Relevance Strategy in Reading and Reading Instruction

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Abstract: On the basis of reviewing the previous reading strategies research, we find that the previous three general models of reading strategies have their own limitations and that, although all the previous models take notice of the role relevance plays in reading, they invariably fail to specify how relevance functions in reading. Relevance is not only a notion of large category which includes relevant information, relevant knowledge of language, culture, background, context, etc. necessary for reading comprehension, but also a mechanism by which these aspects of information and knowledge are accessed and retrieved for reading process and comprehension process. Enlightened by the Relevance Theory, the authors in the present research aims at analyzing strategy for reading and reading instruction and proposing a relevance-based approach to reading and reading instruction. They have given in it a systematic analysis of the cognitive features and cognition laws involved in reading and comprehension and put forward the notion of Relevance Strategy in reading and reading instruction, arguing that reading or reading instruction is a cognitive-inferential process, with Relevance as the kernel, of searching relevant information and knowledge and arriving at maximal relevance (i.e. solution or interpretation of reading material). Either the bottom-up, or top-down, or interactive models of strategies cannot ignore the kernel function of relevance. In the application of sub-strategies, relevance is also playing a major role. The authors, therefore, also argue that the traditional decoding model of Reading Comprehension instruction should be replaced by a pragma-cognitive model. Reading (Comprehension) should not be regarded as merely decoding words, phrases or sentences, but as an integral cognition of the reading material. A teacher should help students form a unitary cognitive environment so as to cognize the reading material as a whole.

Keywords: Reading Strategies, Relevance Strategy, Reading Instruction

1. Introduction

What is reading? We may understand it from two perspectives. In the narrow sense, reading is an activity by which people read books, journals, newspapers, etc. In the broad sense, reading includes hearing, viewing, touching and the narrow sense of reading. To our understanding, reading in either form or either sense is a process that involves comprehension. That is why we also call it reading comprehension (RC for short below).

What is involved in reading? How do readers or hearers make sense of what they view, read or hear? Or how readers in the general sense extract meaning from a text? To be more specific, what possible strategies are adopted in reading comprehension? These are the questions that reading researchers are often concerned about.

Understanding the cognition and psychology of reading has been the focus of many researchers [20-22, 33, 47, 55, 57]. This is not only because reading is a socio-cultural skill indispensable for people to survive and develop in modern society, but also because it is one of the most important linguistic skills and one of the most important ways to obtain linguistic input for second or foreign language learners.

To help learners with their reading, various models (of strategies) have emerged from the research of scholars studying it. Strategies in reading are usually divided into two major categories: cognitive and metacognitive. [52, 37, 51]

Cognitive strategies are those which aid a reader in constructing meaning from the text. In general, studies in both first language (L1 for short below) and second language (L2 for short below) reading research provide a trichotomous division of cognitive strategies as bottom-up, top-down and interactive models [9, 23, 30, 49, 55].

Metacognitive strategies are those which function to monitor or regulate cognitive strategies. They include "checking the outcome of any attempt to solve a problem, planning one's next move, monitoring the effectiveness of any attempted action, testing, revising, and evaluating one's strategies for learning" [6, 51, 52]. To put it briefly, if skimming a text for key information involves using a cognitive strategy, then assessing the effectiveness of skimming for gathering textual information would be a metacognitive strategy.

This paper aims to propose an alternative cognitive strategy for reading based on the relevance-theoretical framework, so a detailed review and analysis of cognitive reading models follow.

2. Literature Review

2.1. Cognitive Reading Strategies: Three Models

As mentioned, in the category of cognitive reading strategies, there are three models: bottom-up, top-down and interactive. According to Aebersold and Field (1997), readers' minds repeatedly engage in a variety of processes.

Using bottom-up strategies, readers start by processing information at the sentence level. They focus on the identification of the meaning and grammatical category of a word, sentence syntax, text details, etc. Bottom-up (also called data-driven) models emphasize what is typically known as lower-level reading processes. The information identified is processed from letter features to letters, then to word and to meaning. Segalowitz, Poulsen & Komoda (1991) indicate that these lower-level processes consist of "word recognition and include visual recognition of letter features, letter identification, the generation of grapheme-phoneme correspondence, utilization of orthographic redundancies such as regularities in letter sequences, the association of words to their semantic representations, possibly the identification of basic syntactic structures within the portion of text currently being read, and with the generation of prepositional units."

In contrast, top-down (also called concept-driven) models are diametrically opposed to these lower-level processes. According to Stanovich (1980), top-down models "all have in common a viewing of the fluent reader as being actively engaged in hypothesis testing as he proceeds through text." Top-down models involve higher-level processes that direct the flow of information through lower-level processes. This higher level is concerned primarily "with integration of textual information and includes resolving ambiguities in the text, linking words with their co-referents, integrating prepositional units across sentences, generating and updating a schema or representations of the text as a whole, and integrating textual information with prior knowledge." [49].

Research findings show that top-down and bottom-up models are not mutually isolated. During reading, both models may co-occur or occur alternately. The way, order or frequency by which both occur alternately depend on the textual type, the cognitive level and background knowledge of

readers. Neil J. Anderson [3] observed that, when second language learners read, they may do some bottom-up things such as decoding unfamiliar vocabulary, struggling with poor print quality of a handout, wondering about a part of speech of a particular word, etc., they may also do some top-down things such as anticipating what is coming next in the text, drawing on their previous experience. Murtagh (1989) stresses that the best second language readers are those who can efficiently integrate both bottom-up and top-down processes. Hence the third types of reading processes, the interactive models, which combine the elements of both bottom-up and top-down models, assuming "that a pattern is synthesized based on information provided simultaneously from several knowledge sources [55]. In the interactive models, processes at any level can compensate for deficiencies at any other level, and higher processes can compensate for deficiencies in lower level processes. Grabe [23] emphasized two conceptions of interactive approaches. The first relates to the interaction between the reader and the text. The second relates to the interaction between bottom-up and top-down processes. The first conception suggests that the meaning does not reside in the text alone, the background knowledge of readers also facilitates the comprehension of the meaning. The second conception suggests that fluent reading involves both decoding and interpretation skills.

Among these models, the third ones are currently accepted as the most comprehensive description of the reading process. Neil. J. Anderson [3] pointed out: "As I observed my students in the reading class and reflected on these three models which try to explain the reading process, I can see that an interactive model is the best description of what happens when we read."

