# Metacognition and Reading Comprehension: Current Trends in Theory and Research

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# Dedication

**This paper is dedicated to my ever caring parents, and to my wife and children, for their help and encouragement. Without their support, this work would not be a reality. I would like to express my deep appreciation to all of them.**

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# Overview

**This paper reviews the recent theoretical and empirical literature relevant to metacognition and reading comprehension. The first chapter presents a definition of metacognition and considers different types of metacognitive knowledge and the interaction among these types. The second chapter is concerned with the methods of teaching cognitive/metacognitive reading strategies. The third chapter deals with the instruments for assessing students' metacognitive knowledge. The last chapter presents the conclusions drawn from the previous literature and the author's recommendations for incorporating metacognitive knowledge into reading lessons.**

# Chapter One
## Metacognitive Knowledge

## 1.0 Introduction

**Metacognition has received a considerable attention by language teaching theoreticians and researchers alike for three main reasons. The first reason is that metacognitive knowledge develops good thinkers and lifelong learners who can cope with new situations in this rapidly changing world (Eggen and Kaucbak, 1995). The second reason is that integrating metacognitive knowledge into language instruction develops learners who can take charge of their own learning (Bonds et al., 1992; Garb, 2000). The final reason is that a metacognitive knowledge base is essential for effective language learning. As Devine (1993) puts it, a successful language learner is "one who has ample metacognitive knowledge about the self as learner, about the nature of the cognitive task at hand and about appropriate strategies for achieving cognitive goals" (p. 109).**

## 1.1 Definition of Metacognition

**In the literature, some educators (e.g., Biehler and Snowman, 1993; Eggen and Kaucbak, 1995) argue that metacognition is one's knowledge about one's own cognition. For example, Biehler and Snowman (1993) define metacognition in relation to cognition in the following way:**

> **[T]he term cognition is used to describe the ways in which information is processed –i.e. the ways it is attended to, recognized, encoded, stored in memory for various lengths of time, retrieved from storage and used for one purpose or another. Metacognition**

**refers to our knowledge about these operations and how they might best be used to achieve a learning goal. (p. 390)**

**Other educators (e.g., Collins, 1994; Leahey and Harris, 1997; Maitland, 2000) expand the definition of metacognition to include self-regulation of one's own cognition. As defined by Leahey and Harris (1997) metacognition is "[t]he knowledge, awareness, and monitoring of one's own cognition" (p. 221).**

**As indicated--from the aforementioned definitions—metacognition can be defined as the conscious awareness of one's own cognition and the conscious control of one's own learning.**

## 1.2 Metacognitive Knowledge

**In line with the definitions stated earlier, some educators (e.g., Devine, 1993; Jung, 1992) identify metacognitive knowledge as knowledge about one's own cognition, while others (e.g., Anderson, 2001; Conner, 2002a; Hertzog, 2002) argue that metacognitive knowledge involves, among other things, knowledge about self-regulation of one's own learning.**

**As gleaned from the preceding information, it can be argued that metacognition involves two major types of knowledge: (1) knowledge about one's own cognition and (2) knowledge about self-regulation of one's own learning. The former type involves knowledge about self, task, and cognitive strategies, while the latter involves knowledge about metacognitive strategies. These subcategories of metacognitive knowledge are discussed next in relation to the area of reading.**

### 1.2.1 Knowledge about Self

**Knowledge about self refers to the reader's perception of his or her reading abilities as well as his or her background knowledge about the topic he or she is going to read (Alderson, 2000; Kohonen et al., 2001).**

**With regard to self-perception, it is argued that students' judgments of their own capabilities to accomplish a specific task are closely related to the their success on this task. More specifically, when students believe they can succeed in a task, they are more likely to undertake this task (Alderman, 1999). Moreover, Pajares and Miller (1994) assert that students with strong self-efficacy are less likely to give up than those who are paralyzed with doubts about their capabilities. Consistent with this view, McCabe and Margolis (2001) claim that**

> **Students whose self-efficacy for reading is low often resist reading or apathetically go through the motions of learning to read. In contrast, the same student often exert considerable effort, tenacity, and discipline in activities they feel self-efficacious, such as athletics or drawing. (p. 1)**

**Bandura (1997) proposes that the level of self-efficacy affects students' learning strategies in the following ways:**

**(a) The higher students perceive self-efficacy, the higher the goals they set for themselves and the firmer their commitment to these goals;**

