The Effect of Semantic Mapping and Lexical Glossing on the Reading Comprehension of Egyptian EFL Learners

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Abstract:

This study investigated the effect of two types of pre-reading lexical assistance (semantic mapping versus lexical glossing) on the Egyptian EFL learners' reading comprehension from aschema-theoretic perspective. Forty-eight linguistically homogenous learners studying English at a language center in Cairo University were randomly divided into three equal-in-number groups. Then, the three groups were exposed to different pre-reading lexical assistance treatments. The first group received pre-reading semantic mapping, whereas the second group received pre-reading lexical

L1 glossing. The subjects in the third group (the control group), however, received no pre-reading lexical assistance. All subjects sat for pre- and post- reading tests. After applying one-way ANOVA and a post-hoc Scheffe comparison test, results showed that the two pre-reading activities produced significantly higher comprehension scores than the control condition, and there was an advantage of semantic mapping over lexical

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من منظور نظرية السكيما. تم اختيار ٤٨ دارسٍ بالمستوى ما قبل المتوسط ببرنامج لتنمية مهارات اللغة الإنجليزية بمركز للغات بجامعة القاهرة، وتوزيعهم عشوائياً على مجموعتين تجريبيتين وثالثة ضابطة. خلال ستة أسابيع تم تدريس المجموعة التجريبية الأولى (١٦ دارساً) الوحدات الخاصة من كتاب المستوى الخاص بهم و توضيح كيفية استخدام الخرائط الدلالية كإستراتيجية دعم لفظى سابقة للقراءة و مدى تأثيرها على الفهم القرائى للنصوص بالوحدة. المجموعة التجريبية الثانية (١٦ دارساً) فقد تم تدريسها نفس الوحدات الخاصة من كتاب المستوى ذاته وتوضيح أهمية استخدام التفسير المعجمى للمفردات مستخدماً اللغة الأولى كإستراتيجية دعم لفظى سابقة للقراءة و مدى تأثيرها على الفهم القرائى للنصوص بالوحدة. أما المجموعة الضابطة (١٦ دارسا) فقد تم تدريسها الوحدات الخاصة من كتاب المستوى نفسه و معالجة النصوص القرائية بالطريقة الإعتيادية. تم إختبار المجموعات الثلاث لقياس مدى الفهم القرائى للنص بإختبار ما قبل بداية التدريس و بإختبار

glossing. Subjects' attitudes towards semantic mapping and glossing were qualitatively analyzed through a one-item questionnaire and summary writing. When surveyed, 54% of the participants preferred lexical glossing while 38% preferred semantic mapping as pre-reading lexical assistance activities. Results of the study were interpreted in relation to the schema-theoretic view of the reading process, and to their implications for EFL reading instruction.

***Keywords*:**

Readingcomprehension; Pre-reading activities; Schema Theory; Lexical Glossing; Semantic Mapping

الملخص:

هدفت هذه الدراسة إلى الكشف عن أثر استخدام نوعين من الدعم اللفظى السابق للقراءة (الخرائط الدلالية فى مقابل التفسير المعجمى للمفردات مستخدماً اللغة الأولى) على الفهم القرائى لدى دارسى الإنجليزية كلغة أجنبية من المصريين

كما أظهرت الدراسة تفضيل ٣٤٪ من الدارسين لوجود معانى المفردات باللغة الأولى كدعم لفظى سابق للقراءة، بينما فضل ٣٨٪ من الدارسين استخدام الخرائط الدلالية من حيث مقدرتها على تنشيط المعرفة و الخبرات السابقة المتعلقة بموضوع النص كمنظم متقدم، فيصبح دمج المعلومات الجديدة المقروءة مع المعرفة السابقة أعمق وهذا من شأنه أن يدعم الفهم القرائى للنصوص

الكلمات الدالة

اللغة الإنجليزية كلغة أجنبية – الدعم اللفظى السابق للقراءة – الخرائط الدلالية – التفسير المعجمى للمفردات – الفهم القرائى – نظرية السكيما

1.Introduction

When Egyptian learners read authentic texts in English, they usually complain of their inability of comprehending the main ideas in the passages efficiently due to the difficult words they encounter during the process of reading. This lack of lexical knowledge results in the interruption of the normal

آخر بعد الستة أسابيع لقياس مدى تأثيرنوعى الدعم اللفظى السابق للقراءة على الفهم القرائى للمجموعتين التجريبيتين. و بعد تحليل البيانات باستخدام تحليل التباين الأحادى (ANOVA)، تم استخدام اختبار شافيه للمقارنات البعدية كذلك.

كشفت النتائج عن وجود فروق ذات دلالة إحصائية بين متوسطات الإجابات الصحيحة فى إختبار القراءة ما بعد التدريس تعزى لاستخدام الخرائط الدلالية و التفسير المعجمى للمفردات مقارنة بلأسلوب التقليدى، و لصالح المجموعتين التجريبيتين. كما أثبتت الدراسة أن المجموعة التى استخدمت الخرائط الدلالية كانت أفضل من المجموعة التى استخدمت التفسير المعجمى للمفردات من حيث متوسطات الإجابات الصحيحة. و كان الفرق ذا دلالة إحصائية. كما أظهرت الدراسة أن من استخدموا الخرائط الدلالية كدعم لفظى سابق للقراءة تذكروا أفكاراً أكثر صلة بالفكرة الرئيسية بالنص عن المجموعتين الأخريتين أثناء كتاباتهم للملخص باللغة العربية عن الأفكار التى تم تذكرها.

process of reading to look up difficult words in a dictionary. Eskey (1988, p. 97) confirmed that "Language is a major problem in second language reading, and that even educated guessing at meaning is no substitute for accurate decoding". Laufer (1997), moreover, stated that understanding the text vocabulary is a key factor in comprehending a text. Other factors include relevant background knowledge and good reading strategies' application. A vocabulary size of 5000 word families is essential for reading a text in L2 including the base forms of words with their derivations, and such large quantities can neither be acquired through explicit vocabulary instruction, nor through independent strategy development activities (Hulstijn, Hollande, & Greidanus, 1996; Laufer, 1997). Therefore, incidental learning of vocabulary through 'picking-up' of words during extensive reading is crucial in enlarging the size of L2 learners' vocabulary, and is gradually achieved through exposure to authentic L2 texts in various contexts (Nagy, Herman & Anderson, 1985). Advocates of extensive reading state that new vocabulary is recognized while reading texts and once these lexical items are acquired, further texts would be better comprehended and readers, therefore, would be more motivated to read more. This also might lead to more vocabulary acquisition (Coady, 1997; Fraser, 1999; Grabe & Stoller, 1997; Krashen, 1989). Among the incidental vocabulary learning methods - glossing, dictionary use, guessing from context, etc. - glossing was extensively experimented to assert its

significant effect on L2 learners' reading comprehension and vocabulary acquisition (Hong, 2010; Nation, 2006).

