EFL teachers' perceptions towards schema activation in English reading comprehension

To Thi Ngoc Huyen[1], Nguyen Huynh Trang[2]

[1] Tra Vinh University
Email: ttnhuyen@tvu.edu.vn

[2] University of Economics Ho Chi Minh City
Email: trangnh@ueh.edu.vn

ABSTRACT: *The current study was conducted to investigate high school EFL teachers' perceptions towards the role of content schema activation that is focused on the pre-reading stage of their students' reading comprehension ability and to find out the most common instructional strategies EFL teachers use to foster schema activation in the EFL classroom and gain insights into possible difficulties EFL teachers face when activating schemata in the reading lessons. The participants included 77 EFL high school teachers in the Mekong Delta, Vietnam. To collect the data, a 22-item questionnaire and the semi-structured interview on the teachers' perceptions were carried out. The findings showed that although the participants had a positive perception towards the role of schema activation in English reading comprehension, they confirmed instructional strategies were not often used to activate students' schemata in English reading comprehension. In addition, the participants tend to use more simple strategies, such as questioning, brainstorming, discussion and using audiovisual aids than complex strategies, Know - Want to know - Learned chart, semantic mapping, and anticipation guide, in order to activate students' schemata. Most possible difficulties in activating students' schemata in English reading comprehension were also revealed, such as the students' limited linguistic knowledge, unfamiliar reading text's topics, limited time for teaching reading, time-consuming work in designing the effective and appropriate schema activation activities, and the large classes. Pedagogical implications and suggestions for further research are presented based on these findings.*

KEYWORDS: **Schema activation; reading comprehension; instructional strategies; difficulties.**

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1. Introduction

According to Qanwal & Karim (2014), reading is commonly recognized as an interpretative and interactive skill that involves decoding, as well as active, cognitive thinking processes. English Reading enables learners to get enough exposure to the target language and receive valuable linguistic input to build up language proficiency (Erten & Razi, 2003). However, for most EFL learners, reading in English is a daunting and difficult task. Therefore, learning to read takes time, effort and a lot of practice. Learners' failure or confusion to make sense of a text may be caused by their lack of appropriate schema, which can easily fit with the content of the text (Gilakjani & Ahmadi, 2011). Thus, schema, also called prior knowledge or background knowledge, is considered as one of several factors that may influence the degree to which learners comprehend and learn from texts. By relating new information encountered in the text to familiar ideas retrieved from their memory, leaners construct an understanding of the text material, and comprehension occurs. Activation of schema and background knowledge is one of the most beneficial strategies that a teacher can engage in before reading to increase comprehension (Murtagh, 1987, as cited in Defrioka, 2018). The amount of schema concerning a text increases, the ability to comprehend the text correlates (Pardo, 2004).

In the English Foreign Language (EFL) context of Vietnam, besides training all skills of English language, reading comprehension has been put into consideration at Vietnamese high schools. It is taught intensively to help students build more language knowledge such as vocabulary, and grammar. As reading is a complex mental activity, readers have to bring and retrieve various types of prior knowledge and experiences to facilitate reading comprehension. Although schema is often activated through

pre-reading activities, some students do not get enough related information in order to actually join in the reading process. Many students might have sufficient schemata, yet unable to comprehend the text if such schemata are not appropriately activated. Consequently, students' poor topical knowledge has a negative result in their understanding the texts. Accordingly, we hope that the findings of this study will shed some light on the area of teaching reading comprehension of English language teachers in Vietnamese high schools.

2. Literature review

2.1. Schema

The term schema was first used in the 18th century by Kant (1781), who considered it an intrinsic structure that people use to organize and interpret the outside world (as cited in Ajideh, 2003). Then, Bartlett (1932) refers schema to "an active organization of [those] past reactions, or past experience" (p. 201). Schema was introduced in reading as "a data structure for representing the genetic concepts stored in memory" (Rumelhalt, 1980, p. 34).

Furthermore, the schema is shortly defined as "an organized piece of prior knowledge" (Ellermeyer, 1993, p. 101). In short, schema is an individual's collection of prior knowledge that provides a context for meaningful interpretation of new information (Anderson & Pearson, 1984).

Based on the researches above for the purpose of this study, schema is defined as the "prior knowledge that is already stored in memory, functions in the process of interpreting new information and allows it to enter and become a part of the knowledge store" (Anderson & Pearson, 1984, p. 255).

2.2. Schema activation

Schema activation is generally recognized as "the process in which some textual stimuli signal the direction or area for the readers to look for and evoke the relevant schema from memory into the present reading task" (Li & Cheng, 1997, p. 295-296). Carrell and Eisterhold (1988) also stated that the process of reaching the relevant schema depends initially on the textual clues. If a textual clue is highly suggestive of a certain schema, that schema as a whole can be activated.

Schema activation is also defined as "the mechanism in which the readers access what they know and match it to the information in a text" (Vacca & Vacca, 2002, p. 20). Schema activation, therefore, helps students decode information as well as the recalling of information. Schema activation also refers to "various methods designed to activate students' relevant knowledge prior to a learning activity" (Brunning, et al., 2004, p. 75).

In this study, schema activation refers to "the activities and strategies that used to bring out what students already know about a topic" .(Al-Faki & Siddiek, 2013, p. 44).