**(b) Students who are efficacious visualize success scenarios that provide guides and support for performance while those who have a low sense of efficacy visualize failure scenarios; and**

**(c) Students with higher self-efficacy use more cognitive and metacognitive strategies and persist longer than those with low sense of efficacy.**

**Bandura (1994) also proposes that students' beliefs about their capabilities come from four main sources: (a) prior task accomplishments, (b) vicarious experiences (observing others), (c) verbal persuasion, and (d) psychological states.**

**Julaeha (1994) and Pajares (1996) suggest that the following strategies can be used for developing students' self-efficacy:**

**(a) giving low-self efficacy students opportunities to read to other students,**
**(b) allowing low-self efficacy students to experience easy successes,**
**(c) allowing low-self efficacy students to see other students manage task demands successfully, and**
**(d) persuading low-self efficacy students that they possess the capabilities to master a certain skill.**

**In the same vein, McCabe and Margolis (2001) offer the following suggestions for enhancing readers' self-efficacy:**

**(a) using materials at the student's proper instructional and comfort levels,**
**(b) creating expectations of success by giving students small, meaningful tasks that require only moderate effort to produce success,**
**(c) starting with tasks similar to those on which students achieved frequent success,**
**(d) showing students how to use a simple, step-by-step strategy to achieve success on a specific task,**
**(e) providing students with frequent, immediate feedback and assistance when introducing something new,**
**(f) providing multiple opportunities for supported and independent practice,**
**(g) providing moderate, competitive challenges,**
**(h) helping students set and monitor realistic, short-term goals,**
**(i) meeting with students privately and listening carefully for their needs,**

**(j) making students aware of their success,**

**(k) helping students focus on their achievements,**

**(l) employing self-attribution strategies,**

**(m) making encouraging comments and providing needed information,**

**(n) having students observe models and engaging them in important reading behaviors that they could succeed at with modest-to-moderate effort and practice,**

**(o) having students verbalize the specific rules and strategies they are using to succeed at the task,**

**(p) assigning tasks that students immediately recognize as interesting or valuable such as reading about films they want to see,**

**(q) providing reinforcers to students shortly after completing a task that aroused feelings of inadequacy,**

**(r) surrounding struggling readers with good readers whom they respect and who value reading,**

**(s) providing opportunities for struggling readers to excel,**

**(t) having students engage in paired reading with a supportive adult,**

**(u) reducing anticipated anxiety, and**

**(v) listening carefully to students to learn about their interests and capitalizing on an interest each and every day.**

**With regard to the reader's background knowledge, it is argued by many educators (e.g., Crandall et al., 2001; Day, 1994; Lin, 2002; Singhal, 1998) that students' background knowledge plays a critical role in reading comprehension and that good readers draw on prior knowledge to understand what they read. It follows from this that readers must activate their prior knowledge base or build a base if one does not exist in order to comprehend what they read.**

**To build students' background knowledge, Christen and Murphy (1991) suggest that the teacher should remember to: (a) show information through**

**demonstrations, multimedia and graphics, (b) use outside resources such as trips, and (c) tell about the topic from his/her own experience.**

**Research related to knowledge about self in the area of reading suggests that: (a) students' self-perceptions of their reading abilities influence their motivation, attitudes, and reading comprehension (O'Sullivan, 1992; Simpson and Nist, 2000); (b) good readers possess more positive beliefs about their reading abilities than poor readers (Enrlich et al., 1993; Fan, 1999); (c) poor readers are less confident than good readers (Pearson, 1994); (d) students' self-perceptions of their reading abilities are closely related to their strategy use (Brenton, 1997; Chan, 1994); (e) efficacy-building instruction positively affects students' reading comprehension and their use of reading strategies (Bouffard and Vezeau, 1998; Shawaker and Dembo, 1996); (f) students' self-perceptions as readers are related to their reading comprehension (Legge, 1994; Brown, 1993; Whiteway, 1995); (g) focusing students' attention on their own conditional strategic repertoire before they proceed with a task alleviates the effects of self-efficacy on reading comprehension (Bouffard-Bouchard, 1995); (h) successful readers relate information in the texts to their previous knowledge, whereas less successful readers show little tendency to use their background knowledge to understand the text at hand (Ono, 1993); (i) content background knowledge significantly influences readers' processes and comprehension (Ai, 1995; Clapham, 1998; Droop and Verhoeven, 1998; Faris and Smeltzer, 1997); and (j) students with high metalinguistic awareness outperform those with low metalinguistic awareness on measures of reading comprehension (Demont and Gombert, 1996; Griffith and Olson, 1992; Isaacs, 1996).**

