



## **Metacognitive Awareness of Reading Strategies: An Indian Context**

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### **ABSTRACT**

*Over the last four decades, there has been a substantial body of research on metacognitive awareness of reading strategies. However, very few studies have focused on stage-wise frequency (pre-, while- and post-reading) and conditional knowledge of reading strategies. The purpose of this paper is to report stage-wise frequency and conditional knowledge of reading strategies as employed by nine ninth-grade participants. The participants were asked to maintain Reflective Journals, which were analyzed qualitatively using thematic analysis. The analysis revealed that the most frequently used strategies are 'previewing', 'underlining unfamiliar words', 're-reading difficult sentences' and 'recalling summary'. Reading strategies were employed for a variety of purposes such as predicting the main idea, solving the problems faced in comprehending the text, memorizing useful information and learning English vocabulary. The stage of reading was found to be significantly influencing both frequency and purpose of reading strategies. The findings of this study have implications for learners, teachers and course book designers in teaching English as a Second Language.*

### **INTRODUCTION**

The significance of reading in second language learning (Grabe, 1991, 2004) and the use of reading strategies in successful reading have been extensively recognized (Cain, Oakhill, & Bryant, 2004; Pressley & Afflerbach, 1995). Research into reading strategies has largely focused on identifying strategies used by successful and unsuccessful readers (Amaral, 2007; Hosenfeld, 1977). However, research into Indian students' reading strategies is not adequate to the country's English language needs (Sheorey, 1999). In order to make a variety of reading strategies available both to students and reading teachers, the neglect of research into reading strategies especially in India, which is the second largest English speaking country in the world, has to be addressed as soon as possible.

### **Reading Strategies**

Reading strategies are deliberate, goal-directed actions to understand and construct meanings of a text. For Cohen (1990) reading strategies are the "mental processes that readers consciously choose to use in accomplishing reading tasks" (p. 83). As defined by Aarnoutse and Schellings (2003) reading strategies are:

... the cognitive activities which readers can undertake before, during and after the reading of a text in order to adequately comprehend the text and prevent, identify or solve any problems which may occur during this process. Reading strategies are specific heuristics, methods or procedures which readers more or less apply intentionally to adequately process and understand the information presented in a text. (pp. 390-391).

Based on the definitions available in the literature, reading strategies can be defined as the specific techniques readers employ to complete reading tasks successfully. Reading strategies are what readers do to comprehend and/or construct meaning; what they do when they come across problems in comprehending; and what they do to memorize and consolidate their comprehension (Block, 1986, 1992; Macaro, 2001; Macaro & Erler, 2008; Singhal, 2001; Zhang, 2001). Six defining attributes that differentiate strategies from other human actions have been recognized in literature (Alexander, Graham & Harris, 1998). Strategies are understood as *procedural*, *purposeful*, *willful*, *effortful*, *facilitative* and *essential*. Reading strategies are the procedures readers often employ when they are engaged in performing well/ill-structured reading tasks (*procedural*). To deploy strategic behavior, the reader must intentionally decide upon a course of action that would assist them in performing a reading task (*purposeful*). Additionally, the reader must actually embark upon a particular strategy (*willful*), which requires an additional commitment of time and mental resources on the part of the reader (*effortful*). Reading strategies are shown to enhance performance of the reader on a reading task (*facilitative*). Strategic procedures are indispensable (*essential*) for acquiring and organizing information, and for regulating one's reading performance (see Alexander, Graham & Harris, 1998 for a detailed discussion of these attributes).

Research on second language reading indicates that readers employ a variety of strategies to assist themselves with the acquisition, storage, and retrieval of information (Rigney, 1978). Research into reading identified strategies such as planning, previewing, predicting, skimming, scanning, recognizing difficult words, guessing, rereading, translating, taking notes, highlighting key information, commenting, summarizing, paraphrasing, separating main ideas from supporting ideas, visualizing, thinking aloud, associating, adjusting speed of reading, checking understanding of the text, making inferences, and checking guesses and predictions (Barnett, 1988; Brantmeier, 2005). The above list is by no means complete, and future research into reading may continue to add strategies to it.