Glossing is defined as a synonym, a brief definition or an explanation of a word, either in L1 or L2, provided with the text (Jacobs, Dufon, & Hong, 1994; Nation, 2006). A vocabulary gloss is usually provided as an interlinear note, in the margin or in a footnote at the page bottom (Holley & King, 1971). Based on Krashen's (1989) *Input Theory*, textual modification through incidental learning is regarded crucial so that language *input* becomes comprehensible and thus *intake* occurs. Vocabulary glosses are used in authentic L2 texts to assist non-native speakers in reading comprehension (Nation, 1990), and vocabulary learning and retention (Holley & King, 1971; Watanabe, 1997). They provide instant knowledge to key words in the reading texts and definition to low-frequency words, preventing learners to guess wrong meanings, and helping them to focus on comprehending the text without facing lexical obstacles that might hinder the reading process. According to the *Bottom-up Theory* of reading, glossing is useful in constructing meaning. That is because the reading process is text-driven (Carrell & Eisterhold, 1998) and vocabulary items in the reading text are to be fully understood so that sound comprehension is achieved. Jacobs (1994), on the other hand, considers glossing as an obstacle in the *Top-down Theory* of reading because comprehending a text depends on the readers' general predictions based on his schemata. If the input matches these existing

general predictions, comprehension is achieved (Carrell & Eisterhold, 1998). Therefore, checking a gloss while reading would distract readers from text comprehension as they shift focus from larger conceptions of text content trying to link with their knowledge, to individual lexical items.

After shifting focus from the important role of vocabulary in decoding meaning while reading texts to the impact of activating readers' schemata for better reading comprehension, researches once more advocated an interactive reading model where lexical knowledge and schemata activation are both simultaneously needed to grasp the main ideas in reading texts (Anderson & Pearson, 1988; Carrell 1983, Carrell & Wallace, 1983; Rumelhart, 1980). Recent studies on language acquisition have highlighted the key role of vocabulary in the FL learning process. Based on the linguistic theory of semantic fields (Channell, 1981) and the natural organization of the mental lexicon in L1 (Aitchison, 1994), the overwhelmingly popular practice of presenting new words together in semantic grouping has been seen as a facilitator of vocabulary teaching and learning but without sufficient empirical evidence from research (Folse, 2004). It has been assumed that such semantic mappings facilitate the retention of new vocabulary and further enable L2 readers to comprehend written texts after bridging the lexical barrier. Based on cognitive psychology, *Semantic Mapping* was developed by Johnson and Pearson (1978) who defined it as a graphic (map) representation of one's ideas toward a concept. It involves drawing a diagram of the

relationships between words vis-à-vis their use in a certain context (Oxford, 1990). It is regarded as a teacher-student effort to raise the student's consciousness of the relationships in a text, through visual categorization of specific lexical items to others. This activates the reader's appropriate schematic background knowledge of a given topic, reveals visually what they already know and provides them the base to build upon the new coming information from the reading text (Freedman and Reynolds, 1980; Heimlich and Pittelman, 1986).

1-Several studies have highlighted the importance of pre-reading activities for efficient comprehension of authentic texts. Significant effects were reported due to their ability in activating the readers' schema prior to reading or providing the knowledge that readers lack, and thus facilitating text comprehension (Graves & Chen, 1995; Graves & Cooke, 1980, Graves et al., 1983; Hudson, 1982; Johnson, 1981, 1982; Langer, 1984; Maghsoudi, 2012; Taglieber et al., 1988). Pre-reading activities "prepare native speakers for the concepts that follow, make the reading task easier, connect the new content more meaningfully to prior knowledge, and make reading more enjoyable" (Taglieber et al., 1988, p. 456).

Based on the schematic *Interactive Theory* of reading and the conflicting research results on the effect of lexical glossing on the reading comprehension of L2 texts on one hand, and acknowledging the vital role of the reader's schema and the extent to which it should be activated during the reading process on the other, this study compares the effect of two types of

pre-reading lexical assistance - semantic mapping versus glossing - on the reading comprehension of Egyptian EFL learners.

2. Literature Review

The following sections introduce a review of the research on glossing and semantic mapping vis-à-vis lexical gain and reading comprehension.

2.1 Models of Reading

The main purpose of reading in academic circles is to gain knowledge through comprehending the meaning that the writer conveys in the printed or online texts. Two views about reading comprehension were introduced through research. The first view sees that "meaning resides in the text itself", but the second one focuses on the fact that "meaning is the product of the reader's interacting with the text" (Chastain, 1988, p. 221). The first approach to reading is known as the bottom-up model of reading, and in which the process of constructing meaning is mainly text-driven (Hinkle, 2006; Nunan, 1999). Through this approach, readers derive meaning from the printed letters, then words, then sentences and finally the whole text structure.

Goodman (1967), however, questioned the ability of such an approach in improving reading comprehension and described reading as a "psycholinguistic guessing game" or what is known as the top-down model by linguists. In such an approach, reading is not a process of recognition of letters and words but it depends on the reader's effective use of his background knowledge and prediction of the author's intentions (Grabe, 1991). In this model, reading is defined as

a selective process in which readers start to sample the text to determine whether their previous predictions about the meaning of the text they were about to read are met or not. Unlike the bottom-up model, readers in the top-down approach reconstruct meaning instead of decoding the text's words and sentences for comprehension (Nunan, 1999).

Language difficulties found while reading by beginning learners who still resort to "lower level reading skills" such as "word recognition fluency, and the recognition of morphophonemic structure of words and phrases" (Hinkle, 2006, p. 121), lead to the emergence of the interactive model of reading. In this approach, reading is regarded as a text-reader interaction on one hand, and an interaction between many component skills of reading (Grabe, 1991). In an interactive reading process, "the reader is required to fit the clues provided in the text to his or her own background knowledge" (Nunan, 1999, p. 257).

2.2 Pre-reading Activities

Research conducted by L2 reading researches showed that reading comprehension and skills are enhanced when the readers' prior knowledge is activated and appropriate schemata induced (Anderson, 2002). Through an interactive model of reading, readers approach a text with prior knowledge but their schemata are not necessarily activated while reading, so pre-reading activities help to activate previously existing schema and build new background knowledge (Carrell, 1988). He lists several pre-reading activities to construct relevant schemata: topic discussions, visual aids such as photographs, real-life experiences,

role-play, text previewing, discussions, introduction and discussion of key lexical items in the text and their associates. In the same line, Zhang (1993) asserts that introducing schemata explicitly through pre-reading activities helps in activating the learners' relevant schema, motivating them and facilitating comprehension consequently. Not only do pre-reading activities help readers activate their schema to accept or build new information in the text, but they also prepare them for any linguistic difficulties whether lexical or structural (Ajideh, 2006). Semantic mapping is considered one of the widely suggested pre-reading activities aiming to activate the readers' schema to allow new information integrate with their pre-existing schemata, leading to sound text comprehension (Ajideh, 2003; Anderson, 2002; Hudson, 1982; Wallace, 1992).