2.3. Strategies to activate schemata in reading comprehension

Based on schema theory, students' schemata interacts with the content of the passage they are reading. Some effective teaching methods of this kind are presented by Labiod (2007) as below:

Questioning

Questioning can activate students' schema as well as arousinge their curiosity. Teachers often give some questions which are provided before the students read the whole text in order to "build the students' interest, motivation, and cognitive factors" (Brown, 2001, p. 42). Through this processing that they solidify their mental representations, students are able to comprehend and recall easier (Henderson, 2007).

Brainstorming

Brainstorming aims to "make use of students' own experience and knowledge and also a way to introduce some of the vocabulary items from the text in a meaningful way" (Hood & Solomon, 1985, p. 50). Teachers begin by introducing a problem or a new topic and then, students tell all the possible answers, ideas and words. After that, the teachers list on the board all the information that comes to students' mind. By doing that, students can see all answers and they can simply make connections between ideas (Porter, 2012).

Discussion

Discussion is the productive way to bridge the gap between schemata and new knowledge

(Schmidt, et al., 1989). Discussions may serve as a technique to discover more about what students bring to their reading. To create discussions in class, teachers give a problem, a situation or a topic to their students to discuss in groups. After discussion, groups share their ideas and findings with the whole class.

Know - Want to know - Learned (KWL) strategy

KWL strategy developed by Ogle (1986) is an instructional reading comprehension strategy that can be used to assist teachers in activating students' schemata of a subject or topic. By using this strategy, a prepared sheet separated into three columns is given to each student. The first column represents what the studentknowsabout the topic by recalling what they know; the second represents what the studentwants to know in the text by determining what they want to learn; and the third represents what the student has learned after having read the text by identifying what they learn as they read (Carr & Ogle, 1987).

Semantic mapping

Semantic mapping developed by Johnson & Pearson (1978) can be presumed as the first major activity that activates students' appropriate schemata of a given topic (Ajideh, 2006). The map is an organized arrangement of vocabulary concepts, which reveals what students already know about the topic.

Prediction

According to Palinscar and Brown (1984), making prediction has the potential to activate schema to support students' knowledge acquisition. Furthermore, prediction affords students the opportunity to connect previous learned knowledge with the new knowledge they encounter in their readings (Kasmer, 2008).

Previewing

Previewing techniques allow students to formulate hypotheses about the text (Swaffar, et al., 1991). By taking advantage of contextual clues - titles, headings, pictures, students are encouraged to draw inferences prior to reading. Previewing the text "helps students predict what they are going to read" and this, hopefully, activates their schemata (Aebersold & Field, 1997, p. 73).

Anticipation guide

An anticipation guide is a way to activate students' prior knowledge and encourage them to use it in making predictions about the material to be read (Defrioka, 2018). It attempts to enhance students' comprehension by having them choose between agree and disagree to a series of statements about a topic before they begin to read. It utilizes prediction by activating students' schemata and it capitalizes on controversy as a motivational device to get students involved in the material to be read (Bean, et al., 2007).

Advance organizers

According to Kirkman and Shaw (1997), there are two categories of advance organizers, such as expository and comparative. "Expository organizers function to provide the studenta conceptual framework for unfamiliar material, and comparative organizers are used when the knowledge to be acquired is relatively familiar to the student" (p. 3-4). By stimulating schema to enable students to link prior knowledge with new concepts, advance organizers provide a kind of "mental scaffolding to learn new information" (Hassard, 2005, p. 1).

2.5. The relationship between schema activation and reading comprehension

When students lack schemata of a topic the information may seem arbitrary and difficult to understand and remember (Carr & Thompson, 1996). Readence et al. (2005) agreed that all students' prior knowledge is the vehicle for comprehending new information in a text. So it is quite essential to activate students' schemata through a series of activities that would make students decoding a message of the text more accurately and lead to better comprehension. Similarly, Wilson and Anderson (1986) argued that a message can be easily comprehended if students are able to activate or construct a schema; this can happen only if the schema gives a good account of the objects and events described.

In reading comprehension, schemata enable students to make inferences and fill in information not embedded explicitly in the text. In addition, students' failure or confusion to make sense of a text is caused by their lack

of appropriate schemata that can easily fit with the content of the text(Anderson, 1994). Carrell (1983) and Williams (1987) showed that reading comprehension may be affected not because the readers lack the appropriate schema, but because they fail to activate it.

Based on the schema theory view, reading requires schema activation before starting to read in order to comprehend the text better (Al-Jahwari & Al-Humaidi, 2015), because when students cannot locate a schema that fits a text, they may find it incomprehensible (Anderson, 1994). Similarly, Pearson et al. (1979) also suggested that comprehension involves the integration of new information with existing schemata. Successful reading comprehension depends primarily on the integration of students' schemata with the information in the text (Kendeou et al., 2003) and Marzano (2004) stressed the importance of having schema as well when he found that scarce schema causes lower achievement in students.

2.6. Related studies

There have been a number of researchers conducted on the correlation between schema activation and reading comprehension. Warsnak (2006) examined how schema activation affects reading fluency and comprehension of students with learning disabilities. By using two reading passages at the fourth-grade level, the reading errors were noted for fluency, and questions were asked to measure comprehension. The result showed that while students' individual scores both increased and decreased in all areas when a schema was activated, students with learning disabilities did increase their reading comprehension on average.

Similarly, Fitriasari (2012) investigated how well schema activation gives an effect on teaching reading. He conducted a true experimental study whose respondents were students of grade eight. The data were gathered from a pre-test and post-test between the experimental group and the control group. The data concluded that the use of schema activation could increase students' reading comprehension.