2.2. Limitations of Previous Models: A Summary

However, each of these models has their own limitations. A careful contrastive analysis of these models reveals that each model stresses the role of relevance element in reading, but each model fails to specify how relevance functions in reading. Some research findings show that readers will turn to relevant information or knowledge for help when they meet with reading obstacles because of their shortage of some aspect of information or knowledge (Stanovich 1980), and that readers with poor reading proficiency may identify the meaning of words with the help of relevant redundant information in the context (Mitchell 1982). The Schema Theory for reading in the 1970s (Rumelhart 1977, for instance) stressed particularly the importance of readers' relevant cultural knowledge, background knowledge and other knowledge in reading comprehension.

To my observation, the element of relevance is not only important in the reading process itself but also in the application of concrete reading strategies to reading. With the research completed to date on reading processes in both first and second language reading, we know that reading integrates several skills, strategies and processes, and these skills, strategies and processes are mutually influential and relevantly interactive (a further discussion in part 3 below).

In recent years, the Relevance Theory (RT for short below), proposed and developed by Sperber & Wilson (1986, 1995) has offered a neoteric and considerably convincing approach to natural language understanding. RT studies verbal communication and cognition from the angle of the message recipient (hearer / reader / addressee/audience) in an attempt to reveal the psycho-cognitive process of the recipient in analyzing and inferring the intention of the message producer (speaker / addresser / writer) and the meaning conveyed by the message. RC is in essence also a type of verbal communication and cognition, which involves a psycho-cognitive process of deducing intention of the producer from the superficial message. Based on RT, this paper aims at proposing a relevance-based approach to reading, analyzing the cognitive properties and cognition law involved in reading comprehension, and showing their implications for reading instruction.

3. The Cognitive Properties of RC: A RT-based Account

3.1. RT on Communication and Cognition

When reading occurs, we are doing it for information or for the meaning, intention or purpose behind the information, or for both. The relevance theorists (Sperber & Wilson 1986, 1995) argue that verbal communication—oral or written—is a type of intentional and purposeful activity, which conveys the intention of the message producer. Every verbal communicative activity involves two intentions: informative and communicative intention. When a producer produces a message, he is indicating that he has an intention of communicating a message, namely informative intention; besides, he may also indicate that he has an intention of communicating informative intention, i.e., communicative intention. The intention of conveying a message is normally self-evident, but the identification of the intention of communicating informative intention can only be done by reasoning. The recipient has to contemplate the message and make inferences so as to understand the producer's informative as well as communicative intention. The process of reasoning is for the recipient to build up relevance between informative and communicative intentions.

It is also argued in the relevance theory of communication that communicator meaning comprises both explicature and implicature. A message recipient should identify the producer's explicature, and more importantly, implicature, because what interests him most is to clarify why the message is produced. Explicature may reveal only the producer's informative intention and provide the recipient with only communicative content. Nevertheless, on the basis of explicature, the recipient can form contextual assumptions, from which he can infer the producer's intention of conveying the informative intention, i.e., communicative intention. The communicative intention is embedded in the implicature of communicator meaning. According to Sperber & Wilson, implicature refers to contextual implication, namely the indirect expression of communicator meaning, which is deduced on the basis of explicature. Thus, the process of communication and cognition is also one of building up relevance between explicature and implicature.

Also, according to RT, verbal communication is an ostensive-inferential processing. Ostension-inference reflects two aspects of a communicative process. From the producer's point of view, verbal communication is an ostensive process. 'Ostension' means clear and manifest indication, hinting or signaling. A message producer always expresses and transmits message by means of explicature in order to enable the recipient to understand his intention. From the viewpoint of the recipient, verbal communication is an inferential process. To understand the producer, he has to bring the message offered by explicit means (words, sentences or texts) into the ostensive-inferential mode and carry out a deductive inference. So, language communication and comprehension is also a process of building up relevance between ostension and inference.

What kind of mechanism motivates the recognition of informative and communicative intention, and what motivates the deduction of communicative intention from informative intention? Or, what element governs the process, guides the recipient in forming contextual assumptions and implicated premises so as to arrive at implied conclusion? The relevance theory proposes a hypothesis that human cognition is relevance-oriented. Relevance principle or strategy is supposed to be a general cognitive principle or strategy for language understanding. As verbal communication occurs, it may involve a lot of information and each piece of information involved is worth the recipient's attention. But which is most worthy of his attention? This is where the relevance factor comes in.

To illustrate, consider the following example. When a reader reads the sentence, its explicature is clear and manifest. Yet, different contextual assumptions may lead to totally different interpretations of it. If the book is a notebook, 'marks' refer to doodles or scrawls. If the book is a grade record book, 'marks' represent students' achievements in examination. If it is a road sign book, 'marks' refer to signs or symbols, and so on. From the explicit information, what can a reader deduce? He can only combine the explicature of the sentence with the concrete contextual assumptions and infers the right interpretation from their relevance.

(A) There are too many marks in the book.

Now we may become aware of the motivation mechanism of language comprehension proposed in RT:

When the recipient of a message obtains information by decoding linguistic data, the combination of explicit content, context and various implications may lead to different interpretations of the data, because the recipient is not always able to understand all the meanings of the data in any circumstance.

However, (a) The recipient usually relies on a single, general criterion in the recognition of the data; (b) The criterion is sufficient for the recipient to exclude all other interpretations while affirms one that he firmly believes is the

only feasible interpretation.

The criterion mentioned in (a) and (b) is relevance, which is the core element in human language communication and cognition. The recipient processes the linguistic information and contextual assumptions and makes some efforts in searching for relevance and contextual effects. The proper search for relevance will be rewarded with appropriate contextual effects that help make the recipient's recognition successful. In order to enunciate how much efforts are spent and what effects are achieved, the Relevance Theory puts forward the concept of "optimal relevance". The relevance searching is governed by optimal relevance, for the final goal of language comprehension is to obtain the optimal relevance of information and context [44, 45].

3.2. To Read Is to Search Relevance

To apply the philosophy of the Relevance Theory to reading, we can find that a reader involved in reading comprehension plays the role of message recipient, who has to identify both the informative intention and communicative intention of the speaker / author from between the lines. His task is not confined to taking in message or merely duplicating or decoding it. Instead, he has to analyze, process the message and make inferences before he can arrive at the producer's implied meaning, intention or purpose [16, 10].

