

A Study of Reading Strategies and Reading Difficulties Experienced by Non- English Majored Students of Natural and Social Sciences at Thai Nguyen University

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Abstract- The primary focus of the present research study was to investigate reading difficulties of non-English majored students who are the second year students at two institutions of Thai Nguyen University namely Technology and Pedagogy university. The secondary aim of the study was to identify the main reading strategies utilized by these two groups of students. The findings show that both of the natural and social sciences students find that they are under time-pressure while doing reading tasks. They all have problems elaborating, inferring, predicting or summarizing while reading. The natural science students are better at understanding technical terms and understanding illustrations given in the reading, while the social science students are better at getting the key ideas and memorizing what they have read before. In terms of reading strategies, The PSRS7; PSRS8; SRS1; SRS2; SRS6; SRS7; SRS9 are reported with high frequency of using 3.67; 3.64; 3.77; 3.71; 3.84; 3.88; 3.79 respectively. These results match the reading problems listed in the first survey. It is recommended that teachers should design tasks that can develop time-management skills and prediction skills for both of these groups of students.

Index Terms- reading difficulties, non-English majored students, social and natural sciences

I. INTRODUCTION

1.1. Rationale

It is a fact that many high school students find reading comprehension one of the most challenges when they attend the graduation examination. The difficulties experienced by these language learners might be explained as lack of reading strategies and poor background knowledge of the given topics or of the world in general. It is easy to see that reading is an everyday ordinary task to which little thought is given, yet it is one of the most important skills that learners acquire at school as it forms the foundation for all further learning.

Aebersold and Field (1997) explained the importance of reading skill by saying that reading skill has long been regarded as a prerequisite for foreign language acquisition since it

functions as an essential source of input for other skills to develop.

Reading in a second or foreign language (SL/FL) has been a significant component of language learning over the past forty years (Zoghi, Mustapha, Rizan & Maasum, 2010). This significance has made reading education an important issue in educational policy and practice for English language learners (Slavin & Cheung, 2005). However, reading is a complex, interactive cognitive process of extracting meaning from text. In the reading process, the reader is an active participant, constructing meaning from clues in the reading text. Reading is also an individual process, which explains the different interpretations of different readers (Maarof & Yaacob, 2011). Cogmen and Saracaloglu (2009) reported that simple methods such as underlining, taking notes, or highlighting the text can help readers understand and remember the content. Their findings indicated that in reading text, good readers often use effective reading strategies to enhance their comprehension. According to the above, learning to read is an absolutely necessary skill for understanding SL/FL texts. Readers may use useful strategies to help them read SL/FL texts as they construct meaning. Using such strategies will help learners not only to understand general information in the reading text at very fast rates but also to remember new lexical items from the text.

Yukselir (2014) considers that reading is one of the most beneficial, fundamental, and central skills for students to master in order to learn new information, to gain access to alternative explanations and interpretations and to start the synthesis of critical evaluation skills.

Despite the perceived importance of reading and considerable efforts of teachers and other stakeholders, research findings indicate that many learners who experience reading difficulties hold negative learning attitudes towards language learning. The failure to develop the prerequisite skill and knowledge prevents them from becoming good language learners (Johnson, Pool & Carter 2013:1; Martin & Carvalho, 2008: 114).

1.2. Aims of the study

The first aim of this study is to investigate reading difficulties encountered by non-English majored students of natural sciences and social sciences. More specifically, the

research aims to investigate whether the reading difficulties similar or different between students of different majors, in this study they are natural and social sciences students. The second aim of the study is to find out reading strategies mostly used by these groups of students.

The findings from the study can be used as a guideline for teachers to focus on drills that can deal with reading difficulties encountered by their students. Besides, the finding will also help teachers to select appropriate reading strategies to improve reading ability for their students.

1.3. Research question

With the above stated aims, the study focuses on finding the answers for the following research questions:

- (1) *What reading difficulties are experienced by non-English majored students of natural and social sciences?*
- (2) *Which reading strategies are mostly used by students of natural sciences and social sciences?*

II. A REVIEW OF RELATED LITERATURE

2.1. Definitions of reading

Reading is definitely an important skill for academic contexts but what is the appropriate definition of the word "reading"? Foreign language reading research has gained specific attention since the late seventies (Clarke and Silberstein, 1977; Widdowson, 1978). Before that time, foreign language reading was usually linked with oral skills and viewed as a rather passive, bottom-up process which largely depended on the decoding proficiency of readers. The decoding skills that readers used were usually described in hierarchical terms starting from the recognition of letters, to the comprehension of words, phrases, clauses, sentences and paragraphs. In other words, it is a gradual linear building up of meaning from the smaller units to the larger chunks of text. The common assumption that reading theorists had about foreign language reading was that the higher the foreign language proficiency of readers, the better their reading skills were. Knowledge of the foreign culture was also an important factor that enabled foreign readers to arrive at the intended meaning of texts (Fries, 1972; Lado, 1964; Rivers, 1968). Reading thus involves two main processes as suggested by Lunzer and Dolan.