Maghsoudi (2012) conducted research in order to determine whether schema activation has any effect on reading comprehension of culturally-loaded texts. The participants were 76 sophomore students divided into control and experimental groups. The results showed a significant difference between the mean scores of pre-test and post-test before and after schema activation. Correlation analysis also revealed that as participants received more background knowledge, their comprehension of cultural texts was improved.

Melda, Rosnija and Suhartono (2013) conducted research that focused on teaching reading comprehension on analytical exposition text through schema activation. It is a pre-experimental design with one group pre-test and post-test design on 29 students. Then, the data were collected by giving 30 multiple-choice items to these students. The data were analyzed by t-test and effect size formula. The result proved that the use of schema activation was very effective to increase students' ability in teaching reading comprehension on analytical exposition text.

Mardianti, Ohoiwutun and Wahyudin (2014) explored the effectiveness of schema activation on first grade students' reading comprehension. A true experimental design and random sampling technique was used with observation and pre- and post-test as data instruments. When conducting the observation, the researchers found that the English teacher did not use schema activation in teaching reading skill. The results of pre- and post-test revealed that the use of schema activation can significantly improve the students' reading comprehension.

Regarding the Vietnamese context, Thuy and Yen (2018) conducted a study to investigates the impact of two pre-reading activities, Questioning and Semantic map, on EFL gifted high school students' reading comprehension. The participants were 52 gifted students from two science classes for twelfth graders (they were non-gifted English students). The data were collected through two reading proficiency tests (pre-test and post-test) and individual interviews. The findings revealed that both Questioning and Semantic map had positive impacts on gifted students' reading comprehension. These methods play an important role in language reading

classrooms since they help to activate students' background knowledge of the topics being taught, which results in improving students' reading comprehension.

3. Research methodology

3.1. Research questions

1. What are EFL teachers' perceptions towards the role of schema activation in English reading comprehension?

2. What are the most common instructional strategies EFL teachers use to foster schema activation in English reading lessons?

3. What are the possible difficulties EFL teachers face when activating students' schemata?

3.2. Research design

The present study was driven by a descriptive research design. Creswell (1994) stated that this type of study is to gather information about the present existing condition. The aim of descriptive research is to verify formulate hypotheses that refer to the present situation in order to elucidate it. In this current study, both quantitative and qualitative methods were employed for collecting and analyzing data. According to Larsen-Freeman and Long (1991), both quantitative and qualitative paradigms are not competing, but complementary; and a combination of both research paradigms yield more in-depth data for analysis. Thus, both paradigms are legitimate and useful for providing different perspectives on the same topic (Greene, 2008).

3.3. Participants

3.3.1. Respondents to the questionnaire

The sample of the current study consisted of 77 English language teachers (29 male and 48 female) from several high schools located in the Mekong Delta of Vietnam. 28.6 % of the respondents have been teaching for fewer than 10 years and 71.4 % of them has gained more than ten years of teaching. Most of the participants gain Bachelor degrees (97.4%), and the participants who gain Master degrees only account for 2.6%. The participants share the same culture, native language, and teaching the same English textbooks. Therefore, this will minimize differences among variables while collecting data and hence promote a higher validity of research findings.

3.3.2. Interviewees

Semi-structured interviews were conducted with six English teachers from six different high schools in the Mekong Delta. Of these six teachers, 66.7% were female. Three of them have been teaching English for more than 10 years, and three others have been teaching English for two to three years.

3.4. Research instruments

Two data collection methods were employed to discover the answers for the three research questions above. A questionnaire was used to collect quantitative data, whereas a semi-structured interview was used to collect qualitative data for the current study.

3.4.1. The questionnaire

The questionnaire was designed and adapted from the work of Al-Jahwari and Al-Humaidi (2015) and from a review of the literature. The questionnaire was composed of a demographic information section and the other section included three parts with 22 items in total, each of which provided clear instructions. The first section confirmed the anonymous and confidential nature of the survey and explained clearly the term "schema activation". The second section included three parts aiming at gathering the participants' perception towards the role of schema activation in English reading comprehension, asking the participants to report their frequency of using instructional strategies to activating students' schemata in teaching English reading comprehension and investigating participants' perceptions towards possible difficulties the English teachers may encounter when activating schemata in English reading comprehension lessons. The second part (22 items) was twenty-two scaled questions based on the five-point Likert scale ranging from "strongly disagree" to "strongly agree" or from "never" to "always". In order to evaluate the data, the scales were agreed as follow: distance = (Maximum - Minimum)/n = (5 - 1)/5 = 0.8. The

scales: 1.00 - 1.80: Level 1 (strongly disagree/ never); 1.81 - 2.60: Level 2 (Disagree/Rarely); 2.61 - 3.40: level 3 (Neutral/sometimes); 3.41 - 4.20: level 4 (agree /often) ; 4.21 - 5.00: level 5 (strongly agree/ always).

3.4.2. Semi-structured interview

The second instrument was the interview consisting of eight open-ended questions. The interview aimed at cross-checking the participants' responses in the questionnaire and gained more information relating to the role of schema activation in English reading comprehension, the common instructional strategies to activate schemata, as well as the possible difficulties that English teachers may encounter while activating schemata, and proposing suggestions to improve students' English reading comprehension performance.