Two of the earliest studies on ESL reading strategies were conducted by Hosenfeld (1977) and Block (1986). Whereas the former compared the strategies of successful ESL readers with those of unsuccessful ones, the latter compared the reading strategies used by ESL readers with those of native speakers of English. Hosenfeld (1977) found significant differences between successful and unsuccessful readers using think-alouds. It was found that the successful readers kept the meaning of the passage in mind, skipped unimportant words, read in broad phrases, used context to guess word meanings, and had a positive self-concept as a reader. In contrast, the unsuccessful readers translated sentences, did not think of the general meaning of the passage, skipped words rarely, looked up words in a gloss, and had a poor self-concept as a reader. Using think-aloud protocols, Block (1986) found that ESL readers' pattern of strategy use was similar to that of the native speakers of English.

Research on frequency of reading strategies revealed contradictory findings regarding 'prediction', 'association' and 'eliciting help from others' (Li & Munby, 1996; Şahan, 2012; Taraban, Rynearson & Kerr, 2000; Wood, Motz & Willoughby, 1998). For instance, Şahan (2012) found that 'prediction' was the most frequent strategy and 'association' the least frequent. However, Li & Munby (1996) found that both 'association' and 'prediction' were high frequent strategies. With regard to 'eliciting help from others', Wood, Motz & Willoughby (1998) found that it was a less preferred strategy, whereas Taraban, Rynearson, & Kerr (2000) found that it was a highly preferred strategy. The conflicting findings regarding 'prediction', 'association' and 'eliciting help from others' may be attributed to the fact that these studies have not considered the *stages of reading* (pre-, while- and post-reading) in elicitation, and research is needed in this direction to address these contradictions.

## The role of metacognition in reading comprehension

Metacognition, in simple terms, is cognition of cognition, that is, the ability to understand and regulate one's learning and thinking. According to Jacobs & Paris (1987), it is "reportable, conscious awareness about the cognitive aspects of thinking" (p. 258). Metacognition on reading refers to the ability to reflect on one's reading to understand, regulate and self-guide the process of reading. Two dimensions of metacognitive ability are generally recognized: *knowledge about cognition* and *regulation of cognition* (Baker and Brown, 1984; Flavell, 1978). *Knowledge about cognition*, self-appraisal of cognition in the words of Jacobs & Paris (1987), refers to declarative, procedural, and conditional knowledge of reading strategy use (Jacobs & Paris, 1987; Paris, Lipson, and Wixson, 1983). Declarative knowledge refers to knowing 'what' reading strategies are, and procedural knowledge refers to 'knowing of how' to employ a variety of reading strategies (Carrell, Gajdusek & Wise, 1998). Conditional knowledge is defined as "awareness of the conditions that influence learning such as *why* strategies are effective, *when* they should be applied and *when* they are appropriate" (Jacobs & Paris, 1987, p. 259, emphasis in the original). Conditional knowledge of reading strategies is necessary to obtain optimal results from employing them. For example, making notes or paraphrasing might be useful and effective when students read a text for writing an essay in an examination. However, the same strategy may not be useful if the same student is given the same text but for a different purpose, for instance, answering multiple choice comprehension questions. The second aspect of metacognition, *regulation of cognition*, refers to the abilities such as planning, monitoring, testing, evaluating, and revising the strategies employed during reading (Baker and Brown, 1984).

Research on metacognition in relation to reading has been concerned with assessing readers' awareness of reading and has revealed that proficient readers are more aware of the goals, process, and strategies of reading than poor readers (Canney & Winograd, 1979; Clay, 1977; Johns, 1980; Reid, 1966). Reid's (1966) study of 5-year-old children's notions about reading was probably the first of its kind. She found that her subjects did not know the goals of reading, and purpose of words and punctuation. Her study was followed by Clay's (1977) book reporting two longitudinal research studies of the beginning reading process and Johns' (1980) study of first graders' concepts about print. Both the studies reported that beginning readers were confused and did not know the goals of reading. Canney & Winograd (1979) studied children's *schema for reading* (beliefs about reading) and how it developed over a period. They found that whereas poor readers attended to decoding skills, proficient readers concentrated on making sense of the text. Recent research into metacognitive awareness of reading strategies also reveals that successful readers have relatively better metacognitive awareness of their reading strategy use than their less-successful counterparts (Zhang, 2001 & 2010; Zhang & Wu, 2009). For instance, Zhang (2001) found that high scorers predominantly showed clearer awareness of reading strategy use than the low scorers in an acquisition-poor environment. Zhang & Wu (2009) also reported that the high-proficiency readers performed better than the low-proficiency readers in global and problem-solving strategies. Similarly, Zhang (2010) found significant differences between successful readers and less-successful readers in terms of their metacognitive awareness about themselves as readers, the cognitive demands they had to deal with in reading and the strategies they could use for solving problems in reading.