Let's look at "Hit the Nail on the Head", an essay written by Alan Warner[1]. The first sight of the title may give readers an impression that it is a topic about hitting nails, and the surface information "hitting the nail on the head" may cause readers to associate themselves with some other similar instances such as cutting wood with the blade of a knife or beating a snake seven inches from the head, i.e., on the fatal spot of its head, and so on, and hence to predict that the writer is perhaps trying to advise people to grasp the key point in dealing with things or affairs. These are the informative intention obtained from the surface impression. Could this be the communicative intention of the writer? We can't obtain any support from this surface impression. When we read on, we get more and more relevant details as shown below:

(B) "A skilful carpenter, on the other hand, will drive home the nail with a few firm, deft blows, hitting it each time squarely on the head. So with language: the good craftsman will choose words that drive home his point firmly and exactly." (paragraph 1).

"Words are many and various; they are subtle and delicate in their different shades of meaning, and it is not easy to find the ones that express precisely what we want to say. …Choosing words are part of the process of realization, of defining our thought and feeling for ourselves, as well as for those who hear or read our words." (paragraph 2-3).

Some words have common roots or kinship with one

another but they are used in very different senses.(paragraph 4-7)

"But words that are similar in meanings have fine shades of difference." (paragraph 8).

"'There are no synonyms, and the same statement can never be repeated in a changed form of words.'…The change in words is a change in style, and the effect on the reader is quite different. It is perhaps easier to be a good craftsman with wood and nails than a good craftsman with words, but all of us can increase our skill and sensitivity with a little effort and patience. In this way we shall not only improve our writing, but also our reading…" (paragraph 9).

"English offers a fascinating variety of words for many activities and interests. …Consider the wide range of meanings that can be expressed by the various words we have to describe walking…" (paragraph 10).

Reading the text through helps readers infer from all relevant details that the writer is actually using an analogy to discuss the use of language. The analogy shows that the way a skillful carpenter hits a nail is similar to the way a language master uses words. From this, he goes on to emphasize that he should learn to choose exact words to best express his own ideas, just as a good carpenter knows where to hit so as to most effectively drive a nail home. To complete this process of reading comprehension, the reader has to search relevance among the details describing the nail-hitting and details describing word choice and word use, and to build up relevance between the title and the text, between the text and the author, between the two compared objects, and even between the text and reader, between the reader's background knowledge and the linguistic information in the text. In other words, reading can be summarized as a *relevance-based integrated decoding-inferential process*. This process is driven by certain propelling mechanisms, one of which is relevance-guided comparing. Any process of utterance comprehension involves comparing of information of two aspects (internal known information and external new information) and of many dimensions (internal and external utterance, internal and external utterance meanings, internal and external contexts). Comparing is a spontaneous behavior in human cognition. By comparing these elements in two aspects and of many dimensions does the reader (hearer) detect the true meaning and intention of the utterance.

The above analysis reveals that the producer's process of manifesting explicit information is in nature one of providing the recipient with a cognitive environment, which is the cognitive precondition of ostension-inference in reading comprehension. The recipient depends on this environment in forming contextual assumptions and implied premises. The reader involved in reading manages to build up relevance between the cognitive environment, contextual assumptions formed on the basis of the environment. And by searching for the optimal relevance, he can arrive at the rightt interpretation of what he reads.

The judgment of lexical meaning of words, ambiguous words in particular, is actually the inferential judgment of the real intention of the producer. In the sentence below, the word

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[1] This is a selection from Alan Warner's book *A Guide to English Style* (1961), which consists of three parts: Part One, How to write clean English; Part Two, the Development of English style, and Part Three, English style today. In writing the book, the author has tried to keep in mind the special needs and difficulties of those students for whom English is not the mother tongue.

culture is ambiguous in many ways. Each of its meaning, as shown in (C), is possible in different contexts.

(C) Culture: art, literature, customs, social institutions, state of intellectual development, growing of plants, etc.

In the process of ostension-inference, any lexical meaning embedded in the word culture might be the potentially intended meaning of the producer of (D). However, other explicit information available in the context provides the reader with a cognitive environment in which he can form contextual assumptions and infer the intended meaning, which in turn help him arrive at the right interpretation. That is, culture means husbandry, cultivation or farming in (D).

(D) The defeat of the Confederacy (Southern states) left what had been the country's most fertile agricultural area economically destroyed and its rich culture devastated. (Jonathan Rose, American History, United States Information Agency, 1989)

4. The Implications of RC Cognitive Properties for Reading & Reading Instruction

4.1. Reading Comprehension: Multi-level Contemplation and Reasoning

According to the RC cognitive properties, we may divide the process of reading comprehension into at least three levels:

(1) Literal comprehension level. At this level, a reader decodes only the literal meaning of reading material, such as getting to know and thinking about its general idea, details, the sequential order of an event, the time and place of it, the figures' characteristics, causality, etc.

(2) Inferential comprehension level. At this level, the reader speculates on acceptation of words, the purpose of the writing, the writer's intention, etc., on the basis of the writing structure and his own background knowledge.

(3) Evaluative comprehension level. At this level, a reader, on the basis of his reading experience, knowledge and language competence, analyzes and evaluates the superiority and inferiority of the writing, such as evaluating the authenticity of a message, the possibility of an event and testifying the reliability of a fact or the truth or falsehood of an assertion, etc.

The first level is the level of explicature or informative-intention comprehension, the second two levels belong to the level of implicature or communicative-intention comprehension. It is worthwhile to notice that, in spite of their own distinct features, all the three levels are not exclusive of one another; instead, they are interrelated and interdependent. Each comprehension level cannot get rid of deductive inference.

These analyses reveal that reading comprehension is a process of a reader's active contemplation and reasoning (instead of passive reception) of the information involved in reading material, it is based on his linguistic knowledge, background knowledge and the cognition principle.

4.2. RC Teaching: A Pragma-Cognitive Model

From what is revealed above about RC, we can also find that RC teaching should not be a process of force-feeding. On contrary, RC teacher should let the students enjoy the freedom of making their own contemplation and reasoning, let them actively digest the message.