4. Results and discussions

4.1. Results and discussion from the questionnaire

Table 1: The reliability of all items in the questionnaire

Cronbach'sAlpha	No of Items
.894	22

As can be seen from Table 1, the value of Cronbach Alpha was 0.894 and this result has an acceptable consistency of reliability as it is bigger than 0.8. This means that all the questionnaire items can measure the research goals effectively.

4.1.1. Participants' perceptions towards the role of schema activation in English reading comprehension

Presented in Table 2 below is the Descriptive Statistics Data of the mean scores of participants' perception towards specific roles of schema activation in English reading comprehension.

The results from Table 2 show that the overall mean score of the participants' perception towards the role of schema activation in English reading comprehension is 4.07 which is at level 4. The data reveals that the respondents have a positive attitude toward the role of schema activation in English reading comprehension. Specifically, item 6 (Schema activation helps students connect what they already know with what they are learning from the text) gets the highest value (M = 4.23), which means that most of the respondents strongly agree with this role. The result is not surprising and is in accordance with some studies (Pearson, Hansen & Gordon, 1979; Langer & Nicolich, 1980; Kintsch & Franzke, 1995). It is suggested that based on schema activation, students may assimilate the

Table 2: Descriptive Statistics of participants' perceptions towards the role of schema activation in English reading comprehension

Items	Schema activation's role	Mean	SD
Item 1	Schema activation allows students to recall information easily.	4.14	.90
Item 2	After being activated schemata, students can understand a text better.	4.14	.76
Item 3	Schema activation helps students read a text quickly.	3.82	.91
Item 4	Schema activation enables students to determine important information of a text, and decide where to focus attention.	4.05	.72
Item 5	In the reading process, students can use text clues and their activated schemata to make inferences that go beyond the information literally stated in the text.	4.10	.58
Item 6	Schema activation helps students connect what they already know with what they are learning from the text.	4.23	.58
Item 7	When students cannot remember some details of a text, they can use their activated schemata, along with the specific text information they can recall, to hypothesize about the missing information.	4.00	.65
Overall		4.07	0.13

information from text into their schemata and make changes in that schemata to accommodate the new information, as well as may recall the information in a more coherent manner, and may create a mental representation that guides the understanding of the incoming information. However, the participants reported relatively low agreement on the role in increasing reading speed of schema activation in item 3 above, "Schema activation helps students read a text quickly", (M= 3.82). This finding is not consistent with the result reported in some previous research studies in a way that activation of students' schemata maybe important to increasing their reading speed, and how well or how fast students can read must depend on their schemata (Hirsch, 2003; Warsnak, 2006).

To identify whether there is a relationship between the participants' information background, i.e gender and teaching experience and the perceptions towards the role of schema activation in English reading comprehension, an independent sample-t-test was conducted (Table 3).

The results from Table 3 reveal that there is no significant difference in the mean score for female teachers (M=4.13, SD=0.17) and male teachers (students (M=4.02, SD=0.13); (t = 1.27, sig. = 0.23 > 0.05). The data also show that there is no significant difference between teachers' attitudes towards the role of schema activation in English reading comprehension and their teaching experience (t =0.73, sig =0.48 > 0.05).

4.1.2. Participants' perceptions towards their frequency of using instructional strategies to activate students' schemata in English reading comprehension

The results from the Descriptive Statistics Test in Table 4 below showed the data related to participants' frequency of using instructional strategies to activate students' schemata in English reading comprehension, namely brainstorming, discussion, semantic mapping, using audiovisual aids, Know-Want to know-Learned chart, anticipation guide, previewing, questioning and prediction.

The overall mean score is 3.58 which indicates that the respondents use different strategies to activate students' schemata in English reading comprehension at level 4 which is "often". Item 5 gained the lowest frequency of use with mean score of 2.87 at level 3 "sometimes" and the highest frequency of use with the mean score of 4.16 falls on item 8 which is at level 4 "often".

To clarify the differences of these 9 items' mean scores, One-Way ANOVA Test was conducted on the mean score of participants' perceptions towards their frequency of using instructional strategies to activate schemata in English reading comprehension. The results were displayed in Table 5.

The results showed that there was a significant difference between the means score of these items (F = 30.882, sig. = 0.000 < 0.05). As can be seen in Table 10, the mean score of item 8 is the highest figure ($\mu 8 > \mu 2, \mu 3, \mu 5, \mu 6, \mu 7, \mu 9; \mu 1, \mu 4 \approx \mu 8$) and the mean score of item 5 is the lowest one ($\mu 5 < \mu 1, \mu 2, \mu 4, \mu 6, \mu 7, \mu 8, \mu 9; \mu 3 \approx \mu 5$). It can be concluded that the "questioning" strategy is most frequently used by the participants and "Know-Want to know-Learned chart" strategy is least frequently used by the respondents.

To compare the mean score on the frequency of using instructional strategies to activate schemata in English reading comprehension and the participants' background information, an Independent Sample T test was conducted.