Though measures like the Metacognitive Awareness of Reading Strategies Inventory (Mokhtari & Reichard, 2002) and the Survey of Reading Strategies (Mokhtari & Sheorey, 2002) can be used to assess the metacognitive awareness of the reading strategies students use, they do not reveal students' reading strategy use in detail, especially the conditions under which different strategies are deployed. Hadwin et al. (2001) argue that students use diverse strategies

in diverse contexts and that context-free measures may not precisely reveal strategy use. With the widespread recognition of the significance of alternatives in assessment that focus on the formative nature of learning, there is an increased use of tools that yield qualitative data both in research and practice. Journal, a retrospective tool, is employed by language researchers and especially by strategy researchers for collecting qualitative data (Nunan, 1992). Journal writing has a significant role in a pedagogical approach that stresses the importance of self-reflection in students' education (Brown & Abeywickrama, 2011). In general, a journal is defined as "a log (or 'account') of one's thoughts, feelings, reactions, assessments, ideas, or progress toward goals, usually written with little attention to structure, form, or correctness" (Brown & Abeywickrama, 2011, p. 134). Reflective journal is recognized as a useful metacognitive strategy in itself as it encourages reflection on the strategy use by the learners (Oxford, 1990). Additionally, diaries and journals are recommended for strategy training to enable learners develop metacognitive awareness of their learning and strategy use (Rubin, 2003).

However, the use of reflective journal in educational settings is not without concerns. A cultural concern is that revealing one's inner self may not be a practice in certain cultures. Another concern is that it is difficult, if not impossible, to construct reliable and valid criteria for evaluation as journal writing involves potential variance. Though self-reporting may be inaccurate if learners cannot recall their thinking or report what they ought to do rather than what they do, it is the only way to develop an insight into learner's mental processing (Chamot, 2005). As it is impossible with the present technology "to get inside the 'black box' of the human brain and find out what is going on there" (Grenfell and Harris, 1999, p. 54), current strategy research has been employing journals/diaries or think-aloud protocols. Despite limitations, the strategy research provided food for thought to teachers and course book designers in the field of ELT.

Researchers believe that the research on metacognition in relation to reading strategies is still cursory (Chamot, 2005; Singhal, 2001; Zhang, 2010) and "if metacognition is to be useful for researchers and teachers alike, it must be studied more extensively and *in greater detail*" (Jacobs & Paris, 1987, p. 257; emphasis added). Particularly, very few studies have addressed the issue of stage-wise frequency and conditional knowledge of reading strategies through a qualitative approach. When teachers know what reading strategies students use and how frequently they use at pre-, while- and post- reading stages, and why they are using them, reading strategy instruction can be fine-tuned to the specific individual needs and problems of students. Though research on reading strategies could inform us about what reading strategies ESL students generally use, research is still cursory on the stage-wise frequency and the 'why' component of reading strategy use. Therefore, the present study addresses the following objectives:

- To identify the most and the least frequently used reading strategies across three stages of reading.
- To find out participants' conditional knowledge of reading strategies across three stages of reading.

## METHODOLOGY

### **Context and participants of the study**

Data was taken from a larger study which aimed at developing strategic reading through scaffolding, collaboration and reflection. Reflective journals of nine ninth-grade participants (13 to 14 years old) of a Jawahar Navodaya Vidyalaya were the source of data for the present paper. All participants completed their school education in mother-tongue/regional language

up to VIII and had English as a language subject. The participants were asked to maintain the reflective journals during the intervention assuming that when participants' metacognitive knowledge was discovered through writing a reflective journal on their reading experience, they could use this knowledge not only to monitor their reading process but also to regulate their reading process and strategy use over time.

## Materials

**Reflective Journal:** Journal writing was selected for data collection given the receptive nature of 'reading skills' and given the fact that "journals, perhaps more than portfolios, are the most formative of all the alternatives in assessment" (Brown & Abeywickrama, 2011, p. 138). The focus of the study, reporting of reading strategies used by the participants, was kept intact by providing the participants with prompts such as "I used these strategies to deal with the difficult parts of the text", "I used these strategies effectively" and "these strategies did not work for me". These kinds of prompts yielded valid data in a study on listening strategy development conducted by Chen (2009) on ESL College students in Taiwan.