The traditional approach to RC teaching is based on the code theory of communication, according to which a teacher provides the students with reading materiel and asks them to preview. Then the teacher explains some difficult language points and asks the students to answer some questions. In fact, students either do not preview or make preview a process of consulting dictionary for the meaning of new words or phrases. According to our previous teaching practice and experience, this approach cannot effectively improve students' competence in reading comprehension and the students cannot well digest what they read. Sometimes, this approach either cannot achieve these goals or often leads to negative effects, such as garbling.

Therefore, we propose that the traditional model of RC teaching should be replaced by a pragma-cognitive model. RC should not be regarded as merely decoding words, phrases or sentences, the focus of RC teaching should be on an integral cognition of the reading material. A teacher should help students form a unitary cognitive environment so as to cognize the reading material as a whole.

The pragma-cognitive model of reading comprehension sets forth two basic but very important questions for RC teaching: what and how should a RC teacher teach? What and how should students learn?

Neil J. Anderson (2004) has summarized eight strategies for reading and reading instruction, including: Activate prior knowledge, Cultivate vocabulary, Teach for comprehension, Increase reading rate, Verify reading strategies, Evaluate progress, Build motivation, Plan for instruction and select appropriate reading materials. To our understanding, these strategies are the application of relevance strategy to specific circumstances.

4.3. Strategies for RC and RC Teaching

4.3.1. Substrategy 1: Activate the Prior Knowledge

Reading is such a process which associates the knowledge represented by words and sentences with the given knowledge of a reader. Without the help of prior knowledge, reading can't be finished. Prior knowledge, also referred to as background knowledge or schema in the reading literature, includes all experiences that a reader brings to a text: life experiences, educational experiences, knowledge of how texts can be organized rhetorically, knowledge of how one's first language works, knowledge of how the second language works, cultural background and knowledge, to name just a few areas.

Prior knowledge is divided into two categories: common sense (or world knowledge) and familiarity with some things or events. Anderson [3] has an interesting analogy of readers compared with plants. He said that second language learners are much like plants. Just as plants need different types of soil

for best growth, teachers need to provide variety in the activities used in the classroom for activating the prior knowledge of the readers. They require constant attention to make sure that they are getting the right amounts of the ingredients that will help them grow and improve.

Common sense refers to the world knowledge that we use in reading but we are not conscious of the use of it. When we read the following sentence:

(E) Mary had a traffic accident. She was hospitalized

We can normally build up certain kind of relevance between these two isolated sentences and arrive at a conclusion: Mary was in hospital because she had been injured in an accident. But the original linguistic information did not tell the fact of her injury. The fact was implied by the linguistic information and inferred by the reader on the basis of his prior knowledge about accident: a traffic accident often injures and the victim (s) probably has (have) to be sent to hospital, and by associating this knowledge with the knowledge provided by the two sentences.

Similarly, familiarity is also part of prior knowledge that influences a reader in his reading comprehension. The more familiar he is with something, the more possible his understanding of it will be. Lack of familiarity makes it impossible for him to comprehend however good at language he is, and that is why some readers may not have prior knowledge to activate. For instance, readers may not have previous experience of playing certain sports. If they have no knowledge of how the sport is played, of the vocabulary involved in it, they have no background to activate prior to reading about it. In such case, it will be necessary for the reading teacher to establish background before asking the students to read so that they have sufficient information to understand the text.

A considerable amount of research has been done by second language reading researchers indicating that reading comprehension and reading skills are enhanced when prior knowledge is activated. Adequate data suggest that "inducing appropriate schemata through suitable pre-reading activities is likely to be extremely beneficial" (Murtagh 1989). Activation of prior knowledge facilitates the comprehension. Carrel and Essterhold (1983) pointed out that "a reader's failure to activate an appropriate schema … during reading results in various degree of non-comprehension." So, the notion of prior knowledge influencing reading comprehension suggests that meaning does not rest solely in the printed word, but that the reader brings certain knowledge to the reading that influences comprehension. In addition, research on knowledge of text structure indicates that the reader's understanding of how texts are organized also influences reading comprehension, which is supported by the findings in Carrel and Connor's [8] research examining ESL reader's abilities to read descriptive, persuasive and narrative texts.

To facilitate the activation of prior knowledge, several classroom activities can be prepared. First, pre-reading discussions provide an opportunity for the readers to see what they know about a topic and what others may know. Teachers can direct the discussion by asking relevant questions. To manage a pre-reading discussion, Dubin and Bycina [13] recommend using what they call "anticipating guides" which contain "a series of statements, often provocative in nature, which are intended to challenge students' knowledge and beliefs about the content of the passage."

Second, have a pre-reading discussion on the type of text-structure and what expectations a reader may have about the organization of the material (similar to what is shown above in understanding "Hit the nail on the head"). For example, if readers understand possible ways that a cause and effect text could be organized, the knowledge can help them understand that kind of text. Knowledge of how arguments are presented in writing can help readers move through a text more efficiently.

Third, use semantic maps. In doing semantic mapping, the readers may be given a key word or concept that will be part of the reading material. Then ask them to generate words and concepts they associate with the key words. Semantic mapping allows students to link ideas and concepts they already know to the new concept that will be learned, thus helping to build background prior to reading.

Finally, have the students monitor their use of background knowledge activation strategies as they read outside of structured classroom activities. Students and teachers can work together to conduct a class discussion on a regular basis and ask the students what kinds of things they do to activate their background knowledge when they are reading something that has not been assigned for school work [25].

4.3.2. Substrategy 2: Cultivate Vocabulary

Vocabulary is widely accepted by most researchers as a crucial factor in reading comprehension [1, 33, 57]. They argue that, firstly, vocabulary size is one of the major rocks in the course of reading comprehension; many second language readers cite "lack of adequate vocabulary … as one of the obstacles to text comprehension" [31]. Secondly, vocabulary size and reading skills are highly positively relevant. Grabe [23] stresses the important role of vocabulary as a predictor of overall reading ability. However, vocabulary size is not necessarily an important factor determining one's reading. Larger size of vocabulary does not guarantee higher degree of comprehension performance in reading. A more important factor in play is vocabulary skills, which refer to one's performance in using vocabulary, including proper choice of words in speech or writing, guessing the meaning of words in context, etc. We more often mention vocabulary size but ignore vocabulary skills in reading or reading instruction. For a good instructor, he should value these two as factors of equal importance. A Chinese proverb goes: "To offer one fish is not as good as to offer him fishing." Therefore, an instructor has to decide not only which words to teach but also how to teach. Hence the second strategy: Cultivate vocabulary.