2.3 Lexical Glossing

Previous research on the impact of glossing on lexical gain and reading comprehension resulted in a number of debates. In study by Jacobs (1994) on the effect of glossing on the reading comprehension of 116 US university students, it was found that participants who read that glossed text recalled approximately 30% more idea units than those who read texts with no glossing. Examining the effect of L1 and L2 glosses on FL reading comprehension and vocabulary learning, Jacobs, DuFon and Hong (1994) made 85 English learners studying Spanish read a Spanish text under 3 conditions. Results showed a preference of L1 and L2 glossing conditions over no glossing in facilitating reading

comprehension. Lomicka (1998) studied the effect of multimedia annotations on the reading comprehension of 12 college students enrolled in a French course. The results showed that computerized reading with full glossing promoted deeper level of text comprehension than limited or no glossing. Bell and LeBlanc (2000) studied the learners' attitude towards the use of L1 and L2 glossing in computer-based reading. 40 Spanish learners divided into 2 experimental groups (English versus Spanish glosses) read a short story with 67 glossed words Results showed that participants preferred using glosses in L1 although the difference between the groups was not statistically significant. Chen (2002) studied the effect of gloss types with 85 Taiwanese college freshmen. Results showed that the difference between L1 and L2 gloss groups was not significant statistically and that L2 gloss group outperformed the no gloss group while reading an English text. Miyasako (2002) investigated the effectiveness of L1 and L2 single and multiple-choice glosses on vocabulary gain and reading comprehension of 187 Japanese students. Results showed that L2 gloss group outperformed L1 gloss group with multiple-choice and single glosses in the immediate test. Huang (2003), on the other hand, investigated 3 types of glossing on 181 high-school students at Taiwan. In her 2-week long study, she found that the glossing experimental groups outdid the control group with no glossing condition. Ko (2005), moreover, investigated the effect of L1 glossing versus L2 glossing on Korean college students' reading comprehension. The L2

gloss group's scores were statistically much better on the reading comprehension test than those of the L1 gloss group. When surveyed, the learners showed preference for glosses even if they were in L1 rather than having no gloss at all. Yoshii (2006) examined the effectiveness of L1 and L2 glosses on vocabulary learning through reading. 195 Japanese college students learning EFL were divided into 4 groups (text only L1 gloss, text only L2 gloss, text-plus-pictorial L1 gloss and text-plus-pictorial L2 gloss) and they had to read a short story on the computer treated according to the 4 groups. Results showed that there was no significant difference between L1 and L2 glosses. However, the participants in the L1 text-only group retained vocabulary over longer time then the other groups.

On the other hand, some researches hold cautious opinions about the effects of glosses on both reading comprehension and vocabulary acquisition. Jacobs et al. (1994) in their study about the effect of L1 and L2 glosses on the reading comprehension and lexical gain of 85 English-speaking students, showed that there was no significant difference among the 3 conditions (L1 English glosses, L2 Spanish glosses, and no glosses). Joyce (1997), cited in Cheng and Good (2009), explored the effect of L1 glossing on the reading comprehension of 90 undergraduates using French textbooks at the University of Pennsylvania. After reading an authentic text in the field of journalism with either L1 gloss treatment or no gloss treatment, the students in the gloss group did not recall significantly more than the

control group. Moreover, Cheng and Good (2009) confirmed that using L1 glosses in their classroom helped learners acquire more vocabulary, however, their reading comprehension did not improve significantly. Several other studies found no significant effects of glossing on L2 reading comprehension (Bell & LeBlanc, 2000; Cheng & Good, 2009; Holley & King, 1971; Jacobs et al., 1994; Johnson, 1982).

2.4 Semantic Maps as Advance Organizers

Hanf (1971, p. 225) defines a semantic map as "a verbal picture of ideas which are organized and symbolized by the reader." The main idea is placed in the center of the map with "spokes radiating from the center. These spokes are labeled with words or phrases that represent subordinate ideas." Freedman and Reynolds (1980) considered the semantic map as one of the main advance organizers that activate the student's schema about a given topic. Semantic maps prepare students to understand, group and evaluate the information to be read. Bringing their background knowledge to the conscious level helps students make sense of text meaning (Freedman and Reynolds, 1980).

Researchers have focused on the effect of semantic mapping as a type of *advance organizers* on the reading comprehension of L2 learners. Hudson (1982) compared the effect of a visual advance organizer to a non-visual one on reading comprehension, and results showed that a visual advance organizer was more effective than the non-visual. Hanley, Herron, and Cole (1995) compared two visual advance organizers (video

with narration and picture-plus narration) on L2 reading comprehension. Results revealed that the video with the narration as an advance organizer was more effective than the picture-plus-narration.

Mueller (1980), on the other hand, studied the effect of a simple picture describing an interview on the listening comprehension of German students as a pre-listening and post-listening activity. The pre-listening advance organizer (visual picture) had a better effect on facilitating the students' listening comprehension than the post-listening activity. Ruhe (1996), moreover, investigated the effect of semantic maps on lecture comprehension by college students. Subjects were divided into 3 experimental groups (a graphic group, a vocabulary group receiving vocabulary in alphabetical lists, and a group receiving vocabulary from the nodes in graphics). Results showed that the graphic group outperformed the other 2 lexical groups in comprehension. The significant effects of advance organizers were studied in the context of videos as well, and which were recognized as beneficial instructional materials on enhancing comprehension (Herron, 1994; Herron and Hanley, 1992; Teichert, 1996; Burger, 2001).

Zaid (1995) advocated the use of semantic mapping as a pre-reading activity in L1 and L2 reading classrooms as it proved to be beneficial in facilitating reading comprehension of authentic texts. He illustrated that semantic mapping consists of five phases:

1) Topic introduction;

2) Brainstorming;

3) Categorization;
4) Map Personalizing; and
5) Post-assignment synthesis.

EFL teachers have started to use semantic maps for brainstorming in reading classes on a large scale because learners have witnessed impressive improvement in their reading ability through this schematic-based process.