**Reading passages:** Six reading passages were used for reflective journal writing. All passages had titles on the top so as to facilitate activation of the participants' background knowledge on the topic and prediction of the content of the passages. Besides, these passages included illustrations and highlighted expressions.

## Procedure

The participants were asked to reflect, evaluate and report their thoughts on their strategy use once in a fortnight, six times. Each time, a passage and a Reflective Journal with prompts were given to the participants. The participants were asked to read the passage and respond to the prompts on the reflective journal. The journal entries were responded in writing to scaffold the process of reflection and reporting. The need for support and interaction was highlighted by researchers, who suggested that the response to the "journal entries within a warm, supportive environment can facilitate commitment" (Francis, 1995, p. 240) among students. Reflective journal writing by the participants and researcher's feedback took place in English. Immediate, contingent, confidential and tailored feedback was offered to the reflective journals entries. The feedback was primarily aimed at motivating the participants to report more and honestly. As a result, no feedback on language errors was offered to the participants. Response to the journal entries was aimed at the following aspects:

- To make them understand the objectives of reporting;
- To encourage participants to increase their efforts;
- To inform areas which need additional practice;
- To acknowledge participants' strengths and accomplishments; and
- To recognize participants' efforts towards achievement of goals and objectives.

## Data analysis

The participants' reflective journals were analyzed following the six phases of thematic analysis suggested by Braun & Clarke (2006). The six phases are 1. Familiarizing oneself with the data 2. Generating initial codes 3. Searching for themes 4. Reviewing themes 5. Defining and naming themes and 6. Producing the report. However, the analysis was not a linear process but a recursive one moving forward and backward as and when necessary. Reading strategies are defined as goal directed actions employed for comprehending and/or constructing meaning

from the text and for memorizing the information. For this study, conditional knowledge is defined as the knowledge of ‘why’ a particular reading strategy is used. Prepositions like ‘for’ or ‘to’, coordinating conjunctions like ‘because’ ‘so that’ and ‘so’, verbal phrases like ‘will help’ and conditional conjunction ‘if’ were used by the participants to express their conditional knowledge of reading strategies.

## RESULTS AND FINDINGS

### 1. The most and the least frequently used reading strategies

The first objective of this study was to identify the most and the least frequently used reading strategies. To this end, analysis of the data was carried out to find out which strategy they used, how often, and at which stage of reading. Given below is a presentation of the frequencies of the participants’ reading strategy use.

#### 1.1 Pre-reading strategies

*Table 1 Frequency of Pre-reading strategies*

No	Reading strategy↓	Frequency
1	Saw the title	37
2	Saw illustrations	32
3	Tried to predict the content	30
4	Saw the length	29
5	Read highlighted expressions	14
6	Visualized	7
7	Saw characteristics of text	5
8	Checked whether content suits me	3
9	Saw introduction	2
10	Saw the type of text	2
11	Thought of Purpose	2
12	Recalled the past	2
<b>Total</b>		<b>165</b>

As shown in Table 1, the most frequently used pre-reading strategies are ‘previewing’ and ‘predicting’. The high frequency of these strategies suggests that they are highly useful and effective in identifying and predicting the main idea of the passage. The table shows that the most frequently used pre-reading strategy is ‘seeing the title’ (37). Strategies like ‘seeing illustrations’ (32), ‘trying to predict the content’ (30), ‘seeing the length’ (29) and ‘reading highlighted expressions’ (14) are also used extensively by the participants before they started reading. The usage of the first five strategies listed above amounted to 86% of the total pre-reading strategies used (165) suggesting the high utility of these strategies. The remaining seven strategies, viz., ‘visualizing’, ‘seeing characteristics of text’, ‘checking the suitability of the content’, ‘seeing introduction’, ‘seeing the type of text’, ‘thinking of purpose’ and ‘recalling the past’ amounted only to 14% of the total pre-reading strategies used suggesting the low utility of these strategies. Thus, most of the high frequent pre-reading strategies are related to the textual resources available for preview. Resources such as title, illustrations and highlighted expressions are used by the participants to predict the main idea of the passage.