Table 3: Descriptive statistics of perceptions towards the role of schemata activation in English reading comprehension by their background

		Mean	Std. Deviation	T	Sig.
Perceptions towards the role of schemata	female	4.13	0.17	1.27	0.23
	male	4.02	0.13		
	≤ 10 years	4.11	0.16	0.73	0.48
	>10 years	4.05	0.13		

Table 4: Participants' frequency of using each instructional strategy to activate schemata in English reading comprehension

	Schema activation's instructional strategies	Mean	SD
Item 1	I ask students to brainstorm to find out some possible solutions to one problem related to the text's topic.	3.84	.65
Item 2	I ask student to discuss the text's topic with their classmate in groups.	3.70	.81
Item 3	I draw the map as an organized arrangement of vocabulary concepts that reveals what students have already known about the topic on the board.	3.18	.93
Item 4	I use audiovisual aids (e.g. videos, films, pictures, charts) for helping students identify what the reading text is about.	3.81	.90
Item 5	I use Know - Want to know - Learned (KWL) chart.	2.87	1.10
Item 6	I ask students to guess true or false to a list of statements about a text's topic before they begin to read.	3.43	1.11
Item 7	I call students' attention to the text title, heading, illustrations.	3.69	.88
Item 8	I develop inquiries about the text to create a purpose of reading.	4.16	.61
Item 9	I select some keywords from the text that requires students to infer the text's topic.	3.51	1.05
	Overall	3.58	0.36

Table 5: Multiple comparison

	F	Sig	Post - hoc (Scheffe)
Strategies to activate schemata in English reading comprehension	30.882	0.000	$\mu_1 \approx \mu_2 \approx \mu_4 \approx \mu_7 \approx \mu_9$ $\mu_1, \mu_4 \approx \mu_8, \mu_3 \approx \mu_5$ $\mu_6 \approx \mu_2, \mu_3, \mu_4, \mu_7, \mu_9, \mu_6 < \mu_1$ $\mu_8 > \mu_2, \mu_3, \mu_5, \mu_6, \mu_7, \mu_9$ $\mu_5 < \mu_1, \mu_2, \mu_4, \mu_6, \mu_7, \mu_9$ $\mu_3 < \mu_1, \mu_2, \mu_4, \mu_7, \mu_9$

μ1: Item 1*; μ2:* Item 2*; μ3:* Item 3*; μ4:* Item 4*; μ5:* Item 5*;μ6:* Item 6, *μ7:* Item 7, *μ8:* Item 8, *μ9:* Item 9

Table 6: The participants' 'frequency of using instructional strategies to activate schemata in English reading comprehension regarding their background

		Mean	Std. Deviation	T	Sig.
Frequency of using instructional strategies to activate schemata	female	3.57	0.38	0.21	0.84
	male	3.54	0.38		
	≤ 10 years	3.64	0.27	0.49	0.63
	>10 years	3.55	0.64		

The results from Table 6 show there is no significant difference in the mean score of teachers 'frequency regarding their background information with figures t =0.21, sig =0.84 > 0.05 for gender information and t =0.49, sig =0.63 > 0.05 for teaching experience.

In summary, the results indicated that there was not a statistically significant difference between participants' perception towards their frequency of using instructional strategies to activate schemata in English reading comprehension and their demographic variables. This finding is somewhat in line with a study by Ross (1998), suggesting that teachers may make differential instructional decisions depending on their teaching experience. Particularly,

according to Hogan, Rabinowitz and Craven III (2003), experienced teachers as those who have approximately 5 years or more of classroom experience (Rodríguez & McKay, 2010) were concerned with student understanding and utilized different strategies to assist individuals experiencing difficulties. They also stressed that with a concentration on short-term planning, novices who have less than 2 years of teaching experience, according to Gatbonton (2008), tend to generate highly scripted and mentally well-rehearsed instructional strategies.

4.1.3. Participants' perceptions towards possible difficulties in schema activation in English reading comprehension

The results from the Descriptive Statistics Test in Table 7 below showed more precisely the data related to participants' perception towards difficulties in activating students' schemata in English reading comprehension.

As can be seen in Table 7, the overall mean score is 3.75 which is a "neutral" level it means that the mean of the participants 'perceptions towards possible difficulties is not high.

To clarify the differences of these 6 items' mean scores, One-Way ANOVA Test was conducted on the mean score of participants' perceptions towards their possible difficulties to activate schemata in English reading comprehension. The results were displayed in Table 8.

The results showed that there is a significant difference between the means score of these items (F = 64.913, sig. = 0.000 < 0.05). As can be seen in Table 9, the values of item 3 and item 6 are identical and are the highest figure (*μ6, μ3 > μ2, μ4, μ5; μ3 ≈ μ6)* and the value of item 1 is the lowest one (*μ1 < μ2, μ3, μ4, μ5, μ6).* It can be said that most of the participants had a strong agreement (level 5) on the difficulty related to students' limited linguistic knowledge (M= 4.29, SD= .84) and on the difficulty related to unfamiliar reading text's topics (M= 4.29, SD= .81).

The results are somewhat in line with a study by Zainuddin, et al. (2007), suggesting that when English language learners develop their ability to activate relevant schema necessary for reading comprehension in the second language, they maybe challenged by the grammatical structures

Table 7: Descriptive statistics data of participants' perception towards each specific difficulty to activate schemata in English reading comprehension

	Schema activation's possible difficulties	Mean	SD
1	I lack knowledge about the role of schema activation.	2.83	1.27
2	I have few opportunities of participating in the training on a variety of schema activation techniques.	3.73	1.01
3	Students' limited linguistic competence prevents them from expressing what they already knew about the text's topic.	4.29	.84
4	Due to lacks of resources and facilities for teaching and learning, I found it difficult to activate students' schemata.	3.45	1.20
5	Time allotted for teaching reading is not enough.	3.92	1.00
6	The topics of some reading texts are unfamiliar to the students.	4.29	.81
Overall		3.75	0.56