2.5 Theoretical Framework

2.5.1 Schema Theory

A comprehension process that is guided by the reader's general experience and background knowledge is supported theoretically by the *Schema Theory* (Bartlett, 1932; Rumelhart, 1980). The first psychologist to use the word schema was Bartlett who defined it as "an active organization of past reactions, or past experience" (Bartlett, 1932, p. 201). Later, in the field of L2/FL research, schema was defined as a cognitive device that allows us to organize and restore information in our long-term memory (Widdowson, 1983), and as the main building 'blocks of cognition' (Rumelhart, 1980). Schema theory credits our past experience ability to create "mental frameworks that help us make sense of new experience" (Nunan, 1999, p. 201).

In the field of comprehension, schema theory was best defined by Carrell and Eisterhold (1983, p. 556):

[...] according to schema theory, a text only provides directions for listeners or readers as to how they should retrieve or construct meaning from their own, previously acquired knowledge. This previously acquired knowledge is called the reader's *background knowledge*, and the previously acquired knowledge structures are called *schemata*.

According to schema theory, therefore, text comprehension is an interactive process between the reader's background knowledge and the text. It is the ability to relate the textual material to the reader's own knowledge that leads to an efficient comprehension. Reading comprehension, in this sense, is a mixture of the bottom-up and top-down models. Simultaneously, bottom-up processing is activated by specific data from the text, while, at the same time, top-down is activated from the reader's mind to confirm these predictions.

Researchers divided schemata into four types: formal, content, cultural or abstract, and linguistic. Formal schemata refers to the "background knowledge of the formal, rhetorical organizational structures of different types of texts" (Carrell and Eisterhold, 1983, p. 79). Different genres have different structures. Lack of such kind of knowledge also contributes to the problems in reading comprehension. Content schemata refers to the "background knowledge of the content area of the text" (Carrell and Eisterhold, 1983, p. 80). It refers to what usually happens in a certain topic, and how all the details relate together to form a coherent whole. Content schemata are usually culture-specific. That is the reason why two readers may interpret the same text differently based on their different cultures. In some studies, cultural schemata are usually categorized as content schemata. Next, cultural schemata refers to the background knowledge about "the sets of beliefs, attitudes, customs, behavior, social habits, etc., of the members of a particular society" (Carrell and Eisterhold,

1983, p. 83). The implicit cultural knowledge presupposed by a text interacts with the reader's own cultural background knowledge of content and leads for an easier comprehension of a text based on a familiar culture. If the culture represented in the text does not match with the reader's cultural schemata, then comprehension becomes more difficult. Carrell (1988) was the first to use the term "linguistic schemata". It refers to the reader's knowledge about grammar and vocabulary of a certain language, and which is essential in comprehending reading texts. Eskey (1988) advocates the importance of accurate decoding of texts. This is because "Language is a major problem in second language reading, and that even educated guessing at meaning is no substitute for accurate decoding" (Eskey, 1988, p. 97). Good readers according to Eskey (1988, p. 94) are "both decoders and interpreters of texts, their decoding skills becoming more automatic but no less important as their reading skill develops".

After examining schema theory in L1 reading comprehension, various researchers examined its role in EFL/ESL reading. Apart from linguistic factors, they stressed its importance in reading comprehension in the fact that readers' background knowledge plays a more important role for an efficient reading than their language problems (Carrell, 1983; Floyd & Carrell, 1991; Hudson, 1988). Other studies found that culture schemata helped readers familiar with the reading passage content comprehend and recall significantly more idea than those unfamiliar ones (Kintsch &

Franzke, 1995; Levine & Haus, 1985; Steffensen and Joag-Dev, 1984).

2.5.2 Dual Coding Theory

Developed by Paivio (1986), dual coding theory states that human recall and recognition are enhanced when nonverbal information is accompanied by verbal information. Cognitive psychologists state that there are two interrelated systems of information processing. The first is the visual system which specializes in processing and storing visual images, while the other is the verbal system that processes linguistic information (Paivio, 1986). Through this dual coding system, information is stored and retrieved easier due to the availability of two mental representations of the information introduced. If learners use both verbal and visual forms together, they think about and recall information faster and better (Marzano, Pickering, & Pollock, 2001). Semantic mapping, as a form of visual representation of the key lexical words and their coherent associations vis-à-vis the information in the text, helps readers process and remember content better. This is because the text meaning is introduced to readers through two media, visual and verbal. These two media help eventually in activating the reader's schema in a more efficient way that leads to sound reading comprehension.

Based on the above review of literature, numerous researchers investigated the effect of L1/L2 glossing on the vocabulary gain and reading comprehension of learners. Results were conflicting and there was no agreement between them on the effective role

of glossing on the EFL learners' reading comprehension. On the other hand, the importance of pre-reading activities as effective activators of the readers' schema in comprehending FL texts was highlighted in literature. However, no study has compared the effect of lexical glossing to that of semantic mapping as two types of pre-reading lexical assistance on the reading comprehension of EFL learners. Based on the assumption that efficient reading comprehension requires both decoding and interpreting texts simultaneously on one hand, and the on-going complaint of EFL learners in Egypt of the difficulty in reading authentic FL texts because of the difficult words they encounter, this study aimed at exploring which pre-reading activity - lexical glossing versus semantic mapping - would most benefit the Egyptian readers. To fill the gap in literature on the comparison between the effects of lexical glossing and semantic mapping on EFL reading comprehension the present study seeks to answer the following research questions:

1. What is the effect of pre-reading semantic mapping on the reading comprehension of Egyptian EFL learners?
2. What is the effect of pre-reading lexical L1 glossing on the reading comprehension of Egyptian EFL learners?
3. Is one type of pre-reading lexical assistance - semantic mapping versus lexical L1 glossing - more effective than the other in improving the ability of reading comprehension of Egyptian EFL learners?

3. Method

3.1 Subjects

The subjects in this study were

the Egyptian learners of English enrolled in EFL courses at the Computer & Language Unit at the Faculty of Physical Therapy, Cairo University. Forty-eight learners at the pre-intermediate level course, participated in all treatment and testing sessions. To further homogenize their English Language proficiency level, the subjects were asked to sit for the paper-based TOEFL. The results further confirmed that they were at a pre-intermediate English proficiency level.

The subjects ranged in age from 22 years to 27. Of the total number of subjects, 20 (42%) were males and 28 (58%) were females.

(1)The subjects were randomly assigned to two experimental groups and a control group. 16 subjects were assigned to the first experimental group, lexical glossing (LG, n=16), 16 subjects were assigned to the second experimental group, semantic mapping (SM, n=16), and the rest 16 subjects represented the control group (n=16). The students were informed that this experiment was important to help them improve their reading comprehension ability and they voluntarily accepted the participation in the study.