Nation [39] emphasizes "a systematic and principled approach to vocabulary by both the teacher and the learners" and comments that, in order for instruction to be effective, the teacher needs to make informed decisions about how to teach vocabulary. He suggests five reasons why a concentrated

focus on cultivating vocabulary is needed: (1) Research findings suggest a great deal about what to do about vocabulary and about what vocabulary to focus on. (2) A variety of ways are available to classroom teachers for presenting needed vocabulary. (3) Researchers and students alike see vocabulary as being a very important element in language learning. (4) Readability research suggests that vocabulary plays a crucial role in the development of reading skills as well as academic achievement. (5) Giving attention to vocabulary is unavoidable.

How to cultivate vocabulary, then? Nation [39] has four proposals: (1) Make learners contact target words by careful control or arrangement of them in the reading materials; (2) Explain new words when they occur; (3) Combine vocabulary teaching with other teaching activities such as introducing some key words before they talk or listen; (4) Independent vocabulary instructions such as teaching spelling rules, word formation or word game, etc.

In addition, Nation [39] and Cohen [11] outline similar methods of assisting second language learners in acquiring new vocabulary. Four techniques they discuss include: rote repetition, use of context, mnemonic approaches, and analysis of word structure. Rote memorization and repletion suggest that some learners make use of continual repletion of a word and its meaning until they feel the word is learned. The use of flashcard might be a helpful tool, the shortcoming of it is that the learners may have to spend more time making the cards than actually studying the cards. Mnemonic techniques involve the learner creating an unusual mental image that links the new word with a similar sounding word from the first language. For example, the Chinese word "ping guo" meaning "apple" is phonetically similar to the English word "penguin". The learner can create a mental image of a penguin eating an apple. The more unusual the mental image, the easier it is for the learner to recall the image and thus the meaning of the new vocabulary word.

Word structure analysis skills encourage the learner to study prefixes, roots and suffixes, and use this knowledge to learn new vocabulary. In order for the learners to make use of word analysis, Nation recommended three skills, which prove to be much helpful in our teaching experience. The skills are: (1) Recognizing the parts of a word. (2) Learning the meaning of affixes and roots. (3) Using affixes and roots. Students are asked to combine affixes and roots and to recognize how the combined meanings create the meaning of a word. The advantage of these skills is that they help learners build semantic and structural relevance between the meaning of the parts or affixes (prefix, suffix, infix, root) and the meaning of the whole word. Using the meaning of the affixes can be a strategy to guessing the meaning of unfamiliar vocabulary.

Here, we pay a little more attention to the use of context in vocabulary learning and instruction. Clarke and Nation [39] suggest five specific steps which could be included during explicit instruction of this strategy:

Step 1, look at the unknown word and decide its part of speech; Step 2, look at the clause or sentence containing the unknown word and consider the relation between the unknown word and other sentence elements; Step 3, look at the relationship between the clause or sentence containing the unknown word and other sentences and paragraphs. Sometimes this relationship may be signaled by a conjunction; Step 4, use the knowledge you have gained from Steps 1-3 to build up lexical relevance, semantic relevance or pragmatic relevance among these elements and guess the meaning of the word, Step 5, check that your guess is correct, to see if the part of speech is the same as the part of speech of the unknown word, to replace the unknown word with your guess (If the sentence makes sense, your guess is probably correct.), to break the unknown word into its prefix, root, suffix, if possible (If the meanings of the prefix and root correspond to your guess, good.). Using the dictionary could be an additional way of checking.

4.3.3. Substrategy 3: Teach for Comprehension

In many reading instruction programs, a greater amount of emphasis and time may be placed on *testing* reading comprehension than on *teaching* readers how to comprehend. According to this strategy, however, what is important to reading instruction is not to test reading comprehension but to teach readers how to comprehend. To understand the process of learners' reading comprehension, teachers themselves must be and must make the learners be aware of the two psychological activities involved in reading and the relevance between them. The two activities are cognition and metacognition. Cognition can be defined as thinking and metacognition as thinking about one's thinking. In reading, cognition is a process of comprehending the meaning expressed by the reading material while metacognition is a process of monitoring the comprehension [32, 56, 6]. In order to teach for comprehension, teachers must help readers monitor their comprehension processes and be able to discuss with the teacher or fellow readers what strategies are being implemented to comprehend (metacognition in reading will also be discussed in detail below in the part of the fifth strategy: verify strategies).

One of the reasons for an incorrect comprehension of the text by the readers is that they can't well monitor their own reading process. So, an important goal of reading instruction is to help develop the students' metacognitive skills in reading comprehension. To build up the metacognition skills in learners, an instructor can help them choose, connect and explain information in the material, make hypothesis and prediction, raise corresponding questions, adopt self-monitoring and self-repair strategies, evaluate the results of reading activities.

4.3.4. Substrategy 4: Increase Reading Rate

Learners should realize fully the relevance between comprehension and reading rate. Grabe [23] states that "fluent reading is rapid; the reader needs to maintain the flow of information at a sufficient rate to make connections and inferences vital to comprehension." Some authorities suggest that 180 words per minute "maybe a threshold between immature and mature reading, that a speed below this is too slow for efficient comprehension or for enjoyment of text."

[26] Dubin and Bycina [13] state that "a rate of 200 wpm would appear to be the absolute minimum in order to read with full comprehension." Jensen (1986) recommends that a second language reader seeks to "approximate native speaker reading rates and comprehension levels in order to keep up with classmates." She suggests that 300 wpm is the optimal rate. This rate is supported by Nuttal (1982).

In spite of the conflicting data regarding the optimal or sufficient reading rate, the fact can't be denied that a proper reading rate is very important to reading comprehension. Nuttal (1996) described the "vicious cycle of the weak reader". Readers who do not understand often slow down their reading rate and do not enjoy reading because so much time is taken. Therefore, they do not read much. By increasing the rate, readers can jump out of the vicious cycle but into the "virtuous cycle of the good reader". By reading faster, the reader is encouraged to read more and with more reading, comprehension improves.