## 1.2 While-reading strategies

*Table 2 Frequency of While-reading strategies*

No	Reading strategy↓	Frequency
1	Underlined unfamiliar words	34
2	Read again difficult sentences	29
3	Visualized the content	22
4	Highlighted main ideas	20
5	Referred to a dictionary	19
6	Remembered experiences	17
7	Guessed meanings	12
8	Translated into L1	9
9	Read slowly and carefully	7
10	Read aloud	5
11	Wrote main points	4
12	Attended to highlighted words	3
13	Discussed with friends	2
14	Asked teacher	2
<b>Total</b>		<b>185</b>

Table 2 shows that the two most frequently used while-reading strategies are ‘underlining unfamiliar words’ and ‘rereading difficult sentences’. The participants might have preferred these strategies because they generally assist readers to solve the problems faced in comprehending a text. Along with these, strategies like ‘visualizing the content’ (22), ‘highlighting main ideas’ (20), ‘referring to a dictionary’ (19), ‘remembering experiences’ (17) and ‘guessing meanings’ (12) are also used extensively by the participants while they were reading. The top seven frequently used while-reading strategies amounted to 82.7% of the total strategies used (185). Probably, it is because of the utility of these strategies while reading. The remaining seven strategies, namely, ‘translating into L1’, ‘reading slowly and carefully’, ‘reading aloud’, ‘writing main points’, ‘attending to highlighted words’, ‘discussing with friends’ and ‘asking teacher’ amounted only to 17.3% of the total strategies used. The least frequently used strategies are ‘discussing with friends’ (2) and ‘asking teacher’ (2). Thus, most of the high frequent while-reading strategies are problem-solving techniques used for solving the problems in comprehending the text.

## 1.3 Post-reading strategies

*Table 3 Frequency of Post-reading strategies*

No	Reading strategy↓	Total
1	Discussed with friends	29
2	Recalled summary	19
3	Noted down summary	18
4	Referred to a dictionary	14
5	Read again difficult sentences	7
6	Took help from teacher	6
7	Checked guessed meanings	5
8	Re-read highlighted sentences	5

9	Asked questions	4
10	Read again to remember	3
11	Underlined unfamiliar words	2
12	Translated into L1	2
13	Renamed the title	1
14	Visualized	1
<b>Total</b>		<b>116</b>

As shown in Table 3, the most frequently used post-reading strategy is ‘discussing with friends’. It suggests that ‘peer members’ are used as a resource for sharing, confirmation, and clarification at the post reading stage. The table also shows that strategies like ‘recalling summary’ (19), ‘noting down summary’ (18) and ‘referring to a dictionary’ (14) are used extensively by the participants after they completed reading. The usage of all the above four strategies amounted to 69% among the total of post-reading strategies used (116). The remaining 10 strategies, viz., ‘reading again difficult sentences’, ‘taking help from teacher’, ‘checking guessed meanings’, ‘reading highlighted sentences again’, ‘asking questions’, ‘reading again to remember’, ‘underlining unfamiliar words’, ‘translating into L1’, ‘renaming the title’ and ‘visualizing’ amounted only to 31% of the total post-reading strategies used. Unlike the high frequent pre- and while-reading strategies which are used for developing global understanding and solving comprehension problems respectively, high frequent post-reading strategies are diverse and are used for a variety of purposes.

## 2 Conditional knowledge of reading strategies

The second objective of this study was to find out participants’ conditional knowledge of reading strategies. To achieve this, the accounts in the participants’ reflective journals were analyzed. The following is a presentation of participants’ conditional knowledge of reading strategies at pre-, while- and post-reading stages. In all the extracts to follow, the expressions of the participants are retained as in the original, without editing grammatical and lexical errors.

### 2.1 Conditional knowledge of Pre-reading strategies

The primary objective of employing pre-reading strategies was to ‘get some idea’ (P5, RJ5; P stands for participant, and RJ stands for Reflective Journal and the number next to it represents its position in the sequence of six Reflective Journals) and to predict the main idea of the given passage. The participants utilized resources like ‘title, illustrations, and highlighted expressions’ to predict the main idea of the passage. The following extracts from the journals express the common purpose of reading ‘title, illustrations and highlighted expressions’:

I saw title to know what the content is about. (P2, RJ5)

I tried to see and understand the pictures that to know what is the topic. (P6, RJ2)

I saw the pictures provided because it helps us to imagine. (P3, RJ6)

I concentrated on the Bold letters because if we understand that bold letters we can somewhat guess the passage. (P3, RJ6)

Read the highlighted words it will help to learn main points. (P5, RJ4)

Additionally, ‘title, illustrations, and highlighted expressions’ facilitated the participants in activating their prior experience related to the topic. For example P6 reported that after reading the title he would “try of remember the past and guess what would be” in the passage (RJ4). Another frequent pre-reading strategy ‘seeing the length of the passage’ was used to “know how much speed we should read” (P5, RJ5) to complete the passage in stipulated time.