Grable (1991) defines reading as an "interactive" process between a reader and a text which leads to automaticity or (reading fluency). In this process, the reader interacts dynamically with the text as he/she tries to elicit the meaning and where various kinds of knowledge are being used: linguistic or systemic knowledge (through bottom-up processing) as well as schematic knowledge (through top-down processing).

According to Pang, Elizabeth, Muaka, Angaluki, Bernhardt, Elizabeth B, Kamil, Michael L. (2003), reading is about understanding written texts. It is a complex activity that involves both perception and thought. Reading consists of two related processes: word recognition and comprehension. Word recognition refers to the process of perceiving how written symbols correspond to one's spoken language. Comprehension is the process of making sense of words, sentences and connected text. Readers typically make use of background knowledge,

vocabulary, grammatical knowledge, experience with text and other strategies to help them understand written text.

2.2. The comprehension process

Reading comprehension is a psychological process which occurs in the mind. The mental process is invisible. This invisibility makes it difficult for the researcher to provide a concrete and clear definition. Kintsch (1998) describes comprehension as occurring "when and if the elements that enter into the process achieve a stable state in which the majority of elements are meaningfully related to one another and other elements that do not fit the pattern of the majority are suppressed" (p.4). In commonsense terms, the mental elements can be readers' prior knowledge, concepts, images or emotions. With the schematic processing perspective held by Johnston (1983: 17), reading comprehension can be defined as follows:

Reading comprehension is considered to be a complex behavior which involves conscious and unconscious use of various strategies, including problem-solving strategies, to build a model of the meaning which the writer is assumed to have intended. The model is constructed using schematic knowledge structures and the various cue systems which the writer has given (e.g., words, syntax macrostructures, social information) to generate hypotheses which are tested using various logical and pragmatic strategies. Most of this model must be inferred, since text can never be fully explicit and, in general, very little of it is explicit because even the appropriate intentional and extensional meanings of words must be inferred from their context.

For Johnston (1983), reading comprehension can mean the reader's comprehension of the text results from using different strategies consciously and unconsciously and is evoked by various knowledge sources. Johnston (1983) discusses using strategies to comprehend the text and he emphasizes examining the process of comprehension. Another view of reading comprehension focusing on the result rather than the process can also be added for this current study. The result of reading comprehension may show what the reader understands from a text, what he/she fails to understand from a text, and how he/she transacts with the text.

Gunderson (1995: 27) differentiates three levels of comprehension including "literal or detail, inferential, and critical and evaluative, sometimes called applicative". Gunderson (1995) provides explanations for the three levels of comprehension: literal-level comprehension requires little more than simple memory work and the remembering of details from the text; inferential-level comprehension involves "readers in thinking about what they've read and coming to conclusions that go beyond the information given in the text" (p.31); at critical and evaluative-level comprehension, readers are able to "evaluate whether a text is valid and expresses opinion rather than fact, as well as apply the knowledge gained from the text in other situations" (p.28). This study, following Gunderson's (1995) suggestion, avoids focusing on literal-level comprehension as the end goal of the study but rather intends to set up an EFL reading program which may "excite students and nurture their ability to use language in creative and meaningful ways" (Gunderson, 1995: 43)

2.3. Reading comprehension models

2.3.1. Bottom-up reading model

Bottom-up approaches to reading include the assumption that reading begins with print and proceeds systematically from letters to words to phrase to sentence to meaning (Clay, 1972; Downing, 1984; La Berge & Samuels, 1974). Bottom-up models suggest that "a reader starts with smaller elements of language (such as letters and words) and goes up to larger portions and meaning" (McCormick, S., 2003: 20). Bottom-up models operate on the principle that the written text is hierarchically organized on the letters, words and word groups, and that the reader first processes the smallest linguistic unit, gradually compiling the smaller units to decipher and comprehend the higher units, such as sentence syntax. A bottom-up reading model emphasizes a single-direction, part-to-whole process of text comprehension.

In a bottom-up model, the written or printed text plays an important role in leading the reader. As McCormick (1988) mentions "the meaning of the text is expected to come naturally as the code is broken based on the reader's prior knowledge of words, their meanings and the syntactical patterns of his language" (p. 2). Reading is driven by a process that results in meaning. Gove, M. K. (1983: 263) describes the bottom-up strategy clearly:

(a) readers must recognize each word in a selection to comprehend the selection; (b) readers should give primary emphasis to word and sound/letter cues in identifying unrecognized words; (c) reading acquisition requires a mastery of a series of word recognition skills; (d) letters, letter/sound relationships, and words should receive primary emphasis in instruction; (e) accuracy in recognizing words is significant; and (f) knowledge of discrete sub-skills is important

A bottom-up reading model describes "the processing of text by our brain as occurring in separate, sequential (or 'serial') steps one after another, with no immediate interaction among the steps" (McCormick, S., 2003: 20). It is concentrated on a single-direction of processing a text and it proceeds from part to whole. For La Berge and Samuels (1974), a reading process starts from visual information which is then transformed through a series of stages inclusive of visual, phonological and episodic memory systems, and ends when it is finally comprehended in the semantic system. The bottom-up model puts much emphasis on the reader's lower levels of knowledge, such as the meanings of words and the syntactic patterns of the language which are the major components in initial stages of the perceptual process. "The meaning of the text is expected to come naturally as the code is broken based on the reader's prior knowledge of words, their meaning, and the syntactic patterns of his language" (McCormick, 1988: 2).