During the 1960s and 1970s, there were four significant recommendations regarding pedagogical techniques for rapid reading. Harris [24] provided exercises in word recognition, vocabulary building, as well as selection used for timed reading in his text *Reading Improvement Exercises for Students of English as a Second Language.* He also provided exercises in skimming and scanning. Plaister [42] suggested the use of a metronome as a pacer in improving reading. The goal was to read a line of text in one fixation of the eye, then moving to the next line with the beat of the pacer. In contrast, Seliger [50] proposed a method of previewing, scanning, directed reading, and using the finger as pacer to reduce eye regression. The fourth method proposed by Riley [43] is "phrase reading." Similar to the one proposed by Plaister, this method advocated teaching students to increase their eye span by reading in units. These methods have been proven to be very effective by some teachers. However, these methods rely on the use of mechanical devices, especially prepared materials by the teacher, or simple instructions to read as quickly as possible. What's more, although these activities do help in developing reading skills, students do not learn to increase their reading rates significantly.

In order to increase the reading rate, Neil. J. Anderson [3] suggests the following classroom activities: (1) Rate buildup reading, the purpose of this activity is to reread "old" materials quickly, gliding into the new, each time the old is reread, the rate increases. The students are given 60 seconds to read as much material as possible and then given an additional 60 seconds to begin reading again from the beginning of the text. Such a reading is repeated third, fourth or even more time. As the eyes move quickly over the old material, the readers actually learn how to get their eyes moving at a faster reading rate and learn to increase reading rate;

(2) Repeated reading, learners read a short passage over and over again until they achieve criterion levels of reading rate and comprehension. The criterion levels may vary from class to class, but reasonable goals to work towards are criterion levels of 200 words per minute at 70% comprehension. Studies with native English speakers indicate that, "as

students continued to use this technique, the initial speed of reading each new selection was faster than initial speed on the previous selection… the number of rereadings required to reach the criterion reading speed decreased as the students continued the technique. [This seems to indicate] a transfer of training and a general improvement in reading fluency." [48].

(3) Class-paced reading. This activity requires a discussion regarding a class goal for minimal reading rate. Once the goal is established, the average number of words per page of the materials being read is calculated; it is then determined how much material needs to be read in one minute in order to meet the class goal. Students are encouraged to keep up with the established class goal. Of course, those who read faster than the class rate goal are not expected to slow down. As long as they are ahead of the designated page, they continue reading.

(4) Self-paced reading. Similar to class-paced reading, the learners determine their own goal for reading rate during this reading rate activity. For instance, they determine how much material needs to be read in a sixty second period to meet their objective rate. Suppose a student's objective rate is 180 wpm and the material being read has an average number of 10 words each line. The student would need to read 18 lines of text in one minute to meet the goal. The activity proceeds nicely by having each student mark off several chunks of lines and silently read for a period of 5-7 minutes with the instructor calling out minute times. Students can then determine if they are keeping up with their individual reading rate goal.

(5) In addition to these four specific classroom reading rate activities, additional activities can be used. For instance, students can be given reading passages and multiple choice comprehension questions like those found in most rate-building texts. They can set individual goals and be encouraged to work towards reading at least 200 wpm with at least 70% comprehension.

Reading rate is no doubt one of the crucial factor to reading comprehension. Both the teacher and the students should be aware of the close relevance between reading speed and reading comprehension. According to automaticity theory [48], "a fluent reader decodes text automatically—that is, without attention --- thus leaving attention free to be used for comprehension". As less attention is required for decoding, more attention becomes available for comprehension. Thus rereading both builds fluency and enhances comprehension. The rapid reading activities outlined above can facilitate practice in building the automaticity skills needed in second language reading.

4.3.5. Substrategy 5: Verify the Reading Strategies

To teach learners how to use strategies is no doubt very important, but to improve reading comprehension so as to raise it to a higher satisfactory level, a good instructor should help learners verify the application of reading strategies in order to make necessary adjustment to specific strategies. Hence the fifth strategy: verifying the reading strategies.

By using this strategy, both the instructor and learners can use the technique of verbal report or thinking aloud to discuss such questions as what, why, when, where and how the

strategy is applied. In practical teaching, the best method to help learners monitor their own application of strategies is verbal report (or thinking aloud). A verbal report is produced when a language learner verbalizes his or her thought processes while completing a given task [14]. In doing verbal report, the learners are using a tool to verify what they are doing while they are reading. They can verbalize their thought processes to reading instructors, reading partners or even themselves. It is often revealing to hear what other readers have done to get meaning from a passage. Cohen [12] suggests that as readers verify what strategies they are using they become more aware of the "full array of options open" to them to improve their reading. Some researchers call this metacognitive awareness [6].

To have an insight into the operation of the metacognitive awareness or reading strategy awareness, Miholic's inventory[i] provides some guiding questions both for readers and instructors [35]. Responses to these questions can reflect the mental processes second language learners use to read and understand.

As second language readers actively monitor their comprehension processes during reading, they will select strategies to assist in getting at the meaning of what they read. This indicates that they are able to verify the strategies they are using. Verbal report has been used in many second language research designs as a method of getting at the mental processes that second language learners use to understand the language. Verbal reports allow insight into the dynamic and interactive nature of the language learning process. Getting students to think aloud and use verbal reports is a beneficiary metacognitive activity. Irwin [27] states: "When students think aloud or hear others think aloud, their metacognitive awareness of options for responding to text increases. It can also help them to become aware of how much thinking goes into comprehending a text."

Based on this theoretical hypothesis, second language teachers can use the following six questions suggested [58] as a tool for strategy instruction in reading classes. The six strategy instruction questions are applied to a specific reading skill: Main Idea Comprehension.

1 *What is the strategy? Being able to identify the main idea is one of most important reading skills you can develop. It is a skill that you need to apply to the majority of reading contexts.*

2 *Why should the strategy be learned? If the main idea can be identified, comprehension is facilitated by being able to organize the information presented and by being able to distinguish main ideas from supporting ideas and details.*

3 *How can the strategy be used? Read to locate the thesis statement of the passage and the topic sentences of each paragraph. Read quickly, don't worry about the details.*

4 *When should the strategy be used? Main idea comprehension should be used when reading expository passages which contain much information.*

5 *Where should the reader look? The reader should read the first and last paragraphs of a passage and read the first sentence of each paragraph. Readers should be reminded to ask themselves the following questions: what idea is common*

to most of the text? What is the idea that relates the parts to the whole? What opinion do all the parts support? What idea do they all explain or describe?