## 2.2 Conditional knowledge of While-reading strategies

The main purposes of while-reading strategies were to solve the problems faced in comprehending the text and to consolidate and memorize the information. In order to solve the problems of comprehension, the participants used strategies like ‘underlining unfamiliar words’, ‘rereading difficult sentences’, ‘referring to a dictionary’, ‘guessing meanings’, ‘translating into L1’, ‘reading slowly and carefully’, ‘reading aloud’, ‘discussing with friends’ and ‘asking teacher’. The extracts cited below demonstrate that the participants used these strategies to solve the problems in comprehension and to make their comprehension effective:

I once again read aloud if I don’t understand any sentences. (P3, RJ3)

I tried to read the sentences again and again to understand the meanings of some terms. (P1, RJ4)

If the sentence is can’t understanding to me then I will read it twice and loudly for better understanding. (P9, RJ6)

I underlined some difficult words to know their meaning by guessing or referring a dictionary. (P2, RJ6)

Tried to convert into Telugu for easy and better understanding. (P1, RJ6)

Strategies like ‘visualizing the content’, ‘underlining main sentences’, ‘remembering experiences’, ‘writing main points’ and ‘attending to highlighted words’ were used to consolidate and remember the information they gathered from the text:

While I am reading I am visualizing those animals in the text. It will help us to remember. (P5, RJ4)

I underlined the main sentences which I think were useful. (P4, RJ4)

I tried to recollect the summary from para to para so that I can understand it clearly without any confusion and remember well. (P2, RJ6)

The strategies ‘highlighting main ideas’ and ‘writing main points’ suggest that the participants are able to distinguish important information from less important information. Some participants used ‘reading again’ strategy not only to understand but also to remember because “we can understand and remember more if we re-read the passage” (P3, RJ6).

## 2.3 Conditional knowledge of Post-reading strategies

Post-reading strategies used by the participants were aimed at diverse purposes. The purposes included memorizing useful information, learning English lexical items and improving comprehension. The following extracts show that the participants were using strategies like ‘reading again’, ‘noting down summary or main points’ and ‘explaining to a friend’ to memorize information they gathered from the text:

I read again the highlighted words to remember the passage. (P7, RJ6)

Noting the main points helped to remember the main idea of the passage. (P5, RJ5).

I had drawn up a short summary as we can learn more when it is short and sweet. I had narrated the same to my friend as we can remember more if we narrate it to someone else. (P3, RJ6)

The participants used strategies like ‘working on unfamiliar words’, ‘referring to a dictionary’ and ‘verifying guessed meanings’ to learn English lexical items. For example, P4 reported that she “underlined different (means) some words which are not used by us daily” (RJ4). Strategies such as ‘asking teacher or friends’ and ‘rereading’ were used to improve their comprehension. One of the participants stated that rereading “will help us to understand the sentences which we did not understand before when we read” (P5, RJ5).

## DISCUSSION

### The most and the least frequently used reading strategies

The first objective of the study was to identify the most and the least frequently used reading strategies. The data revealed that the most frequently used pre-reading strategies were ‘previewing’ the title and illustrations, and ‘predicting the content’. The high frequency of these strategies may be ascribed to the utility and effectiveness of these strategies to predict the main idea of the passage. The least frequently used pre-reading strategies were ‘seeing the type of text’, ‘thinking of purpose’ and ‘recalling the past’ (which is called ‘association’ in this study following Block, 1986). It may be concluded that these strategies are probably not as effective and useful as the most frequently used pre-reading strategies in predicting the main idea of the passage. This study upholds the finding of Şahan, (2012) who found that ‘guessing about the text by looking at the title’ was the most frequently used strategy and ‘association’ was the least frequently used strategy. However, Li & Munby (1996) found that both ‘association’ and ‘prediction’ were high frequent strategies. The contrasting findings of the two previous studies with regard to ‘association’ strategy may be attributed to the fact that these two studies have not considered the stage of reading. Taking the stage of reading into consideration, the present study found that though ‘association’ was the least frequently used strategy in pre-reading stage, it was used relatively extensively in while-reading stage.