2.3.2. Top-down reading model

Goodman, K. S. (1980) describes reading as: a psycholinguistic guessing game. It involves an interaction between thought and language. Efficient reading does not result from precise perception and identification of all elements, but from skill in selecting the fewest, most productive cues necessary to produce guesses which are right the first time (p.127). Goodman, K. S. (1980) thinks the goal of reading is constructing meaning in response to a text. Top-down models describe "readers moving in the other direction [from bottom-up models], starting first by predicting meaning and then identifying words"

(McCormick, S., 2003: 20). Top-down approaches assume that reading begins with knowledge and hypotheses in the mind of the reader. From this perspective, readers identify letters and words only to confirm their assumptions about the meaning of the text. Thus, the top-down approach is described as concept-driven. The top-down model emphasizes that reading is not simply a bottom-up process and that meaning is not entirely residing in the text. The knowledge, experience, and concepts that readers bring to the text are a part of the process. Reading in this context is more a matter of bringing meaning to, rather than gaining meaning from, the printed page (Dechant, 1982).

Kolers (1970: 11) points out that "words are perceived and remembered preferentially in terms of their meanings and not in terms of their appearances or sounds". The skilled reader "operates on the semantic or logical relations of the text he is reading" (Kolers, 1970: 109). Readers identified letters and words only to confirm their assumptions about the meaning of the text. Thus, readers deal with the text from the semantic level to construct meaning.

Since this model assumes that reading is a matter of bringing meaning to the text, the source of the meaning is the reader's use of his prior knowledge. "The readers bring to their reading the sum total of their experience and their language and thoughts developments". (Goodman, K. S.,1980:130). The domain of the reader's prior knowledge may include three kinds of information such as graphic input, syntactic information and semantic information (Goodman, K. S., 1980). During the process of reading, readers utilize not one, but all three kinds of information simultaneously (Goodman, K. S., 1980: 131).

2.3.3. Interactive reading model

Rumelhart (1977: 574) develops "a reading model that make use of a formalism allowing highly interactive parallel processing units". Skilled reader must be able to make use of sensory, syntactic, semantic and pragmatic information to accomplish the reading task (Rumelhart, 1977). Furthermore, Rumelhart emphasizes that a higher level processing (meaning) apparently affects our ability to process at a lower level (the word level). An interactive reading model is proposed to combine the valid insights of bottom-up and top-down models. The interactive mode suggests that the reader constructs meaning by the selective use of information from all sources of meaning (i.e. graphemic, phonemic, morphemic, syntax and semantics without adherence to any one set order. The reader simultaneously uses all levels of processing, that is, the interaction of bottom-up and top-down processes simultaneously throughout the reading process (Dechant, 1982). The reader's utilizing of information from one source often depends on utilizing information from others.

The interactive model recognizes that bottom-up and top-down processes interact simultaneously throughout the reading process. This model is embedded in a theoretical framework capable of accommodating the flexibility of reading (Just & Carpenter, 1980). Just and Carpenter (1980: 331) claim a theoretical framework for the interactive processes and structures in reading:

Reading can be construed as the coordinated execution of a number of processing stages such as word encoding, lexical access,

assigning semantic roles, and relating the information in a given sentence to previous sentences and previous knowledge.

Some stages of reading seem to be partially or entirely skipped; some stages seem to be executed out of sequence; and some stages in higher or later levels seem to be able to influence the earlier or lower stages. In discussing Rumelhart's interactive model, McCormick, S. (2003: 20) comments that "readers simultaneously begin word identification and predict meaning-with both happening at the same time; the lower level processes (word identification) and higher level processes (meaning) help each other at the same time". A skilled reader must be able to make use of sensory, syntactic, semantic and pragmatic information to simultaneously and strategically accomplish the reading task. Furthermore, he emphasizes that higher level processing (meaning) apparently affects our ability to process at a lower level (the word level).

The interactive reading model emphasizes readers' prior knowledge. Rumelhart's model (1977: 589) consists of a set of independent knowledge sources. Each knowledge source contains specialized knowledge about some aspect of the reading process. Readers' comprehension of the text is the final product of simultaneous interaction among all our knowledge sources (Rumelhart, 1977). Dechant (1991: 27) describes the process as one where

"The reader constructs meaning by the selective use of information from all sources of meaning without adherence to any set order". Since the selective use of information from all sources of meaning is a major point in the interactive model, the development of the reader's prior knowledge is quite important in reading instruction. Prior knowledge may be considered as "what the reader brings to the text, a fund of past linguistic, literary and life experiences"

(Rosenblatt, 1985: 38)

Prior knowledge is needed to provide the reader with sufficient cues for recognizing words and figuring out the meaning of the text.