3.2 Design

This quasi-experimental study compared the effect of two types of pre-reading lexical assistance, glossing versus semantic mapping, on the reading comprehension of Egyptian EFL learners. A pretest - treatment - posttest design was employed to answer the research questions. Data collected quantitatively in this study (score means of subjects on the pre- and post-reading tests) was submitted for statistical analysis using the Statistical Package for the Social

Science (SPSS) version 15.0 software. However, after the posttest was over subjects were asked to fill in a one-item questionnaire and write a summary of the texts they have read using L1, Arabic. The researcher's aim was not to measure the learners' English language accuracy, but to elicit as much as possible the ideas they have comprehended during the reading process. That is why the participants were allowed to use their L1 so as to write freely about their recalled ideas without being worried about committing language errors in English. Summary writing was chosen as a recall protocol because the learners were introduced to that type of writing during their language course. Data collected from the subjects' questionnaires and summaries were qualitatively analyzed.

3.3 Instruments

In order to determine the subjects' level of reading comprehension, the researcher administered a reading pretest (Test of Reading Comprehension) a week before starting the pedagogical treatment. A standard reading TOEFL test was chosen by the researcher to ensure the test's reliability and validity. The test battery included three reading passages followed by ten question items for each passage. The questions included multiple-choice, open-ended and fill-in-the blanks items. The subjects learned 8 units from *Pre-Intermediate Matters* by Jan Bell and Roger Gower (1997), a multilevel English teaching series, over a period of 6 weeks, the course duration at the Language Center. In each unit, the reading passage was treated according to the pedagogical intervention of the

two experimental groups, while dealt with as an ordinary reading passage without any special treatment for the control group. At the end of the treatment, a reading posttest was administered to investigate the effect of the two types of pre-reading lexical assistance each of the two experimental groups received. Another TOEFL reading test was used with the same structure of the pretest: 3 reading passages with 30 question items of the same type of questions as the pretest. The test reliability and validity were taken for granted as it was a real TOEFL test. For qualitative analysis, participants were asked to fill in a one-item questionnaire telling about their preference for either lexical glossing or semantic mapping as an effective type of pre-reading lexical assistance, in addition to writing a summary about the main ideas they recalled in the texts using Arabic.

3.4 Procedures

All subjects were asked to sit for the paper-based TOEFL before assigning them to groups in order to determine their language proficiency level. The test was taken from *Longman Complete Course for the TOEFL Test* by Phillips (2001). A complete test with its 4 sections - Listening Comprehension, Structure and Written Expression, Reading Comprehension and Test of Written English (TWE) - was administered to all learners. The learners' scores in the TOEFL showed that all of them were at a pre-intermediate language proficiency level and they were homogeneous. Next, the learners were assigned randomly into 3 groups: lexical glossing (LG), semantic mapping (SM) and a control (traditional

reading). The researcher, during the intervention, used the same reading passages and kind of instruction for the 3 groups.

In the SM group, learners participated in twelve semantic mapping sessions. The researcher met the learners twice a week for 120 minutes per session. In the first session, the researcher/teacher introduced the concept of advance organizers and semantic mapping. He explained the role of brainstorming through semantic mapping in facilitating the comprehension of the texts to be read. Then on the whiteboard examples of semantic maps were introduced about several topics and the learners themselves started constructing their own personalized maps (Zaid, 1995). The following steps were followed: 1) The teacher introduced the topic of the passage to be read in the textbook unit, and placed the topic word in an oval shape in the center of the white board. 2) Learners were asked to provide words they can think of related to the topic word, brainstorming. 3) The teacher started to categorize the words provided by learners on the board hierarchically to construct the semantic map. 4) Learners were asked to draw the semantic map in their notebooks and add any topic-related words they could think of to personalize the map with its hierarchically-ordered categories. 5) The teacher reviewed the learners' maps to make sure that they were appropriate and related to the topic of the reading passage to be read (Pauk, 1989). Next students start to read the passage found in their textbook unit without any help from the teacher, and they had to answer the questions given after reading the

passages. Finally, the teacher read the text with them once more and highlighted the link between the main ideas in the text and the semantic maps that the learners constructed. The comprehension questions were answered collaboratively in class and once again the teacher asked the students to add any necessary key words related to the topic from the text. The same 5 steps were followed in the other 11 sessions until the end of the level.

In the LG group, learners participated in twelve lexical glossing sessions. The researcher met the learners twice a week for 120 minutes per session. In the first session, the researcher/teacher introduced the importance of reading and the difficulties readers face because of difficult words in FL passage. He informed the students about the idea of lexical glossing and that there are two kinds of written glosses: L1 glosses and L2 glosses. He also talked about the importance of monolingual and bilingual dictionaries and how they could help L2 learners gain vocabulary that would eventually lead to efficient reading comprehension because learners might face less difficulty in decoding texts over time. In the following 11 sessions the teacher showed the learners how to consult bilingual dictionaries to gloss the difficult words in the reading passages in the textbook using their L1. Based on the teacher's experience of the level of his subjects, he could predict which words would be difficult for them, and therefore he came to class with a list of the difficult words in the text glossed into Arabic, the students' first language. L1 glossing was used in

this study to help learners overcome any text decoding obstacles vis-à-vis vocabulary since the subjects in the study were all in a pre-intermediate language proficiency level and lacked sufficient English vocabulary to read definitions provided through L2 glosses. Next, the students read the passage after reading the L1 glosses and answered the questions. Finally, the passage was re-read by the teacher and the students were given the chance to discuss the main topic with the teacher, the same procedure that was adopted with the SM group.

Learners in the control group had no special treatment. They started to read the passages of the units in their textbooks directly once the reading part started. Then, they were given some time to answer the questions following the texts. Next, the teacher read the passage again elaborating on any linguistic difficulty students faced. Finally, the topic was discussed and the questions answered collaboratively.

A week after the treatment, all subjects of the 3 groups had to sit for the reading posttest. The 3 reading passages in the test were followed by 30 question items to be solved in 90 minutes. Once they finished the test, learners were asked to fill in a one-item questionnaire in which they had to tell which type of pre-reading lexical assistance - glossing versus semantic mapping - they had found more effective in facilitating their reading comprehension. Besides, they wrote Arabic summaries about the main ideas in the texts they could recall after the posttest.