6 *How can you evaluate the use of the strategy? In the early stages of reading comprehension, open discussion with the reader will be the best method to verify whether the strategy is being used appropriately. The use of verbal think-aloud protocols can facilitate the evaluation of the strategy.*

4.3.6. Substrategy 6 & 7: Evaluate Progress and Build Motivation

To encourage the learners to understand their achievements and make much more progress in reading, two more strategies must be adopted: Evaluate progress and Build motivation. These two strategies are closely relevant to each other. The more achievement one has in reading, the stronger motive for reading will be. People read normally for two purposes, one for information, the other for pleasure. A reader's desire for reading depends on the progress he has made and the pleasure or information he has found.

Two evaluative methods can be adopted for progress evaluation: quantitative and qualitative assessment. And to build up motivation, Irwin [27-28] emphasized that "motivation can be increased by increasing the expected reward or by decreasing the expected effort. The greatest amount of motivation would result from doing both of these things."

She provides suggestions for increasing the expected rewards and decreasing the expected efforts. On the side of expected rewards increase, an instructor should provide regular praise and interesting activities, write fair tests, provide high-success tasks, involve learners in purpose setting and in questioning, use meaningful reading tasks, give them choices, etc. On the side of expected efforts decrease, the instructor should provide learners with background information, give specific purpose, preview assignment, preview vocabulary, discuss reading strategies, use high-success materials, divide long chapters into shorter assignments, etc.

4.3.7. Substrategy 8: Plan for Instruction and Select Appropriate Teaching Materials

The last but not the least strategy is: To plan for reading instruction, a teacher should not only prepare materials and get himself familiar with them, but also consider whether the materials are proper for the teaching period, the operation procedure, and good for the learners' need, interest and aptitude. Nuttal (1996) lists three criteria for evaluating texts for reading development: suitability, exploitability and readability. For suitability of context, she reminds reading teachers of two things: finding out what students like and selecting texts for classroom study. Exploitability of the text includes the purpose of the reading lesson, integrating reading skills and stimulating real-life purposes. For readability, Nuttal recommends that reading teachers assess the learner's level, consider how much new vocabulary is introduced in the text, assess the structural difficulty of the passage and finally calculate the readability level of the material. E. A. Bett [4] in

his book *Foundations of Reading Instruction* outlined four levels of reading: basal level, instructional level, frustration level and capacity level. To guarantee the readability of reading material, the difficulty of material chosen for instruction should not be higher than the instructional reading level.

4.4. The Implications of RC Cognitive Properties: A Summary

4.4.1. Implications for RC & RC Instruction

To summarize, there are possibly innumerous strategies in reading, all the strategies are not isolated from one another. Among all the strategies, the core element is Relevance. The activation of prior knowledge involves the search for and buildup of relevance between background knowledge and the on-the-spot reading materials. The cultivation of vocabulary is a process of finding relevance between vocabulary size, vocabulary skills and reading comprehension in general, and vocabulary understanding in particular. As for teaching for comprehension and verifying strategies, both the learners and the instructors have to well grasp the relevance between the cognition and metacognition, between specific reading strategies and the application of them. The strategy of increasing reading rate emphasizes the closely-tied relevance between the reading speed and reading pleasure or reading motivation, between reading rate and reading comprehension. The strategies of progress-evaluation and motivation building stress the relevance between readers' reading and their achievements, progress and motives in reading. The last strategy of planning for instruction and selecting appropriate teaching materials reflects the relevance between teaching material preparation, reading instruction and learners' interest, need and competence.

The element of relevance plays an important role not only in the process of reading comprehension itself, but also in the use of reading substrategies, in the process of reading instruction, not only in the preprocess of preparing reading materials but also in the post-process of reading and reading instruction. Scarcella and Oxford (1992) had an analogy of a tapestry as it relates to the issues of reading. Learning to read is a process, just as learning to weave a tapestry is a process. Various strands of thread are used by the weaver just as various reading skills are used by the reader. It would be rare to find two identical tapestries in the world, just as it would be difficult to find different readers who use identical reading skills and strategies to achieve reading comprehension.

Understanding main ideas, making inferences, predicting outcomes and guessing vocabulary from context are all reading skills that readers need to develop. Each of these skills is a separate strand of thread used by the reader. Reading strategies used by the reader to accomplish these reading skills are also separate threads used by the reader. In addition to these threads used by the readers, there are threads available to reading teachers: the threads of reading theory and pedagogy to develop reading lessons. The threads available to the teacher are also woven into the fabric of the tapestry. The weaving together of all these threads – reading skills, reading

strategies, reading theory and reading pedagogy – creates a tapestry that will be unique to each reader and each teacher in a reading classroom. In spite of the various threads of strategies utilized by and the various threads of skills of various readers and teachers, the threads are linked together by the main thread of relevance, which makes it possible both for the readers and the teachers to arrive at the same goal of reading comprehension and instruction.

As revealed above, either in doing reading or in doing reading instruction, the reader or reading instructor has to take a full account of the role relevance plays in reading activities. On the part of the reader, he has to search for relevance between each level of reading activities, each source of knowledge and each specific reading strategies and build up an relevant integrative framework before he arrives at his comprehension and interpretation.

On the part of the instructor, he plays a particular role in teaching RC. On the one hand, he is the recipient of information conveyed by reading material, on the other hand, he is the controller of the integral cognitive environment of it. He has to give a synthetic induction and generalization of the overall information and determines which is comprehensive and instructive so as to offer the students an integral pragma-cognitive guide.

Therefore, it is argued that the following principle should be observed in teaching RC:

(1) The teacher operates from a strategically advantageous position, takes a full grasp of the quintessence of the reading material, provides the students with instructive, relevant information that is helpful for comprehension and help them form a cognitive environment;

(2) The teacher introduces to them the ways of searching relevant information and forming contextual hypotheses, and the techniques of speculating and making inference. It is quite unnecessary for the teacher to give an over-detailed word-for-word, sentence-by-sentence or passage-by-passage analysis of the reading material; it is also quite unnecessary for the teacher to impose all of his own understandings upon the students.