2.4. Reading strategies

Language learning strategies in general and reading strategies in particular have been defined differently by different researchers.

Winograd & Hare, 1998 (as cited in Anderson, 1999) defined reading strategies as "deliberate actions that learners select and control to achieve desired goal or objectives." According to Paris et al. (1983: 293), reading strategies are "skills under consideration" which closely depend on specific reading contexts as well as readers' awareness, control and intention. A strategic reader is described to have three sources of knowledge: declarative knowledge (what the strategies are), procedural knowledge (how to use the strategies), and conditional knowledge (when and why to use the strategies). Block (1986: 465) suggested that reading strategies indicate "how readers conceive a task, what textual cues they attend to, how they make sense of what they read, and what they do when they do not understand". Barnett (1988) defined reading strategies as the mental operations conducted by readers when they purposely read a text for comprehension. Oxford and Crookall (1989) explained reading strategies as learning

techniques, behaviors, problem-solving skills, or study skills that can lead learners to more effective and efficient learning.

There have been many attempts in finding the relationship between reading strategies and language proficiency. However, the results were different because of different subjects and different academic settings. Kate Tzu-Ching Chen and Sabina Chia Li Chen (2015) conducted a study about the use of reading strategies among high school students in Taiwan. The findings were that Students had a preference for global reading strategies, followed by problem-solving strategies and support strategies. Another study by Ngan Mai Hoang (2015) at Northumbria university- UK investigated the relationship between reading strategies use and reading proficiency of Vietnamese students in the United Kingdom. The focus of the study was on the correlation between reading strategy use and reading competence, as well as the differences between higher-proficiency readers and lower-proficiency readers in terms of strategy utilization. The results show that Vietnamese student were medium strategy users, and there was no statistically significant association between overall strategy use and reading comprehension. Poole (2005) used the Survey of Reading Strategies (SORS) to explore the reading strategies of 248 university ESL students from the Midwest and South of the United States. The results revealed that problem-solving strategies were used with high frequency, while global and support strategies were used with medium frequency. Gorsuch and Taguchi (2008) found that Vietnamese college EFL students mostly used bottom-up, top-down, and cognitive strategies to assist comprehension in repeated reading sessions. Karbalaei (2010) compared reading strategy use in Iranian EFL and Indian ESL college students. They found that Indian ESL students used mostly global and support strategies, as well as metacognitive reading strategies, while Iranian EFL students used mostly problem-solving reading strategies.

Research in the field of EFL reading has identified some variables that influence the reading process. These variables include strategy choices, background knowledge, and reading proficiency in the first and second languages (Upton & Lee-Thompson, 2001). Of these variables, reading strategy choices is the one most often discussed and studied. Several definitions of foreign language (FL) reading strategies can be found in the literature. Olshavsky (1977) defined FL reading strategies as purposeful means of comprehending the author's message. Wenden (1987) further defined FL reading strategies as problem-oriented actions and techniques used to achieve apprehension or production goals. Oxford and Crookall (1989) explained FL reading strategies as learning techniques, behaviors, problem-solving skills, or study skills that can lead learners to more effective and efficient learning. Grabe and Stoller (2001) defined the distinction between skills and strategies. In their definition, a FL reading skill could become a reading strategy when it was used intentionally, and a FL strategy could be relatively automatic in its use by a fluent reader. Using FL strategies has been shown to be a significant and viable approach to developing EFL ability (Day & Bamford, 1998), particularly in foreign language environments with limited sources of second language input, such as Taiwan, Vietnam, Japan, and South Korea. Reading strategies involve how FL readers consider a task, what textual clues they attend to, how much they are aware of what is

read, and how they respond when they do not understand (Block, 1986). O'Malley & Chamot (1990) further explained that FL reading strategies are conscious or unconscious procedures, actions, techniques, or behaviors; readers apply these strategies to problems with their comprehension and interpretation. Carrell, Gajdusek and Wise (1998) described EFL reading strategies as what readers reveal in the ways they manage interactions with the text and how they use strategies to achieve effective reading comprehension. In this research, EFL reading strategies are defined as conscious processes, ones in which readers understand the use of EFL reading strategies as they read the text.

III. METHODOLOGY

3.1. Research design

This study adopted both the quantitative and qualitative research approaches to find the answers for the research questions. According to Christenson and Johnson (2008), the qualitative research approach relies on the collection of non-numerical data, while for Gay et al. (2009) it is the collection, analysis, and interpretation of comprehensive narrative and visual data to gain insight into a particular phenomenon of interest. Best and Kahn (2006) describe the quantitative approach as the collection and analysis of numerical data describe, explain, predict, or control phenomena of interest.

The interpretive qualitative research approach on the other hand, was regarded as most suitable to realize the aims of this study, that is, to investigate the reading difficulties among the students at Thai Nguyen University. It seeks to produce descriptive analysis that emphasizes deep understanding of social phenomena (Creswell & Plan-Clark, 2007). The qualitative method of observation was used to gain insight into the English teaching and general environment classrooms at selected secondary schools, while positivist quantitative approach (Christenson & Johnson, 2008) was used for gathering quantitative data. The combination of research designs for collecting and analyzing data allowed the researcher to gain a more comprehensive insight into the problem under study.