The analysis of the data revealed that the most frequently used while-reading strategies were ‘underlining unfamiliar words’ and ‘rereading difficult sentences’. The participants have used these strategies frequently because they help readers to solve the problems faced in comprehending the text. This finding supports that of Şahan (2012) and Madhumathi & Ghosh (2012) who found that ‘rereading’ was the most frequently used strategy. Taraban, Rynearson, & Kerr (2000) and Wood, Motz, & Willoughby (1998) likewise found that students predominantly used ‘repetition strategies’ when they had difficulties in comprehension. It was also found that the least frequently used while-reading strategies were ‘discussing with friends’ and ‘asking teacher’. It can be concluded that the human resources, peers and teachers, might be a disturbance to the flow while students are reading. This study lends support to the finding that ‘eliciting help from others’ was a less preferred strategy (Wood, Motz, & Willoughby, 1998) and contradicts the finding of Taraban, Rynearson, & Kerr (2000) who found that ‘asking someone for help’ in comprehending the text was a highly preferred strategy. The two previous studies found contradictory results because ‘stage of reading’ was not considered when eliciting strategies, and/or the accepted modes of reading might differ from one cultural group to another. The present study found that while ‘eliciting help from others’ was the least frequently used strategy in while-reading stage, it turned out to be the most frequently used strategy in post-reading stage, thus explaining the reason behind the contradictory findings of the above two studies. The choice of and preference for a certain strategy might also be mediated by the *culture of the participants*. For example, Wood, Motz, & Willoughby, (1998) conducted their study on students of a ‘middle-class Canadian’ city and found that ‘eliciting help from others’ was a less preferred strategy. In contrast, Taraban, Rynearson, & Kerr (2000), whose sample majorly comprised ‘Caucasian’ students (79%, n = 256) belonging to a public university in Texas, the United States of America, found that ‘eliciting help from others’ was a highly preferred strategy. The present study did not take *culture* into consideration in studying the choice of strategy use, and future studies may be carried out to study this aspect.

The analysis of the entries of the reflective journals revealed that the most frequently used post-reading strategy was ‘discussing with friends’. It suggests that ‘human resources’, which were considered disturbances while reading, became a resource for sharing, confirmation, and clarification. The other two most frequently used post-reading strategies

were 'recalling summary' and 'noting down summary'. These two strategies might have been frequently used by the participants for consolidating what they understood and for remembering the main ideas of the passage. This finding corroborates with that of Wood, Motz, & Willoughby (1998) who found 'summarization' to be "the second most popular strategy" among both high school and university students (p. 699). The present study also revealed that the least frequently used post-reading strategy was 'visualizing', which was relatively more frequently used in while-reading stage. A possible conclusion of this finding is that visualization can be employed more easily while the process of reading is going on rather than at the end of reading. An implication of this finding is that activities aimed at 'visualization' may be integrated into pre- or while-reading stage rather than into post-reading stage.

### **Conditional knowledge of reading strategies**

The second objective of the study was to find out participants' conditional knowledge of reading strategies. As found in the reflective journals of the participants, the primary objective of pre-reading strategies was to 'get some idea' by previewing resources like 'title, illustrations, and highlighted expressions' and thereby predicting the main idea of the passage. 'Title, illustrations, and highlighted expressions' usually present the main ideas of the text in brief. The participants used these resources to know the topic of the text without wasting much time. They also used these resources for associating their experience with the content of the passage. This finding lends support to the proposition of Chia (2001) and Swaffar, Arens, & Byrones (1991). They opined that readers often preview 'title and illustrations' to formulate hypotheses, to predict the main idea and to make educated guesses about the content of the text.

It was found that while-strategies were primarily aimed at solving problems of comprehension and strengthening their comprehension so as to remember the information for future use and reference. To solve problems of comprehension, the participants used strategies like 'underlining unfamiliar words', 'rereading difficult sentences', 'referring to a dictionary', 'guessing meanings', 'translating into L1', 'reading slowly and carefully', 'reading aloud', 'discussing with friends' and 'asking teacher'. These strategies were named 'fix-up' strategies by Alessi, Anderson, & Goetz (1979) in that they are generally aimed at fixing up comprehension failures. Strategies like 'visualizing the content', 'highlighting main ideas', 'remembering experiences' (association), 'writing main points' and 'attending to highlighted words' were used to consolidate and remember the information. These strategies were termed as 'studying strategies' by Armbruster, Echols & Brown (1984). These strategies are generally aimed at enhancing storage and retrieval.