## 1.2.2 Knowledge about Task

**Wenden (1995) defines task knowledge as "what learners need to know about (i) the purpose of a task, (ii) the task's demands, and (iii) implicit in these considerations, a determination of the kind of task it is" (p. 185).**

**With respect to task purpose/goal, Van-Duzer (1999) contends that good readers read with a purpose and understand the purpose of different reading tasks (e.g., ads to encourage buying, editorials to present opinions, recipes to give instructions). Alderman (1999) adds that an awareness of the task goal directs students' attention and action toward a certain target, helps them to marshal their resources toward the accomplishment of this goal and to develop plans and strategies to reach this goal. Moreover, Knutson (1998) contends that goal setting enhances readers' interest and performance in the following way:**

> **Because reading is more interesting and text information is understood and recalled better when reading is purpose driven, it follows that creating purpose in the classroom reading situation will enhance readers' interest and performance. (p. 3)**

**To provide students with a concrete purpose for reading, Conner (2002b) suggests that learners should employ the following strategies:**

**(a) Anticipation Guides,**
**(b) DRA,**
**(c) DR-TA,**
**(d) KWL,**
**(e) Semantic-Feature Analysis,**
**(f) SQ3R,**
**(g) SQ4R, and**
**(h) Think Alongs.**

**With respect to task demands, Wenden (1995) notes that expert learners construct mental representations of the task demands in order to determine how best to go about completing them. She further mentions that these representations include possible states through which the task will pass on its way to completion and the constraints under which the task is to be done.**

**With respect to task type, many educators (e.g., Bakken and Whedon, 2002; Grossen and Carnine, 1992; Kane, 1998; Pearson and Camperell, 1994) claim that students' awareness of task type affects their reading processes as well as their reading comprehension and that readers who are more knowledgeable about task characteristics comprehend and recall more of a task than those who lack this attribute.**

**A survey of recent research related to task knowledge in the area of reading reveals that: (a) good readers are more aware of their purposes for reading than poor readers and adjust their reading strategies accordingly (Loranger, 1994; Martin, 1994); (b) setting goals for reading has positive effects on readers' strategy use, comprehension and recall (He, 2001; Jung, 1992; Schraw and Dennison, 1994); (c) a combination of awareness of reading purpose and self-regulated strategies improve students' reading comprehension (O'Shea and O'Shea, 1994); (d) students' knowledge of task characteristics influences their reading behavior, comprehension, and recall (Carrell, 1992; Chen, 1995; Dymoc, 1998; Leon and Carretero, 1995; Spires et al., 1993); and (e) good readers are considerably more aware of task characteristics than poor readers (Ballantyne, 1993).**

### 1.2.3 Knowledge about Cognitive Strategies

**Jung (1992) defines knowledge about strategies as the learner's awareness of the utility, importance, and effectiveness of cognitive strategies. More specifically, this type of knowledge refers to the reader's knowledge about the**

**reading strategies that are likely to succeed in achieving specific goals in different cognitive undertakings (Biehler and Snowman, 1993).**

**McDonough (1999) contends that direct instruction in effective strategies enhances the metacognitive knowledge base of readers and results in improved reading performance. Garner (1992) adds that for strategies to enhance reading, they must be employed flexibly and that flexible application of the strategy demands that ”a reader decides when the strategy is appropriate...and where to apply it” (p. 245).**

**Urquhart and Weir (1998) contend that information on effective and ineffective reading strategies can help improve students’ reading efficiency. They further claim that awareness of top-down (reader-driven) and bottom-up (text-driven) processing strategies can benefit readers.**

**Oxford (1992-1993) contends that readers often use strategies that reflect their preferred learning styles. For example, readers with an analytic learning style use strategies such as contrastive analysis, while readers with a global style use strategies that help them find the big picture (i.e., guessing, scanning, predicting). She further suggests that students can stretch beyond their learning style to use a variety of valuable strategies that were initially uncomfortable to them. However, such strategy training may lead to “style wars” between teachers and students (Scarcella and Oxford, 1992).**

**Van-Duzer (1999) claims that good readers are capable of choosing and using a variety of strategies depending on the task. Moreover, Many et al. (1996) contend that good learners approach a reading task in different ways using different strategies. Chamot and Rubin (1994) add that the use of strategies varies from one good learner to another “indicating that the good language learner cannot be described in terms of a single set of strategies but**