On contrary, he should let students analyze, contemplate, understand and make inferences themselves and enjoy the opportunity of giving a full play to their ability to do these tasks. The process of analyzing, understanding and making inferences is a process of searching and transferring various relevant information, finding out the relevance among them and forming relevant contextual assumptions. In doing so, they can develop and improve their ability to understand and conduct deduction. Meanwhile, he should also let the students enjoy the right of making judgment over the accuracy or inaccuracy, appropriateness or inappropriateness of their own analyses and interpretation among themselves, let them bring into a full play their initiative through discussion and extension of their thinking interspace. Discussion can not only confirm or redress their understanding, but also consolidate their understanding and cognition ability. The result of this "laissez-fair" policy leads to a fine circulation, because the students can really learn to use and get rid of ambiguous

understanding and garbling. After all, the ultimate goal of teaching is to train a student so as to make him become the user rather than the accumulator of knowledge.

4.4.2. Implications for Extensive & Intensive Reading Instruction

The pragma-cognitive model of reading comprehension has also an important implication for the orientation of intensive and extensive reading instruction. If intensive reading instruction should be focused on "points" i.e., on analyzing difficult language points, then extensive RC instruction should be focused on "range", emphasizing integrated analysis and understanding of reading material and application of all aspects of knowledge. Yet to teach comprehension skills, teachers and students should also be well aware of the relevance between intensive reading and extensive reading. Intensive reading can be defined as using a text for maximal development of comprehension skills. All activities are designed to explicitly teach readers the comprehension skills necessary for them to transfer the strategies and skills to their own reading when they are not in the classroom. This type of reading treats the text as the end in and of itself. Extensive reding can be defined as reading large numbers of texts for general comprehension. It is often combined with other activities so that reading is only a portion of what the reader is expected to do. For example, readers may read large numbers of text and then prepare a paper comparing and contrasting various viewpoints on the topic. Or they might use the information read to prepare a persuasive speech to convince someone to agree with their position. This type of reading is a means towards the end. It is our belief that good readers do more extensive reading than intensive reading. But what makes the reader a good reader is that he/she has developed the strategies and skills through intensive reading, and these strategies and skills are then transferred to extensive reading contexts. These ideas should give reading teachers cause to consider the ration of intensive and extensive reading activities for the students to engage in and see if we provide opportunities for both types of reading.

5. Concluding Remarks

In this paper, we have discussed the reading and reading instruction, and the strategies involved in both of these processes based on the Relevance Theory. The major findings are:

(1) Strategies for RC and RC instruction can be innumerous, but the kernel one is relevance strategy.

(2) All the strategies, either for RC and RC instruction, are not isolated from one another, since there is a core element Relevance linking them together.

(3) All the activities in RC or RC instruction involves the search for and buildup of relevance among various potential influential factors or sources. Relevance plays an important role not only in the process of reading comprehension itself, but also in the use of reading substrategies, in the process of reading instruction, not only in the preprocess of preparing

reading materials but also in the post-process of reading and reading instruction. Learning to read or teaching how to read is as much a process as learning to weave a tapestry. Various strands of thread are used by the weaver just as various reading skills are used by the reader or taught by the instructor.

Therefore, either in doing reading or in doing reading instruction, the reader or reading instructor has to take a full account of the role relevance plays in reading activities. On the part of the reader, he has to search for relevance between each level of reading activities, each source of knowledge and each specific reading strategies and build up an relevant integrative framework before he arrives at his comprehension and interpretation. On the part of the instructor, he has to give a synthetic induction and generalization of the overall information and determines which is comprehensive and instructive so as to offer the students an integral pragma-cognitive guide.

So far, we haven't explored into the concrete operation of the relevance strategy and substrategies. We haven't investigated the feasibility and applicability of the relevance-based model of strategy in reading comprehension and reading instruction. We need to do further research and design classroom experiments on the relevance strategy so as to collect supporting data. But it is what we are going to do next, not now.

Funding

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i The inventory:

1. What do you do if you encounter a word and you don't know what it means?
_____ a. Use the words around it to figure it out.
_____ b. Use an outside source, such as a dictionary or expert.
_____ c. Temporarily ignore it and wait for clarification.
_____ d. Sound it out.

2. What do you do if you don't know what an entire sentence means?
_____ a. Read it again.
_____ b. Sound out all the difficult words.
_____ c. Think about the other sentences in the paragraph.
_____ d. Disregard it completely.

3. If you are reading science or social studies material, what would you do to remember the important information you've read?
_____ a. Skip parts you don't understand.
_____ b. Ask yourself questions about the important ideas.
_____ c. Realize you need to remember one point rather than another.
_____ d. Relate it to something you already know.

4. Before you start to read, what kind of plans do you make to help you read better?
_____ a. No specific plan is needed; just start reading toward completion of the assignment.
_____ b. Think about what you know about the subject.
_____ c. Think about why you are reading.
_____ d. Make sure the entire reading can be finished in as short a period of time as possible.

5. Why would you go back and read an entire passage over again?
_____ a. You didn't understand it.
_____ b. To clarify a specific or supporting idea.
_____ c. It seemed important to remember.
_____ d. To underline or summarize for study.

6. Knowing that you don't understand a particular sentence while reading involves understanding that
_____ a. the reader may not have developed adequate links or associations for new words or concepts introduced in the sentence.
_____ b. the writer may not have conveyed the ideas clearly.
_____ c. two sentences may purposely contradict each other.
_____ d. finding meaning for the sentence needlessly slows down the reader.

7. As you read a textbook, which of these do you do?
_____ a. Adjust your pace depending on the difficulty of the material.
_____ b. Generally, read at a constant, steady pace.
_____ c. Skip the parts you don't understand.
_____ d. Continually make predictions about what you are reading.

8. While you read, which of these are important?
_____ a. Know when you know and when you don't know key ideas.
_____ b. Know what it is that you know in relation to what is being read.
_____ c. Know that confusing text is common and usually can be ignored.
_____ d. Know that different strategies can be used to aid understanding.

9. When you come across a part of the text that is confusing, what do you do?
_____ a. Keep on reading until the text is clarified.
_____ b. Read ahead and then look back if the text is still unclear.
_____ c. Skip those sections completely; they are usually not important.
_____ d. Check to see if the ideas expressed are consistent with one another.

10. Which sentences are the most important in the chapter?
_____ a. Almost all of the sentences are important; otherwise, they wouldn't be there.
_____ b. The sentences that contain the important details or facts.
_____ c. The sentences that are directly related to the main idea.
_____ d. The ones that contain the most details.