Table 8: Multiple comparison

	F	Sig	Post - hoc (Scheffe)
Schema activation's possible difficulties	64.913	0.000	$\mu_2 \approx \mu_4, \mu_5; \mu_5 > \mu_4$ $\mu_6, \mu_3 > \mu_2, \mu_4, \mu_5; \mu_3 \approx \mu_6$ $\mu_1 < \mu_2, \mu_3, \mu_4, \mu_5, \mu_6$

μ1: Item 1*; μ2:* Item 2*; μ3:* Item 3*; μ4:* Item 4*; μ5:* Item 5*;μ6:* Item 6

and vocabulary of the new language, and therefore transfer their first language grammar and vocabulary knowledge incorrectly. Besides, the finding also contributes to the prior research findings by Carrell (1988a) that suggested for learners reading at the limits of their linguistic abilities, when faced with unfamiliar topics, they may overcompensate for absent schemata by reading in a slow, text-bound manner; the others may overcompensate by wild guessing. It inevitably results in comprehension difficulties. Therefore, with these unfamiliar reading topics, the students often give up and claim reading is boring. They become frustrated and discouraged; even lose interest in learning English reading comprehension. Moreover, the finding on the current study in schema activation's difficulty related to time constraints is also consistent with the results reported in a study by Todorova and Mills (2004). They claim that the teacher provides limited opportunity for knowledge activation due to time constraints and class size. Furthermore, many times the important schema-building process may be skipped due to time constraints.

The current study also revealed that the participants showed their disagreement while claiming that the difficulties in schema activation related to the teacher's lack of awareness of the role of schema activation (M= 2.83, SD= 1.27). This finding demonstrates that these participants had a positive awareness about the role of schema activation in English reading comprehension.

4.2. Results and discussion from the interviews

When the interviewed participants were asked about whether reading is difficult compared with three other skills in terms of teaching and learning, most of them believed that teaching and learning reading in high school is easier than three other skills. However, they suggested some factors that hinder them to enhance their students' reading comprehension performance. They said:

The challenges in teaching reading usually originate from the lack of students' competence in English, as well as their poor and wrong use of reading skills. (Teacher A, B, C, and F)

When teaching English reading comprehension, I realized that the features of the text such as content, length, linguistic complexity and organizational pattern may affect the quality of my students' comprehension. For example, in the topic "World Population" of unit 7 from Tieng Anh 11, my students seemed to face a greatest difficulty in reading a long text with a lot of numbers. (Teacher D)

In responding to the question to address the role of schema activation in English reading comprehension, almost all interviewed participants conceded that what students already know determines to a great extent what they will pay attention to perceive, learn, remember and forget. Therefore, it is quite essential to activate students' schemata through a series of activities in pre-reading stage which would lead to a better comprehension. They underlined:

Activating relevant schemata which show what a student already knows about a topic has been demonstrated to be more effective than not activating any schemata at improving text recall and comprehension. (Teacher A)

Students with sufficient schemata understand and remember reading texts better than those with little schemata. (Teacher B, D and F)

Some students, in some cases, have no problem with understanding both words and sentence structures of the reading passages, but they cannot reach a satisfactory interpretation of the text. These students need to use text clues and the knowledge stored in their schemata to infer implicit information in the text that they are reading. The interviewed participants, therefore, asserted that through schema activation in pre-reading stage, students may decode a message of the reading text more accurately. They explained:

Without schemata related to text's topic, students still understand the reading text in the literal level. However, they may not make inferences and fill in information not embedded explicitly in the text. (Teacher A)

Depending on the purposes of reading tasks, it is not really necessary for students to have sufficient schemata in some case. However, if students want to read between the lines, the related schemata are indispensable to them. (Teacher E)

These positive perceptions towards the role of schema activation in English reading comprehension regarding making inferences are relatively congruent with those in some previous studies (Millis, Morgan, & Graesser, 1990; Anderson, 1994; Millis & Graesser, 1994; Graesser & Bertus, 1998), reporting that specific inferences are often constructed on the basis of readers' schemata for the topics mentioned in the reading texts.

Another role of schema activation mentioned in the interviews was to construct students' ability to guess what is going to happen in the reading passages by using clues such as the title, illustrations, text type or what they have read so far. They stated:

Schema activation may help the students predict the content of the reading texts, as well as some main ideas in these texts. (Teacher C, and E)

Regarding the role of schema activation in increasing reading speed, most of interviewed participants did not absolutely agree. In fact, to measure the reading speed by word per minute is hardly fair because of the variable schemata in each student and each topic. Some of them shared:

Schema activation may not completely help increase reading speed. If students have already had appropriate schemata, the activation of teacher may help students read the text quickly. On the contrary, while students do not have any schemata related to the text's topic, they find it hard to read the text quickly after being participated in schema activation activities.

(Teacher B)

It is hardly probable that schema activation will help increase reading speed, because reading speed still depends on each student' reading skills.

(Teacher E)

These negative perceptions regarding the role of schema activation in increasing reading speed are not consistent with existing literature as mentioned in the qualitative analysis above (Hirsch, 2003; Warsnak, 2006). However, due to the limited number of responses, any assertions would require future investigation.

Regarding common instructional strategies to activate students' schemata, the participants maintained that the teacher can help students activate related schemata in a set of instructional strategies. However, when choosing strategies to activate students' schemata, it is important for the teacher to review the text and think about the schemata that needs to be activated and which strategies will fulfill this goal. They reported some strategies that they frequently use to activate students' schemata .