**rather through the ability to understand and deploy...effective strategies" (p. 772). This, in turn, led some educators (e.g., Machowicz, 1998; Zhang and Feng, 1997) to suggest that students should be introduced to various reading strategies to select those that match the type of text and the purpose for which they are reading. Chan (1996) further suggests that strategy instruction should be highly individual, depending on "differences in short term memory, knowledge base, learning style, and student preferences" (p. 125).**

**Many educators (e,g., Bock, 1993; Harvey and Goudvis, 2000; Keene and Zimmermann, 1997) have categorized cognitive strategies that can be used to enhance readers' comprehension. These strategies include: visualizing, anticipating information, questioning, inferring, scanning, summarizing, synthesizing, analyzing, paraphrasing, making connections, chunking, underlining, using mnemonics, etc. Beckman (2002) suggests that identifying the most effective one of these strategies depends on the needs of the learner and the requirements of the task. Oxford (1994) further suggests that these strategies are most effective when used in combination.**

**A review of recent research on strategy knowledge in the area of reading reveals that: (a) explicit teaching of cognitive reading strategies improves students' reading comprehension and recall (Abdel-Reheim, 1993; Amer, 1993; Dabbour, 2001; Johnson et al., 1997; Lemons, 1996; Little, 1994; Myers, 1992; Park, 1994; Ramos, 1996; Snyder, 2002); (b) using personal learning styles as part of cognitive strategy training increases the effectiveness and transfer of training (O'Phelan, 1994); (c) reading strategy verbalization with fading and feedback promotes students' self-efficacy, fosters reading comprehension, and leads to higher strategy use (Schunk and Rice, 1994); (d) good readers are more aware of the strategies they use than poor readers and choose their strategies in light of their purposes/goals for reading (e.g., Martin, 1994; Spedding and Chan, 1993); (e) poor readers do not lack strategies, but they**

**inappropriately choose them (Vann and Abraham, 1992); (f) poor readers know the same number and kind of strategies as good readers, but their regulation and use of these strategies is far less effective (Kletzien, 1992); (g) successful readers are more flexible in strategy use than unsuccessful readers (Galli-Banducci, 1996; Loranger, 1994; Wang and Guthrie, 1997); (h) female students use more reading strategies than male students (Medo, 2000); (i) most of the reading strategies used by students are the same when reading expository texts in both L1 and L2 (Tang, 1996); (j) strategy instruction has a positive effect on both L1 and L2 reading strategies and L2 reading comprehension (Salataci and Akyel, 2002); and (k) strategic behaviors in L1 undergird L2 reading behaviors and the level of second language proficiency plays a less prominent role in second-language strategic reading than does the level of strategy use in L1 (Hardin, 2001).**

### 1.2.4 Knowledge about Metacognitive Strategies

**Knowledge about metacognitive strategies—often referred to as self-regulation strategies--refers to the reader's knowledge about the executive processes he or she employs before, during, and after reading. Such executive strategies are considered by many educators (e.g., Collins, 1994; Maitland, 2000; Urquhart and Weir, 1998) as crucial for reading comprehension. As Collins (1994) puts it:**

> **It is not enough to be aware of one's understanding or failure to understand—a learner must be able to self-regulate his or her reading process in order to read for comprehension. The reader needs knowledge about metacognitive strategies. (p. 2)**

**Moreover, Nist and Simpson (1994) argue that metacognitive strategies develop students' self-efficacy and help them to succeed with cognitive strategies.**

**Among the numerous metacognitive strategies, there are three main strategies that receive primary emphasis in the area of reading: (1) planning, (2) self-monitoring, and (3) self-assessment. These three strategies are discussed next.**

### 1.2.4.1 Planning

**Planning for reading refers to making a comprehensive plan for dealing with the text at hand (Dutta, 1995). This strategy stimulates students' interest, arouses their expectations, and fosters their motivation to discover what will occur in the text (Sequero, 1998). It also has the potential to clarify the purposes for reading and to activate different kinds of schemata (ibid.).**

**As the student prepares to read, he or she needs to think about his or her purpose(s) for reading. Is s/he reading to entertain? To understand? To gather information? Unless he or she knows his or her purpose quite well, reading will be nothing more than allowing the eyes to scan the print (Tompkins and Hoskisson, 1995).**

**As the student plans for reading, he or she judges the relevance or irrelevance of the text to a particular topic, anticipates the content, recognizes the difficulty level of the text, proposes strategies for handling the task, connects prior knowledge to the passage topic, and determines the standards he or she will use to evaluate his or her own comprehension (Craig and Yore, 1996; Simmons, 1994).**