3.2. Population

The criteria that the researcher used for site selection were related to and appropriate for the research problem and purpose. For this study, students at two institutions were selected. The total number was 75 students. Thirty five of them come from Technical Institution (Natural sciences students, NSs) and forty students come from Pedagogy Institution (Social sciences students, SSs). Both of these institutions belong to Thai Nguyen University.

3.3. Data collection instruments

The first questionnaire is delivered to all the students to investigate types of difficulties they encounter during the reading comprehension (see appendix A). There are 15 items in the first questionnaire.

The second instruments used in this study was the Metacognitive Awareness of Reading Strategies Inventory (MARSİ) version 1.0, which was originally developed by Mokhtari and Reichard (2002) as a tool to measure native English language learners' awareness of reading strategy usage. Some of the items have been altered or reworded to be closed to the reading texts in school textbook. The MARSİ consists of 30 items that measure awareness reading strategies (see appendix B).

In this questionnaire each item is accompanied with a 5-point Likert scale. 1 means never or almost never do this. 2 means only occasionally do this. 3 means sometimes do this. 4 means usually do this. And 5 means always or almost always do this. The mean scores of 2.4 or below demonstrate low strategy use, 2.5 to 3.4 show moderate strategy use, and 3.5 or above signify high strategy use.

IV. FINDINGS AND DISCUSSIONS

4.1. Results for research question 1

A hundred copies of questionnaire have been delivered to students in two institutions namely Thai Nguyen University of Pedagogy and Thai Nguyen University of Technology. The researcher received 75 valid papers back. There are some students who cannot even specify their problems so they left the column blank. The results of the first questionnaire are as shown in the table 1 below.

No.	STATEMENTS	NSs 35	SSs 40
1.	I have problems understanding technical words in the reading papers.	5 14.2%	35 87.5%
2.	I have problems understanding grammatical points in the reading.	28 80%	20 50%
3.	I have problems inferring information in the reading papers.	15 42.8%	21 52.5%
4.	I have problems getting the key ideas of the reading papers.	25 71.4%	5 12.5%
5.	I have problems deducing meaning from context.	27 77.1%	24 60%
6.	I have problems selecting specific relevant information to answer questions.	17 48.5%	21 52.5%
7.	I have problems predicting information from readings.	16 45.7%	22 55%

8.	I have problems handling lengthy readings.	10 28.5%	25 62.5%
9.	I have problems in memorizing what I have read before.	6 17%	4 10%
10.	I have problems when reading different subject matters.	12 34.2%	27 67.5%
11.	I have problems understanding illustrations given in the reading papers.	2 5.7%	28 70%
12.	I have problems understanding variety of pronouns in the reading papers.	18 51.4%	20 50%
13.	I have problems elaborating, inferring, predicting or summarizing while reading.	30 85.7%	36 90%
14.	I have problems understanding different types of questions	21 60%	29 72.5%
15.	I have problems reading under time pressure.	23 65.7%	35 87.5%

Table 1: Difficulties experienced by NSs and SSs

4.2. Results for research question 2

The descriptive statistics (Table 2) shows that most of the strategies are reported using at moderate and high level, except for GRS2, GRS3 and PSRS3 (M<2.5). The most preferred strategies include PSRS7 "When text becomes difficult, I re-read to increase my understanding", PSRS8 "I try to guess the meaning of unknown words or phrases", SRS1 "I take notes while reading to help me understand what I read", SRS2 "When text becomes difficult, I read aloud to help me understand what I

read", SRS6 "I use reference materials such as dictionaries to help", SRS7 "I paraphrase (restate ideas in my own words) to better understand what I read", SRS9 "I ask myself questions I like to have answered in the text" (M>3.5). The least preferable strategies include GRS2 "I think about what I know to help me understand what I read" and GRS3 "I preview the text to see what it's about before reading it" (M<2.4)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
GRS1	75	1	5	3.12	1.542	2.377
GRS2	75	1	5	2.19	.940	.884
GRS3	75	1	5	2.12	.958	.918
GRS4	75	1	5	2.97	1.385	1.918
GRS5	75	1	5	2.85	1.430	2.046
GRS6	75	1	5	3.28	.938	.880
GRS7	75	1	5	3.15	1.402	1.965
GRS8	75	2	5	3.47	.920	.847
GRS9	75	1	5	3.49	.876	.767
GRS10	75	2	5	3.71	.731	.534
GRS11	75	1	5	3.40	.870	.757
GRS12	75	1	5	3.37	.897	.805
GRS13	75	1	5	3.40	.885	.784
PSRS1	75	1	5	2.69	1.013	1.026
PSRS2	75	1	5	3.24	.956	.915
PSRS3	75	1	5	2.47	1.031	1.063
PSRS4	75	1	5	2.75	1.116	1.246
PSRS5	75	1	5	2.71	1.075	1.156
PSRS6	75	1	5	2.87	1.166	1.360
PSRS7	75	1	5	3.67	.935	.874
PSRS8	75	1	5	3.64	.939	.882
SRS1	75	1	5	3.77	.924	.853
SRS2	75	1	5	3.71	.882	.778
SRS3	75	1	5	2.92	1.440	2.075
SRS4	75	1	5	3.07	1.536	2.360
SRS5	75	1	5	3.05	1.506	2.267
SRS6	75	1	5	3.84	.855	.731
SRS7	75	1	5	3.88	.900	.810

