used by Senior Middle School Students in China stated that “for the past several decades, reading strategies have aroused many researchers’ interests, but the research has mainly focused on *strategy use* while ignoring the *function* of metacognitive awareness of reading strategies” (Li, 2010: 184). “Metacognitive strategies involve thinking, planning and monitoring in learning process, and it has been considered as a kind of strategy often utilized by advanced learners during reading” (Lai et al., 2008, 164). “A number of studies on strategies suggest that metacognitive strategies can help poor learners’ reading comprehension” (Wong, 1987 cited in Lai et al., 2008: 164). O’ Niel ( 1992) after his research about the use of metacognitive strategy among the college students, he argues that the use of metacognitive strategies is a skill that should become habitual to be used effectively. It is possible that over time those students utilizing metacognitive strategies more frequently will be able to integrate these

strategies more efficiently to improve reading comprehension. “Therefore, a well-planned comprehension strategy for instruction that involves directly teaching reading strategies is especially recommended for second or foreign language readers” (Ediger, 2001 cited in Lai et al., 2008: 154 ).”

Regarding to the reading proficiency reading strategy is something that should be trained to enhance the reading comprehension. Moreover, Lai et al., (2009) discuss several researches which have done in Asian indicated that the training in reading strategies will increase the learners’ reading proficiency. In International Journal of Asian Social Science that written by Mesgar, Bakar, and Amir (2012) it is stated that technology and online learning environments create a great opportunity for adult learners to have their own responsibility and self-direction on their learning through reading online materials. They also added adult learners feel more comfortable on their responsibility to navigate their reading, but learners encounter more challenges in adapting their reading strategies with changes in technology. Moreover, Carrel and Floyd (1987) believed that adult learners’ ability to adopt readings strategies with changes in technology depend on how they are relating new information with the existing information.

Ramli et al. (2011) stated that though online learning may provide the tools and features that may support reading in an online learning environment, the lack of understanding of the reading process and strategies of these autonomous learners in an LMS (Learning Management

System) environment may impede the learning of reading skills. This opinion supports Birkertz (1994) that argued the new generation has lack ability to read deeply though they have many possible topics to read on the internet. Ramli et al. also added readers have to apply appropriate reading strategies to help them achieve comprehension. Specifically Akyel and Ercetin (2009: 137) stated that “Readers may transfer their print-based reading skills to hypermedia reading but they will also need to use additional strategies characterized by the features of environment.” to emphasize that hypermedia reading also demands a specific strategy to apply.

“Researches in English as a second language (ESL) learning indicate that reading skill is crucial because primarily through reading the learner can improve linguistic abilities and learn the structure of the language” (Nuttall, 1996 in Ramli et al., 2011: 197). This indication shows that strategies are the part of linguistic ability. However, O’ Malley stated an opinion that “there is a need for teachers to provide students with self-report strategies use so that students can understand and apply them into the language tasks” (O’Malley et al. 1990, in Ramli et al., 2011: 197).

Nevertheless, to achieve comprehension in reading, it is not merely deciphering words and symbols. Successful learners need to apply appropriate reading strategies. “Most importantly, in second language (L2) reading, the strategy or ability to monitor and adapt his reading skills

during a reading task is the determining factor to successful reading”  
(Ramli et al.,2011: 196 )

#### **D. Metacognitive Reading Strategy**

Metacognitive is formed from the word ‘metacognition’. It is one of the latest words in education field. Many literatures have deeply discussed about it. Hacker et al. (2009) discuss about the role of metacognition in understanding and supporting reading comprehension. It is discussed based on Brown et al. in Hacker et al. (2009) about a concept proposed that metacognition has four roots. All the roots are really connected to the reading comprehension, but among the four roots the most suitable roots about the metacognitive reading strategy are the second one and the third one. “The second root is the notion of executive control, which is derived from information processing models. These models feature a central processor that can control its own operations, which include planning, evaluating, monitoring, and revising” (Hacker et al., 2009: 7). All these activities are considered as good strategy to overcome a good comprehension.

Moreover, about the third root that is a process of self-regulation where the learners will actively fine – tune their action in reading. “A number of the components of metacognition that Brown et al. discuss within the four roots have relevance for reading” (Hacker et al., 2009: 7). It shows that metacognition is a good basic for metacognitive strategies.

This means metacognitive strategies can be considered as the tool which functions the students' metacognition to help them become more active in reading activities. However, the activities on the second roots are able to help the readers gain a good comprehension; "Actions such as self-regulating, planning, evaluating, and monitoring align well with what researchers have come to see as the processes in which readers need to engage in order to achieve successful comprehension" (Hacker et al., 2009: 7).