4. Results

The aim of this study was to investigate the effect of two types of pre-reading lexical assistance on the

reading comprehension of Egyptian EFL learners. To answer the research questions, descriptive statistics (means and standard deviations), and ANOVA (to assess differences across treatment groups and the 2 assessment phases) were used to analyze the data collected with a significant level set at .05. The total correct scores on the pre- and post- reading tests were 30 points. The TOEFL reading pretest established the homogeneity of the three groups in the study. This is illustrated through the closeness of the mean scores of the 3 groups on the test of reading comprehension. Table 1 shows the descriptive statistics of the results of the reading pretest among the 3 groups:

Table 1

Descriptive Statistics: Results of the Reading Pretest among the Three Groups

Groups	Number	Mean	SD
Lexical Glossing	16	16.22	2.317
Semantic Mapping	16	15.87	2.944
Control	16	16.90	3.356
TOTAL	48	16.28	3.874

One-way ANOVA was employed to examine if there was any significant differences among subjects among the 3 groups. The descriptive statistics and results are shown in Table 2

Table 2

One-way ANOVA: Results of the Reading Pretest scores among the Three Groups

Groups	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11.202	2	5.601	.542	.482
Within Groups	465.248	45	10.339		
Total	476.45	47			

Table 2 shows that there is no subject difference among the three groups ($F = .542$, $p = .482 > .05$).

The means for the three groups' reading comprehension posttest were calculated and results showed that the mean of the scores of the semantic mapping group (SM) was higher than the lexical glossing group (LG) and the control group. Table 3 shows the descriptive statistics and the results

Table 3

Descriptive Statistics: Results of the Reading Posttest among the Three Groups

Groups	Number	Mean	SD
Lexical Glossing	16	21.28	2.169
Semantic Mapping	16	26.64	2.507
Control	16	16.49	4.182
TOTAL	48	21.41	4.649

Table 3 shows that the use of semantic mapping as a pre-reading lexical assistance tool had a significant effect on the reading comprehension of SM learners. Their group has the highest mean score (M = 26.64), while the control group has the lowest (M = 16.49).

One-way ANOVA was employed to examine if there were any significant differences among subjects among the 3 groups on the reading posttest. The descriptive statistics and results are shown in Table 4.

Table 4

One-way ANOVA: Results of the Reading Posttest Scores among the Three Groups

Groups	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	764.036	2	382.018	31.582	.002
Within Groups	544.311	45	12.096		
Total	1308.347	47			

Table 4 shows that there is a significant difference among the three groups vis-à-vis the semantic mapping tool as a pre-reading lexical assistance in the reading posttest, $F = 31.582$, $p < 0.05$. Finally, Scheffe's post hoc test was employed to locate the exact place of differences among the test scores. Table 5 shows the descriptive statistics and the results

Table 5

Post Hoc Scheffe Test of Differences across the Groups on the Reading Posttest

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95 % Confidence Interval Lower Bound	Upper Bound
Semantic Mapping	Lexical Glossing	3.665*	.932	.002	-1.65	1.68
	Control	8.844*	.965	.000	.78	4.42
Lexical Glossing	Semantic Mapping	-3.665*	.932	.002	1.28	4.92
	Control	4.679*	.920	.000	-1.65	2.65
Control	Semantic Mapping	-8.844*	.965	.000	-4.92	-1.28
	Lexical Glossing	-4.679*	.920	.000	-4.42	-.78

Dependent Variable: correct answers (out of 30)

*The mean difference is significant at the 0.05 level

Table 5 shows that the differences among the mean of the correct answers of the semantic group, the mean of the correct answers of the lexical glossing group, and the mean of the correct answers of the control group are statistically significant.

Quantitatively, results from the one-way ANOVA showed that there was significant difference among all groups. Both types of pre-reading lexical assistance had a positive effect on the reading comprehension ability of Egyptian EFL learners. Semantic mapping had a more significant effect (Table 3) than lexical glossing (Table 4). Concerning the third research question, results showed that the semantic mapping group outperformed the lexical glossing one.

Qualitatively, the subjects in all groups were asked to give their attitude towards the use of a certain type of pre-reading lexical assistance for a more effective reading comprehension. The researcher gave them a one-item questionnaire and asked them to choose which type - semantic mapping or lexical glossing - they preferred to use as a facilitator for reading EFL texts. Table 6 shows their percentage.

Table 6

Lexical Assistance Preferences

Lexical Assistance Type	No.	Percentage
Semantic Mapping	18	38 %
Lexical Glossing	26	54 %
No Lexical Assistance	4	8 %

Table 6 shows that (54 %) preferred to have glossing as a pre-reading lexical assistance while (38 %) preferred to use the

strategy of semantic mapping as a pre-reading activity to facilitate their reading comprehension. On the other hand, (8 %) did not show any preference for any pre-reading lexical assistance.

Subjects in all groups were also asked to write summaries in Arabic about the ideas they could recall from the texts. The analysis of summaries revealed that the semantic mapping group subjects (SM) wrote about more key ideas and more key concepts in their writing. Their ideas were more complete and comprehensive than those of the lexical glossing group (LG). Moreover, the summaries produced by the LG group included more key ideas and concepts than those produced by the control group. On the other hand, 13 subjects (82%) in the control group did not write enough and their summaries were far enough from the key ideas of the texts they had read in the posttest. So, the SM group outperformed the LG group in recalling ideas and which in its turn was superior to the control group. Therefore, qualitative findings provided further support that semantic mapping was an efficient pre-reading lexical assistance activity in developing the reading comprehension ability of the EFL learners.

5. Discussion

Investigating the effect of two types of lexical assistance on the reading comprehension ability of Egyptian EFL learners, this study showed that semantic mapping was more effective in improving the reading comprehension ability of EFL learners than lexical glossing. Through a pedagogical intervention over a period of six weeks, the SM participants'

reading comprehension improved as manifested in their mean scores in the reading posttest compared to those in the reading pretest. Besides, their recall of key ideas of the reading passages was superior to those of the LG and the control.

Results showed that semantic mapping as a pre-reading activity had a significant effect on the Egyptian EFL learners' reading comprehension. The findings are in line with previous research concerning the positive effect of semantic mapping in the EFL classrooms on various language skills (Anders, Bos, & Filip, 1984; Margosein, Pascarella, & Pflaum, 1982; Stahl & Kapinus, 1991). In this study the overall reading ability of the 16 participants in the SM group improved due to the fact that semantic mapping succeeded in activating their background knowledge and experience to integrate the meaning in the written text with their previous knowledge or build new schemata to attain sound reading comprehension. Their schemata had been activated through the pre-reading activity, semantic mapping. This is in line with the top-down model of reading discussed by Goodman (1967) and Carrell (1991). Readers in such an approach make hypotheses from the text based on their schema and then accept or reject them through the reading process. This was validated in this study since the SM learners achieved higher scores in the reading posttest compared to the LG and control groups (Table 3). The SM group learners, moreover, succeeded in using their activated schema through the pre-reading semantic mapping technique to draw lexical items associated with the main

idea in the reading passage during the construction of the semantic maps.