The analysis of the data revealed that the post-reading strategies used by the participants were aimed at memorizing useful information, learning English lexical items and improving comprehension. Strategies like 'rereading', 'noting down summary' and 'explaining to a friend' were used to memorize information. According to Kintsch's (1998) Construction-Integration model of reading, each sentence in a passage is first comprehended, and only then there is an integration phase following the construction phase. The above mentioned strategies are aimed at integrating the information the participants understood from the passages. 'Working on unfamiliar words', 'referring to a dictionary' and 'verifying guessed meanings' were used to learn English lexical items consciously. Using strategies to improve English vocabulary indicates that reading also offers an opportunity to improve the vocabulary power of the readers. Repair strategies like 'asking others' and 'rereading' were used to improve participants' comprehension. The participants tried to strengthen their comprehension of the passage by 'asking others' and 'rereading' whatever they could not understand during while-reading stage.

## CONCLUSION AND IMPLICATIONS

The present study revealed the metacognitive awareness of reading strategies, particularly the most and the least frequently used reading strategies and the conditions under which they are used. It was found that the most frequently used strategies were ‘previewing’ and ‘predicting’ (pre-reading strategies), ‘underlining unfamiliar words’ and ‘rereading difficult sentences’ (while-reading strategies), and ‘discussing with friends’ and ‘recalling summary’ (post-reading strategies). The least frequently used strategies were ‘recalling the past’ and ‘thinking of purpose’ (pre-reading strategies), ‘asking teacher’ and ‘discussing with friends’ (while-reading strategies), and ‘visualizing’ and ‘renaming the title’ (post-reading strategies). The implication of the above finding is that reading teachers may raise their students’ awareness of the most frequently used reading strategies to assist them become successful and effective readers. At least, students should be made aware of the most frequently used strategies as they are useful in achieving the purposes of reading across the three stages of reading. Previous research on frequency of reading strategies revealed contradictory findings regarding ‘prediction’, ‘association’ and ‘eliciting help from others’ strategies (Li & Munby, 1996; Şahan, 2012; Taraban, Rynearson & Kerr, 2000; Wood, Motz & Willoughby, 1998). Addressing this contradiction, the present study found that the stage of reading (pre-, while- and post-) influences the frequency of reading strategies. An implication is that stage of reading should be considered in strategy elicitation and instruction.

With regard to the conditional knowledge of reading strategies, the chief objective of employing pre-reading strategies was to predict the main idea of the passage. The primary purposes of while-reading strategies were to solve the problems faced in comprehending the text, and to consolidate and memorize whatever they understood. Post-reading strategies were aimed at memorizing useful information, learning English lexical items and improving comprehension. The implication of these findings is that trainers of strategy instruction should inform their students about the successful conditions of reading strategies. Carrell (1989) also stresses the significance of conditional knowledge for strategy training by declaring that raising “awareness or knowledge about a strategy’s evaluation, rationale, and utility should greatly increase the positive outcomes of instruction” (p. 129). Reflective journal can be employed for strategy training purposes to develop metacognitive awareness of student’s learning and strategy use. Another implication is that reading tasks need to be integrated into three stages of reading with different purposes. For example, pre-reading tasks can be aimed at activating the readers’ previous knowledge and predicting the content in the passage, while-reading tasks can be aimed at assisting readers to establish relationships among ideas and solve problems faced in comprehending the text, and post-reading tasks can be aimed at enhancing and checking the comprehension of the readers. Reflective journal as a data collection tool for studying the process of reading strategy development needs to be explored further. Reflective journal writing can be used to study the process of listening strategy use and this needs further investigation.

Before concluding, the limitations of the study need to be mentioned. It should be mentioned that reflective journal writing, which is based on retrospection, has drawn skepticism about its validity as a data collection tool (Garner, 1982). Therefore, the findings of the study may be generalized keeping the limitations of retrospection tools in mind. The findings of this study are based on a study carried out at a Jawahar Navodaya Vidyalaya in India. Research is needed to validate the findings of the study regarding the conditional knowledge of reading strategies in different sociocultural contexts.

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