From the basic of metacognition, several researchers have conducted researches about metacognitive reading strategy. Some of them researched for the metacognitive reading strategy in English as a Second Language (ESL) learning process. Researchers such as Anderson as well as Mokhtary and Sheorey lay emphasis on the use of metacognitive skills in L2 reading. It was reported that almost skilled readers are aware not only of which strategies to use, but they also tend to be better at regulating the use of certain strategies while reading. As the result of the awareness towards metacognitive reading strategy in L2 reading, metacognitive strategies are categorized into the following (Mokhtari and Sheorey as quoted by Ramli et al., 2011: 97) :

**1. Global reading strategies** - readers carefully plan their reading by using techniques such as having purpose in mind and previewing text.

**2. Problem solving strategies** - readers work directly with text to solve problems while reading such as adjusting speed of reading, guessing meaning of unknown words and rereading text.

**3. Support strategies** - readers use basic support mechanisms to aid reading like using dictionary, highlighting, and taking notes.

Mokhtari and Sheorey in 2002 also developed an instrument called Survey of Reading Strategies (SORS) that is conducted to elicit metacognitive skills information from L2 students. All the information collected by the survey used to make the learners aware of their reading strategies.

On the other hand, Anderson (2002) classifies metacognitive reading strategies of L2 learners into five primary components:

1. Preparing and planning for effective reading
2. Deciding when to use particular reading strategies
3. Knowing how to monitor reading strategy use
4. Learning how orchestrate various reading strategies
5. Evaluating reading strategy use

With regards to online reading for the L2 learners, Anderson on his research in 2003 developed Online Survey of Reading Strategies (OSORS which is an adaptation of Mokhtari and Sheorey's categorization of metacognitive strategies for ESL learners). This survey contains 38 items (18 items on Global Strategies, 11 on Problem Solving Strategies and 9 items on Support Strategies) (Mokhtari and Sheorey 2001, 2002 in



Anderson, 2003: 7). This survey measures or describes the ESL learners' metacognitive reading online strategies.

Moreover, a study done by some researchers (Ramli, Darus, and Bakar, 2011) in MARA University, Malaysia investigated the metacognitive online reading strategies of adult learners of an ESL course their university. A survey was used to gather information of these adult learners in semester one and two. The survey is adapted from the online survey of reading strategies or OSORS developed by Anderson in 2003. It is a modification of MARSIS (Metacognitive Awareness of Reading Strategies Inventory) which was a metacognitive reading strategy survey for native speaker of English. The results of the survey reveal that the learners mostly used global reading strategies followed by problem solving strategies and support reading strategies.

“In further researches on ESL metacognitive skills, Sheorey and Mokhtari indicated that inculcating awareness and giving training of metacognitive strategies to learners are integral aspects in ESL reading classroom” (Sheorey and Mokhtari as quoted in Ramli et al., 2011: 196). It means that to have critical metacognitive skills in the reading process is important. This idea also supported by some other researchers who agree that it is even more important to create critical and fluent L2 readers; “Even more importantly, having metacognitive skills is critical in the reading process” (Grabe, 1991; Swaffar, Arens & Byrnes 1991 in Ramli, 2011: 197). “The fluent L2 readers have skills of monitoring in reading as

a component of metacognitive knowledge” (Ramli et al., 2011: 197). They also highlight the fact that fluent L2 readers use their metacognitive skills more effectively compared to less fluent L2 readers.

Another reason why a metacognitive approach to education has been so popular is that the basic components of metacognition can be applied to almost any task that a student wants to perform. For instance, metacognitive components include (a) knowledge and beliefs about cognition, (b) monitoring cognition, and (c) regulating cognition. So, it is hardly related to the theory of reading strategies stated in International Journal of Asian Social Science that clearly discuss about how the relation between the knowledge learners gain and their self regulation. The idea is that postgraduate learners’ reading behaviors proposed when they read similarly can support the readers’ metacognitive strategies in an online reading environment (Mesgar et al., 2012)

Moreover, adult learners have the tendency to learn things more consciously. They are able to conceptualize what they learn since they engage their prior knowledge and their experiences with the text they read. They are also able to construct meanings that have positive effects on their reading comprehension (Mesgar, et al. International Journal of Asian Social Science). Knowledge and beliefs about cognition include constructs such as self-efficacy, or the degree to which a person believes he or she can successfully complete a given task. Individual differences in self-efficacy may contribute to student successes across many domains.

As a result of the consciousness of the metacognitive strategies' importance in reading, especially in reading online therefore two researchers, they are Sheorey and Mokhtari (2002) who concerned about the metacognitive strategies in reading online material divided the strategies into three different classification that have mentioned above. Those three types of strategy cover the metacognition that are employed while the reading activity happening among the students. Therefore in this research those three classifications of metacognitive strategy are used.