Teacher A highlighted that "*I usually ask my students to discuss about the topic that they are going to read in English. Although for poor students it takes a lot of time to discuss because of their limited vocabulary, I found it is very effective in terms of schema activation. In discussion activity, my students feel comfortable to share their ideas together without concerning about this is right or wrong. Then, I will help them adjust their knowledge to accord with the reading text context. I believe students will understand better in the reading process when they meet the information again in the reading text*."

Other teachers such as teacher A, B, C and F confirmed that "*with both interesting and abstract or difficult reading topics, we use some pictures, posters or concrete things to activate our students' schemata. In our observation, students will be more motivated while participating in these activities*."

Teacher B answered that "*To tap or activate my students' schemata, I often ask them match the column A, which is the list of some vocabulary related to reading text's topic, with column B, a definition of these vocabulary. Beside some vocabulary that my students already learned before, I add some new words to enhance students' prediction*."

Meanwhile teacher C assured that "*Before reading, I frequently ask my students fill in the blanks of some sentences related to the reading text's topic. The essential words are those students have already learned*."

Teacher C and teacher D said that "*Although it took a lot of time to prepare, we found true or false activity very efficiently in activating*

students' schemata. Students are asked to guess a list of statements, whether they are true or false. After reading the text, students will return to these statements, and check the results."

Many participants concluded that although no strategy is superior to the other one in terms of how much it supports students' activation schemata to reading, it is recognized that these strategies can help students comprehend the text better.

Among various strategies used by participants, discussion, using pictures, posters or concrete things, as well as questioning were used the most by the interviewed participants. This is relatively consistent with some studies (Hudson, 1982; Taglieber, Johnson, & Yarbrough, 1988; Schmidt, 1993) on the role of those instructional strategies in pre-reading stage in activating students' schemata.

Talking about the difficulties they have to face when activating students' schemata in teaching English reading comprehension, almost all interviewed participants claimed that there were many difficulties that they may encounter.

Some participants like teacher A and F replied that "*The amount of time to teach reading section in each unit in the textbook is often about 45 minutes. The pre-reading stage takes from three to five minutes. If the teacher wants to activate students' schemata in some unfamiliar topics, this period of time is not enough. Therefore, some of us frequently ignore the schema activation activity. We just teach the students some new vocabulary related to the reading text, and then, ask students to read the text immediately to carry out the tasks assigned.*"

The interviewed participants maintained that although the teacher highly appreciated the role of schema activation in English reading comprehension, they may cut this essential activity due to time constraints. This finding is in line with a study by Yin (1985), suggesting that in spite of the crucial role of schema activation, it is often forgotten or ignored in discussion of reading texts. Another possible explanation for the inconsistency between the teachers' perspectives and their actual classroom practices because of big classes, students' motivation and their language competence, teachers' workload, and teachers' motivation (Fang, 1996). In such situations, the teacher often assumes that the students already have sufficient schemata from previous time of studying the same topic. In reality, when students are learning new information, their brains need something to tie the new information to, in order to understand it and remember it better. Therefore, the participants proposed that it will be better if the teacher, at least, can spend a little time to activate their students' schemata related to the text's topic prior the reading. This is in line with previous research findings about the necessity of schema activation in English reading comprehension (Wilson & Anderson, 1986; Anderson, 1994; Carr & Thompson, 1996; Xie, 2005; Zhao & Zhu, 2012).

The participants also stated that because of students' limited linguistic competence in English, students cannot express completely what they know about the reading text's topics. On the other hand, if the teacher and their students just discuss the text's topic together in Vietnamese, it is hard to activate students' linguistic schemata effectively.

One teacher explained "*When my students say "I do not know", maybe it means that they do not know how to express their knowledge in English*."

"*My students may bring a wealth of experiences, knowledge of reading text's topic to the classroom. What they lack is a way to express this knowledge in English*", teacher B stated.

Furthermore, the participants suggested that one strategy or activity cannot be adaptable for various levels of students' proficiency and for their various ages. Therefore, they requently designed some activities, which were different to those in the textbook, in order to activate their students' schemata, as well as create classroom environments where authentic and meaningful lessons that engage students in learning English. The participants proposed their difficulties related to the design of these schema activation activities as below.

"*It takes a lot of time to design the appropriate activities to activate students' schemata in some unfamiliar and uninteresting reading text's topics,*

if the activities in the part "before you read" in the textbook are not suitable for the students." said teacher C and teacher D.

Highlighting the materials of designing schema activation activities, the participants said that they often make reference to supplementary teaching materials in order to get the effective activities for the organization of schema activation in pre-reading stage. They agreed that these materials seem to be excellent teaching aids for them.

One participant proposed that " *I frequently make reference to the Teacher's Book to help plan and execute effective lessons. However, this book, sometimes, just presents the answer key corresponding to the tasks in the textbook. In such cases, there are not many valuable instructions in this book."*

Other participants answered that "*Besides making reference to a Teacher's Book, we often find some materials on the internet or in the other language books like Interaction, Four Corners, in order to design the effective schema activation activities."*

Besides, due to large classes, the interviewed participants also found it hard for them to organize dynamic and creative schemata activation activities prior the reading. In fact, it is difficult for the teacher to contact with the students sitting at the back and for students to get the individual attention. In general, the problems of teaching large classes as pedagogical, management-related and affective.