SRS8	75	1	5	3.23	1.503	2.259
SRS9	75	1	5	3.79	.890	.792
Valid N	75					

Table 2: Descriptive statistics of the mean scores of the use of reading strategies

4.3 Discussions of the findings

The findings from the first questionnaires indicate that students of natural sciences find it difficult to elaborate, inferring, predicting and summarizing while reading (30/35). The problem of deducing meaning from context took up of 77.1 % of the survey. The problems of understanding different types of questions and getting the key ideas of the reading accounted for 60% and 71% respectively. The results also revealed some figures of difficulties for social science students. The problem of understanding technical terms accounted for 87.5%. The second problem for this group of students is that they are always under time-pressure while doing reading tasks (87.5%). It is similar to those of natural science students, the problem of elaborating, inferring, predicting and summarizing took up 90%. From the figures, we should say that the strategies of predicting in context should be the highlight for both of these groups. In terms of getting the key ideas of the reading, there was a huge different between groups; 71.4 % for natural science students, while the figure for social science was only 12.5%. There was also a noticeable difference between understanding illustrations in these groups (5.7% for natural students and 70% for social science students)

The statistics from SPSS in table 2 show that the most preferable and the least preferable match well with the difficulties they stated in the first questionnaire. For the GRS2, this is one of the strategies that connect the schemata and the current reading task. However, the background knowledge is limited so students find it difficult to comprehend the passage. GRS3 requires students to follow the top-down reading model. However, they focus on the minor details then miss the overall understanding. For the most preferable strategies which include PSRS7 and SRS6, students re-read and use references while they are reading. This leads to time pressure. These activities are time-consuming, if learners are unable to guess the meaning or grasp the key ideas that will limit their understanding in a time allowance. However, there is contradict between what they said in the first questionnaire and the reported strategy used in PSRS8. This might be that they do not really guess the meaning but they said that they used this strategy more just because it sounds like a good strategy. The PSRS7; PSRS8; SRS1; SRS2; SRS6; SRS7; SRS9 are reported with high frequency of using 3.67; 3.64; 3.77; 3.71; 3.84; 3.88; 3.79 respectively. These strategies require time to do the tasks. It is appropriate with answers in the research question 1 (*I have problem reading under time pressure during readings*) (65.7% and 87.5%).

REFERENCES

[1] Aebersold, J., & Field, M.L. (1997). *From Reader to Reading Teacher: Issues and Strategies for Second Language Classrooms*. Cambridge, Cambridge UP.

[2] Alderson, J. C. (1999). Reading in a foreign language: A reading problem or a language problem. In Alderson, J. C. & A. H. Urquhart (eds.). *Reading in a foreign language*. London and New York: Longman, pp. 1-27.

[3] Barnett, M. A. (1988). Reading through context: How real and perceived strategy use affects L2 comprehension. *Modern Language Journal*, 72, 150-162.

[4] Best, J. W., & Kahn, J. V. (2006). *Research in Education* (10th ed.). Boston: Pearson Education, Inc.

[5] Block, E. (1986). The comprehension strategies of second language readers. *TESOL Quarterly*, 20, 463-494.

[6] Carrell, P. L., Gadjusek, L., & Wise, T. (1998). Metacognition and EFL/ESL reading. *Instructional Science*, 26, 97-112.

[7] Christenson, L. & Johnson, B. (2008). *Education Research: qualitative, quantitative and mixed approaches* (3rd ed.). Los Angeles, USA: Sage.

[8] Clarke, D. F. & Silberstein, S. (1977). Guessing the meanings of words from context: Strategy and techniques. *System*, 8(2), pp. 211-220

[9] Clay, M. M. (1972). *Reading: The patterning of complex behavior*. Auckland, Newzealand: Heinemann.

[10] Cogmen, S., & Saracaloglu, A. S. (2009). Students' usage of reading strategies in the faculty of education. *Procedia Social and Behavioral Sciences*, 1, 248-251.

[11] Creswell, J., & Plano Clark, V. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks, CA: Sage

[12] Day, R., & Bamford, J. (1998). *Extensive reading in the second language classroom*. New York: Cambridge University Press.

[13] Dechant, E. (1991). *Understanding and teaching reading: An interactive model*. Hillsdale, NJ: Lawrence Erlbaum.

[14] Downing, J. (1984). Task awareness in the development of reading skill. In J. Downing & R. Valtin (Eds.), *Language awareness and learning to read* (pp. 27-55). New York: Springer-Verlag.