This pre-reading activation of content schema agrees with Heimlich and Pittelman (1986, p. 38) who stressed the importance of semantic mapping exercises in preparing readers to "understand, assimilate and evaluate the information to be read, bringing the information to the conscious level so that students make sense of the topic to be read." Relating the readers' background experience to the textual material is important in achieving efficient comprehension. Anderson (2003) described this as an interactive reading process, and confirmed that without this reader-text cooperation, comprehension is difficult to attain. In this study, the SM group subjects were involved in a pre-reading key word discussion of the topic through brainstorming that helped them build an introductory idea to link to their schema and later predict the possible content of the text to be read.

In addition to the schema theory, the theory of dual coding by Paivio (1986) represents the theoretical framework of this study. Semantic mapping of key words related to the topic of the texts to be read is an example of visual advance organizers. After being introduced to the technique of constructing visual semantic maps during the pedagogical treatment period, the SM group subjects outperformed the LG group subjects in the post reading test. Tang (1992, p. 178) pointed out that "the use of visual organizers provide students with both verbal and visual information. The visual one contains the text content knowledge while the

verbal promotes language acquisition." Similar to this study, Hawk's (1986) study revealed strong positive correlation between the use of graphic organizers as advance organizers in instruction given to science students, and their overall achievement. Therefore, the results of this study came to further confirm that graphic advance organizers such as semantic maps are effective teaching strategies that can be applied to improve the learners' linguistic performance in FL classrooms (Ellis, 2001). Through active involvement in constructing semantic maps, readers find the opportunity for deeper processing of the text as their full attention is focused on the content of the reading material apart from the lexical and structure difficulties.

The results of this study are also in accordance with the results discussed by Zaid (1995) who stressed that vocabulary development is one of the prerequisites for a sound reading comprehension. The SM group answered MCQs related to vocabulary meaning more correct than the LG and control groups. SM readers successfully found out the correct meanings of the key words. Therefore, the answer to the first research question of this study is that semantic mapping is an effective pre-reading type of lexical assistance to improve the reading comprehension ability of Egyptian EFL learners.

The second research question was whether lexical glossing as a pre-reading lexical assistance has any effect on the reading comprehension ability of the Egyptian EFL learners. Results of the reading posttest in this study indicated a significant effect for

the use of L1 glosses on the reading comprehension of EFL learners. This finding is in accordance with the outcome of previous research (Bell & LeBlanc, 2000; Chen, 2002; Holley & King, 1971; Huang, 2003; Jacobs, 1994; Jacobs, Dufon & Fong, 1994; Jacobs, Dufon & Hong, 1994; Ko, 2005; Palmer, 2003).

This study, moreover, confirmed the significant effect of lexical glossing over no glossing condition. Through raising the awareness of learners towards some critical features in utterances, language is learned successfully. This attention to specific vocabulary items extracted and glossed in L1 enhances the learners' acquisition and learning of certain linguistic features. Schmidt (1994) called this "noticing" which is the subjective correlation to what psychologists refer to as "attention". Therefore, based on Noticing Hypothesis, the LG learners in this study noticed the unfamiliar words glossed in L1 and which eventually facilitated their reading comprehension.

Moreover, the LG subjects' preference (54%) of having glosses as pre-reading assistance for effective comprehension compared to the control group learners' preference (8%) for no glossing is consistent with the research outcomes of Fang (2009), Jacobs (1994), Jacobs, Dufon and Fong (1994) and Ko (2005).

The fewer ideas the control and lexical group participants recalled while writing summaries in Arabic than the key ideas recalled by the SM group may be attributed to the proficiency level of the subjects in this study. They were EFL learners with pre-intermediate English language proficiency level.

Therefore, lexical glossing might be more appealing to them because L1 glosses require low-level processing compared to semantic mapping which requires a high-level processing for activating the readers' schema. The results are similar to those found by Bell and LeBlanc (2000), Jacobs et al. (1994), and Ko (2005). Their participants were all in their low intermediate levels of language proficiency.

On the other hand, researches on semantic mapping as advance organizers proved their positive effects on the reading comprehension of learners at higher language proficiency levels (Herron, 1994; Herron and Hanley, 1992; Teichert, 1996; Burger, 2001). Further research might be conducted on learners with different levels of language proficiency to find correlations between their preference of a certain type of pre-reading lexical assistance and their L2 language proficiency level.

6. Conclusion and Implications

With the aim of enriching the field of Second Language Acquisition and improving the reading comprehension ability of EFL learners, this study compared two types of pre-reading lexical assistance - semantic mapping versus lexical glossing - on the reading comprehension of Egyptian EFL learners. Results showed that SM group learners outperformed those in the LG group in the reading posttest. On the other hand, the LG group learners' performance in the reading posttest was superior to the performance of those in the control group. The findings of this study showed that semantic mapping as an advance visual organizer had a

significant effect on improving the reading ability of the EFL learners. This was attributed to its ability in activating the readers' schema in a phase prior to reading.

Based on the schema theory, our general background knowledge is organized as a network of ideas. If learners have insufficient general knowledge, they face a great number of learning problems. In the process of reading, the readers' schema gives them insight into what the text is going to be about. Readers are in an on-going process of predicting the meaning of the text and then through finding clues in the text they can either accept or reject their predictions. That is why Goodman (1967) described reading as a psycholinguistic guessing game. Through the activation of their schemata, readers use their background knowledge to figure out the meaning of the difficult words they face in the text, without even interrupting the reading process to decode the text. Therefore, a smoother comprehension is achieved when schema is turned on or activated through pre-reading activities so that the readers' schemata accept the new information received and integrate it with the old. If this integration fails, new schemata are build to be added to the previous background knowledge. The results of this study confirmed that if learners have sufficient background knowledge (schema) about the reading text, efficient comprehension is attained (Carrell, 1989; Rawson & Kintsch, 2004). On the other hand, if learners have insufficient schema, pre-reading strategies should be employed, such as brainstorming and semantic mapping, to help them

reconstruct the meaning of the text they read and then store it in their memory, building new schemata (Rosenshine, 1986). Therefore, more attention should be paid by teachers to what is going in the reader's mind while reading because according to schema theory, meaning is neither text-based nor reader-based. It is reconstructed by readers through the interaction between the text and their schema (the interactive approach to reading). It is the teacher's role, then, to find ways to activate the student's schemata or build new ones to help in comprehending the reading passages.