For example, one interviewed participant emphasized that "*The number of students in each class in my high school is often large, about 35 to 40 students. Therefore, I found it hard to control the class while carrying out the schema activation activities. Sometimes, I cannot know how much schemata each student has towards the topics of the reading text*."

Thus, while large classes are not definitely a pedagogical disaster, the difficulties arisen from large classes raise more requirements to English language teachers compared with those teaching smaller classes.

Moreover, according to the interviewed participants who are young teachers without much experience of English language teaching, they often face difficulties in giving explicit instruction, especially when they perform the schema activation activities in pre-reading stage.

They explained more that "In some cases, when participating in schema activation activities, some students cannot understand the requirements of the teachers in English. It leads to a quiet environment in the classroom, and the teachers sometimes have to give the instructions in Vietnamese."

In summary, the interviewed participants shared that they have frequently encountered some difficulties when activating their students' schemata. These difficulties were time constraints, students' limited linguistic, time-consuming in the design of effective and appropriate schema activation activities, and the class size.

Regarding the suggestion to improve students' English reading comprehension, all of the interviewees showed their agreement to the careful choice of the reading texts' content. The interviewed participants expressed that "*Depending on the students' levels in grades 10, 11, or 12, the length of English reading texts need to be designed appropriately. The content of reading texts should be updated and must be consistent with the levels and the ages of the students. Moreover, because the textbooks are used in all high schools throughout the country, the content of reading texts must be universal*."

In addition, the activities to activate students' schemata were also mentioned as an important factor that enhances students' reading comprehension by most interviewed participants. They explained:

"*The teacher needs to use various instructional strategies to activate students' schemata before reading. It will make students motivated and enhance their reading comprehension*." (Teacher B),

"*The schema activation activities in the pre-reading stage are very important. If these activities are performed effectively, it can help students improve their reading comprehension. However, it should not focus on these activities excessively, unless it will take a lot of time*." (Teacher C)

Furthermore, in teaching reading, the interviewed participants were highly aware of the role of being the effective instructors in guiding their students to go to the right way for getting better comprehension. They believed:

"After activating students' schemata, the teacher should not concentrate too much on encouraging their students reading the text in order to perform the tasks, they should take a little time to guide students some reading skills instead." (Teacher C, and F)

In summary, the results revealed that all of the participants highly appreciated the role of schema activation in English reading comprehension in terms of searching memory, enhancing understanding of text, making inferences, and allocating attention. Besides, the results also revealed various types of instructional strategies employed by the interviewed participants to activate their students' schemata, such as questioning, brainstorming, and using pictures, posters or concrete things. The participants also shared some difficulties that they frequently faced while organizing these activities, nearly concentrated on time constraints in teaching reading, students' limited linguistic competence, the design of effective and appropriate schema activation activities, and the class size. Therefore, theresults from the interviews reinforced the findings in the questionnaire above , i.e, data related to instructional strategies used to activate schemata, participants' 'difficulties in applying some strategies to stimulate background information when teaching reading.

5. Conclusions and implications

The study aimed to investigate what high school English teachers' perceptions towards activating schemata for students in teaching English reading comprehension is. It also focused on the common instructional strategies the teachers employed to activate their students' schemata in English reading lessons. In addition, the possible difficulties that the English teachers may encounter in schema activation were revealed.

Data were collected from two research instruments, namely the questionnaire and semi-structure interview. The participants in the study counted 77 English teachers teaching at some high schools located in the Mekong Delta, Vietnam. Based on the results of the present study, it can be concluded that Vietnamese high school teachers of English language had positive perceptions towards activating schemata for students in teaching English reading comprehension. Most participants conceded that schema activation plays a vital role in assimilating text information, searching memory, enhancing understanding text, making inferences, and allocating attention. Based on this finding, it can be said that schemata are considered as one of several factors that may influence the degree to which students comprehend and learn from texts. When students lack schemata of a topic, the information may seem arbitrary and difficult to understand and remember. Thus, it is quite essential to activate students' schemata through a series of activities which would make them decoding a message of the text more accurately and lead to a better comprehension.

The research findings also revealed that although high school English teachers had positive perception towards the role of schema activation in English reading comprehension, they confirmed instructional strategies were not always used to activate students' schemata in English reading comprehension. In addition, these participants tend to use more simple strategies, such as questioning, brainstorming, discussion and using audiovisual aids than complex strategies, like KWL chart, semantic mapping, and anticipation guide, in order to activate their students' schemata. Besides, the finding also revealed that there was no difference in the participants' frequency of using instructional strategies in activating students' schemata regarding the participants' background variables.

Moreover, the results of the current study presented some possible difficulties that the English language teachers may encounter while activating students' schemata in teaching English reading comprehension. These possible difficulties were the students' limited linguistic knowledge, unfamiliar reading text's topics,

limited time for teaching reading, time-consuming in the design of effective and appropriate schema activation activities, and the class size. In reality, when preparing for instruction, most of teachers focus tremendous effort on the content they will teach. Thus, less planning and instructional time is dedicated to activating students' schemata. This oversight can have significant implications. Without schema activation, students may fail to correctly grasp new concepts. Furthermore, if students' schemata conflict with the new content, the information presented in the textbook may be distorted. The teaching of English language and sociocultural background should be equally strengthened to guide the students to activate their schemata helping them assimilate, extract and consolidate knowledge. Therefore, to overcome some possible difficulties in schema activation process, English teachers need to get enough training opportunities on a variety of technique for activating students' schemata effectively.

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