[15] Elizabeth S. Pang, Muaka A. Elizabeth B. Bernhardt & Michael L. Kamil. (2003). *Teaching Reading*. Educational Practices Series. Retrieved from: <http://www.ibe.unesco.org/International/Publications/EducationalPractices/EducationalPracticesSeriesPdf/prac12e.pdf>.

[16] Fries, E. B. (1972). *1000 instant words: The most common words for teaching reading, writing, and spelling*. Westminster, CA: Teacher-Created Resources.

[17] Grabe, W., & Stoller, F. L. (2001). *Teaching and Researching Reading*. London: Pearson Education.

[18] Grabe, William. (1991). Current developments in second language reading research. *TESOL Quarterly*, 25 (3): 375-406.

[19] Gove, M. K. (1983). Clarifying teacher's beliefs about reading. *The reading teacher*, 37, 261-266.

[20] Goodman, K. (1970). Reading: A psycholinguistic guessing game. In Brown, H. D. (3rd ed.), *Teaching by principles: An interactive approach to language pedagogy* (pp.357-389).

[21] Gunderson, L. (2009). *ESL (ELL) Literacy Instruction: A Guidebook to Theory and Practice* (2nd Ed.). New York and London: Routledge.

[22] Hung, N.M. & Ngan, M.H. (2015). The Important of Vocabulary in Language Learning and How to be Taught. *International Journal of Teaching and Education*. Vol. 3, No.3. DOI: 10.20472/TE.2015.3.3.002

[23] Johnson, E. S., Pool, J. L. & Carter, G. M. (2013). The Use and Effectiveness of a Targeted Math Intervention for Third Graders. Retrieved from <https://journals.sagepub.com/doi/abs/10.1177/1053451212462882>

[24] Johnston, P., & Byrd, M. (1983). Basal readers and the improvement of reading comprehension ability. In J. A. Niles & L.A. Harris (Eds.). *Search for meaning in reading, language processing and instruction*. 32nd Yearbook of the National Reading Conference (pp. 140-147). Rochester, NY: National Reading Conference.

[25] Just, M. A., & Carpenter, P. A. (1980). A theory of reading: From eye fixations to comprehension. *Psychological Review*, 87(4), 329-354.

- [26] Karbalaei A. (2010). A Comparison of the Metacognitive Reading Strategies Used by EFL and ESL Readers. *The Reading Matrix*, 10(2), 165-180.
- [27] Kate Tzu-Ching, Chen & Sabina Chia Li, Chen. (2015). The Use of EFL Reading Strategies among High School Students in Taiwan. *The Reading Matrix: An International Online Journal*, Volume 15(2).
- [28] Kintsch, W. (1998). *Comprehension: A paradigm for cognition*. New York: Cambridge University Press.
- [29] Kolers, P. A. (1970). Three stages of reading. In H. Levin & J. P. Williams (Eds.). *Basic studies on reading* (pp. 90–118). New York: Basic Books.
- [30] La Berge, D., & Samuels, S. J. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychology*, 6,293 -323.
- [31] Lado, R. (1964). Massive vocabulary expansion in a foreign language beyond the basic course: The effects of stimuli, timing and order of presentation. Washington, D.C.: U.S. Department of Health, Education, and Welfare, Project No. 5-1095.
- [32] Lunzer, E.A. & Dolan, T. & Wilkinson, J.E. (1976). The effectiveness of measures of operativity, language and short-term memory in the prediction of reading and mathematical understanding. *British Journal of Education Psychology*, 46, 295-305.
- [33] Maarof, N., & Yaacob, M. (2011). Meaning-making in the first and second language: reading strategies of Malaysian students. *Procedia Social and Behavioral Sciences*, 12, 211– 223.
- [34] McCormick, S. (2003). *Instructing students who have literacy problems* (4th ed.). Upper Saddle River, NJ: Merrill Prentice Hall.
- [35] Mokhtari, K., & Reichard, C. A. (2002). Assessing Students' Metacognitive Awareness of Reading Strategies. *Journal of Educational Psychology*, 94(2), 249-259.
- [36] Olshavsky, J. E. (1976-1977). Reading as problem solving: An investigation of strategies. *Reading Research Quarterly*, 12(4), 654-674.
- [37] O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. Cambridge: Cambridge University Press.
- [38] Oxford, R., & Crookall, D. (1989). Research on language learning strategies: Methods, findings, and instructional issues. *Modern Language Journal*, 73(4), 404-419.
- [39] Paris, S. G., Lipson, M. Y. & Wixson, K. K. (1983). Becoming Strategic Reader. *Contemporary Educational Psychology*, 8, 293-316.
- [40] Poole A, et al. (2005). A global view of CK2 function and regulation. *Mol Cell Biochem* 274(1-2):163-70
- [41] Rivers, W. M. (1968). *Teaching foreign language skills* (2nd ed.). Chicago: University of Chicago Press.
- [42] Rumelhart, D. E. (1977). Toward an interactive model of reading. In S. Dornic (Ed.). *Attention and performance: VI* (pp.575-603). Hillsdale, NJ: Lawrence Erlbaum.
- [43] Slavin, R., E., & Cheung, A. (2005). A Synthesis of research on language of reading instruction for English language learners. *Review of Educational Research*, 75(2), 247- 284.
- [44] Taguchi, N. (2008). The Role of Learning Environment in the Development of Pragmatic Comprehension: A Comparison of Gains between EFL and ESL Learners. *Studies in Second Language Acquisition*, Vol, 30(4), pp.423-452.
- [45] Upton, T. A., & Lee-Thompson, L. C. (2001). The role of the first language in second language reading. *SSLA*, 23, 469-495.
- [46] Yukselir, C. (2014). An investigation into EFL prep-class students' academic emotions. *Journal of Language and Linguistic Studies*, 10(2), 100-119; 2014
- [47] Wenden, A. L., & Rubin, J. (1987). *Learner Strategies in Language Learning*. Englewood Cliffs, NJ: Prentice-Hall.
- [48] Widdowson, H. G. (1978). *Teaching Language as Communication*. Oxford University Press.
- [49] Zoghi, M., Mustapha, R., Rizan, N., & Maasum, M. (2010). Looking into EFL reading comprehension. *Procedia Social and Behavioral Sciences*, 7(C), 439-445.