On the other hand, results also showed that L1 glossing as a pre-reading lexical assistance proved to be effective in improving the reading ability of the EFL learners. This is in line with other previous researches that highlighted the positive effect of glossing on the students' reading comprehension (Bell & LeBlanc, 2000; Ko, 2005). Glossing allows readers to read the texts faster and without interruption because less time will be allocated by readers for difficult words. Moreover, it provides accurate meanings for important words in the texts that might be guessed incorrectly, otherwise, and affect sound comprehension and vocabulary learning (Nation, 2006; Nation, 2008). As a result, readers would avoid wrong inferences of words that might be misunderstood while reading texts without glosses. In addition to this, L2 readers with elementary language proficiency level lack sufficient vocabulary knowledge, appropriate reading strategies and linguistic clues that might help them to guess the meaning of difficult words they

usually encounter while reading authentic L2 texts. Glossing helps them increase their vocabulary knowledge without making them ignore the new difficult words that they cannot infer their meaning from context.

The findings of this study have several implications in L2/FL reading classrooms. Teachers should carefully select the words in the reading passages to be glossed because the students will 'notice' them as key words to understand the meaning reflected in the passage (Ko, 2005). Selection of the words to be glossed should be based on the students' language proficiency level and according to the words' importance in the text (Hong, 2010). In this study, subjects preferred lexical glossing to semantic mapping due to their limited English proficiency level. Teachers should encourage students to read extensively using monolingual or bilingual dictionaries. This motivates students to gain more L2 vocabulary, automatic application of glossing and a variety of reading strategies conducive to better reading comprehension (Ko, 2005; Nation, 2008).

On the other hand, teachers should introduce various strategies that would benefit students to activate their background knowledge. Once their schema is activated they become ready to integrate the new information they get with their background knowledge. Applying the schema theory to the teaching of reading comprehension can significantly improve the reading comprehension ability of FL students.

Although the results of this study showed significant effects of semantic mapping and lexical glossing on the reading comprehension of Egyptian EFL learners, there still exist some issues to be investigated to provide more insights into the reading comprehension ability of EFL learners. Future research might consider testing the effect of other types of glosses such as L2 glosses, multiple-choice glosses and online glosses. Since the current study only tested the effect of advance organizers (semantic maps) on reading comprehension, other studies might consider the efficacy of post organizers as well. Participants in this study were of pre-intermediate English language proficiency level. Further research might include FL learners with different language proficiency levels. Longer periods of pedagogical treatments might also be considered in similar researches as the semantic mapping treatment in this study lasted only for six weeks. Forty-eight subjects at a language center at Cairo University participated in this study. Any replication should attempt to use a larger sample of population to be able to generalize the findings of the study. Finally, although the effects of glossing and semantic mapping on reading comprehension were investigated in several separate studies before, to the best of the researcher's knowledge, this study is the first to compare the effects of both pre-reading lexical assistance types on the reading comprehension of EFL learners.

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Appendices

Appendix A

Portrayed تصور	Impact تأثير	Restrictions قيود	imposing فرض
Reviving منعش ، إعادة إحياء	Severe شديد ، خطير	Coastal ساحلية	Restoration ترميم
Explosion تدفق	Ecological بيئى	Picturesque رائع ، خلاب	Roaming يتجول
Cruise رحلة بحرية	Crafts حرف	Hordes جحافل ،مجموعات	devastating مدمرة

Sample of a Reading Passage with Pre-reading L1Lexical Glossing

The Impact of Tourism

Venice is sinking. Each year, millions of tourists rush to see this unique city in Italy before it disappears in the sea. The travellers themselves are probably unaware that their combined weight is adding to the problem. Venice has suggested imposing a tax on all visitors, to help pay for restoration of the ancient buildings and public squares and to finance research into ways of preventing further sinking.

As we begin the new century, there are 1.6 billion tourists roaming the world, and the impact of tourism can be devastating. Some say that tourism is ruining the planet. But how and to what extent should we impose restrictions on the tourists' right to go wherever they wish?

New groups of "green" tourists or "eco-tourists" are upset by the effects of mass tourism on coastal regions such as those of the Mediterranean. They suggest that only low-volume tourism should be allowed. They don't want the world's picturesque places to be destroyed by the hordes of people who go there to experience

the natural beauty. It's ironic that these same "green" tourists travel to some of the most sensitive spots on earth, where the environmental impact of even a few visitors can be very severe. How many people can visit the Galapagos Islands off the coast of Ecuador without affecting the ecological balance? And how should we decide who is allowed to visit and who isn't?

Still other groups point out the damage to local communities, customs and crafts that results from the arrival of huge groups of tourists. Tourism is almost always portrayed as evil. But do local people always want to stay the way they are? Why should they not enjoy the economic benefits of tourism? In many places, it's tourism that's actually keeping alive or even reviving the local traditions and crafts, as well as the economy.

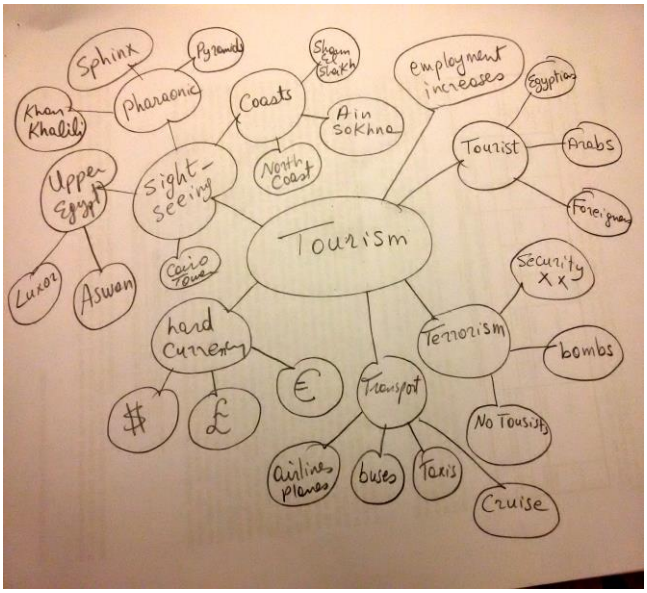
So how should the recent explosion of tourism be managed? The travel industry – airlines, hotels, cruise companies – should work with local councils and government agencies to agree upon realistic standards for planning and development in tourist areas. More frequently, the tourist destinations themselves are beginning to realize that they don't want to "kill the goose that laid the golden egg." The Caribbean island of St. Lucia, for example, recently turned down a plan to build

a cable car and restaurant on top of Pitons, the island's twin volcanic peaks.

It may become necessary for the United Nations to work out international agreements and strict environmental controls on the tourist industry. A lot of little steps can help to ensure that the earth's unspoiled travel destinations remain unspoiled for future generations of tourists.

Appendix B

Sample of a Reading Passage with Pre-reading Semantic Mapping



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