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APPENDICES

Appendix A: Questionnaire for reading difficulties

No.	STATEMENTS	NSs	SSs
1.	I have problems understanding technical words in the reading papers.		
2.	I have problems understanding grammatical points in the reading.		
3.	I have problems inferring information in the reading papers.		
4.	I have problems getting the key ideas of the reading papers.		
5.	I have problems deducing meaning from context.		

6.	I have problems selecting specific relevant information to answer questions.		
7.	I have problems predicting information from readings.		
8.	I have problems handling lengthy readings.		
9.	I have problems in memorizing what I have read before.		
10.	I have problems when reading different subject matters.		
11.	I have problems understanding illustrations given in the reading papers.		
12.	I have problems understanding variety of pronouns in the reading papers.		
13.	I have problems elaborating, inferring, predicting while reading.		
14.	I have problems understanding different types of questions		
15.	I have problems reading under time pressure.		

Appendix B: Metacognitive Awareness of Reading Strategies Inventory (MARSİ) Version 1.0 (Kouider Mokhtari and Carla Reichard © 2002)

PART A: GLOBAL READING STRATEGIES

No.	STRATEGIES	SCALE				
		1	2	3	4	5
1	I have a purpose in mind when I read.	1	2	3	4	5
2	I think about what I know to help me understand what I read.	1	2	3	4	5
3	I preview the text to see what it's about before reading it.	1	2	3	4	5
4	I think about whether the content of the text fits my reading purpose.	1	2	3	4	5
5	I skim the text first by noting characteristics like length and organization.	1	2	3	4	5
6	I decide what to read closely and what to ignore.	1	2	3	4	5
7	I use tables, figures, and pictures in text to increase my understanding.	1	2	3	4	5
8	I use context clues to help me better understand what I'm reading.	1	2	3	4	5
9	I use typographical aids like bold face and italics to identify key information.	1	2	3	4	5
10	I critically analyze and evaluate the information presented in the text.	1	2	3	4	5
11	I check my understanding when I come across conflicting information.	1	2	3	4	5
12	I try to guess what the material is about when I read.	1	2	3	4	5
13	I check to see if my guesses about the text are right or wrong.	1	2	3	4	5

PART B: PROBLEM SOLVING READING STRATEGIES

No.	STRATEGIES	SCALE				
		1	2	3	4	5
1	I read slowly but carefully to be sure I understand what I'm reading.	1	2	3	4	5
2	I try to get back on track when I lose concentration.	1	2	3	4	5
3	I adjust my reading speed according to what I'm reading.	1	2	3	4	5
4	When text becomes difficult, I pay closer attention to what I'm reading.	1	2	3	4	5
5	I stop from time to time and think about what I'm reading.	1	2	3	4	5
6	I try to picture or visualize information to help remember what I read.	1	2	3	4	5
7	When text becomes difficult, I re-read to increase my understanding.	1	2	3	4	5
8	I try to guess the meaning of unknown words or phrases.	1	2	3	4	5

PART C: SUPPORT READING STRATEGIES

No.	STRATEGIES	SCALE				
		1	2	3	4	5
1	I take notes while reading to help me understand what I read.	1	2	3	4	5
2	When text becomes difficult, I read aloud to help me understand what I read.	1	2	3	4	5
3	I summarize what I read to reflect on important information in the text.	1	2	3	4	5
4	I discuss what I read with others to check my understanding.	1	2	3	4	5
5	I underline or circle information in the text to help me remember it.	1	2	3	4	5
6	I use reference materials such as dictionaries to help me understand what I read.	1	2	3	4	5
7	I paraphrase (restate ideas in my own words) to better understand what I read.	1	2	3	4	5
8	I go back and forth in the text to find relationships among ideas in it.	1	2	3	4	5
9	I ask myself questions I like to have answered in the text.	1	2	3	4	5