**Planning may also go on while a task is being performed. In such a case readers may change their goals and reconsider the ways in which they will go about achieving them (Thanasoulas, 2000).**

**To assist students in planning for reading, many educators (e.g., Chia, 2002; Readence et al., 2000; Stoller, 1994; Zaid, 1995) suggest that teachers should involve students in prereading activities such as skimming, semantic mapping, and self questioning. These educators claim that such activities stimulate students' curiosity, lead them to anticipate what they are going to read, focus their attention on important information, and activate their prior knowledge about the passage topic.**

**Also, to assist students in planning for reading, Manzo and Manzo (1995) suggest a "PreP" technique which stands for "Pre-reading Plan." The steps of this technique are the following:**

**(a) The teacher asks each student about his or her background knowledge of the text he or she is going to read.**

**(b) The teacher discusses student's background knowledge by asking him or her to respond to the question: "What made you think of this information?"**

**(c) The teacher further activates student's background knowledge by asking him or her to respond to the question: "Now, we have discussed that, do you have any further information before reading?"**

**Schraw (1998) offers these questions to be answered by the student to assist him/her in planning for doing any task:**

**(a) What is the nature of the task?**

**(b) What is my goal?**

**(c) What kind of information and strategies do I need?**

**(d) How much time and resources will I need?**

**A review of recent research on planning for reading reveals that: (a) good readers do more planning than poor readers (Soranastaporn and Chuedoung, 1999); (b) fluent readers use text aids (e.g., pictures) to predict the**

**writer's ideas prior to reading (Brenna, 1995); and (c) prereading activities improve students' reading comprehension (Khalaf, 2002; Tang and Moore, 1992).**

### 1.2.4.2 Self-monitoring

**Self-monitoring—or comprehension monitoring as it is often called--refers to the reader's regulation of his or her own comprehension during reading (Glazer, 1992). This metacognitive strategy helps students to restore lost comprehension and to adapt reading strategies to handle failure when comprehension breaks down (Schunk, 1997). Zimmerman (1995) adds that self-monitoring enhances reading because it:**

**(a) increases selective attention,**
**(b) helps students determine how effective a performance was,**
**(c) helps students know how effective a learning strategy was, and**
**(d) provides an opportunity for students to find a better strategy when the goal is not met.**

**Many educators (e.g., Baumann et al. 1993; Collins, 1994; Menchaca and Ruiz-Escalante, 1995; Schwartz, 1997) cite two categories of strategies that can be used for self-monitoring during reading: (a) fix-up strategies to resolve comprehension failures, and (b) studying strategies to enhance storage and retrieval. The fix-up strategies include focusing on what is understood, deciding on the importance of ideas, slowing down and allocating extra processing to problem areas, rereading problem areas, looking back at the text to resolve a problem, rereading to look for clarification, storing the confusion in the memory as a pending question in hope that the author will soon provide clarification, taking notes of problem areas, making an educated guess based on prior knowledge, and consulting an external source (a teacher, a classmate,**

**or a dictionary). The studying strategies include underlining, outlining, notetaking, summarizing, and self-questioning.**

**To help students monitor their own comprehension during their progress through a task, Schraw (1998) suggests that a student should ask himself/herself the following questions:**

**(a) Do I have a clear understanding of what I am reading?**

**(b) Does the task make sense?**

**(c) Am I reaching my goals?**

**(d) Do I need to make changes?**

**Similarly, Young et al. (2002) suggest that self-monitoring can be accomplished through self-questioning. They further suggest that questions such as "Why am I reading this selection?" and "How am I doing?" and "What could I have done differently?" can help students monitor their own comprehension.**

**Conner (2002a) suggests that the following strategies provide students with the opportunity to monitor their own comprehension:**

**(a) DR-TA,**

**(b) KWL,**

**(c) QAR,**

**(d) ReQuest,**

**(e) Semantic-Feature Analysis,**

**(f) SQ3R, and**

**(g) Think Alongs.**

**Furthermore, Clery and Smith (1993) suggest using the reader-response journals to help students monitor their own comprehension. They claim that**

**such journals can help students to control their own reading processes and to become more conscious of these processes.**

**Yang (2002) claims that self-monitoring strategies are crucial to foreign language readers because they can help them to compensate for their limited knowledge of vocabulary and grammar of the foreign language.**

**Some educators (e.g., Baumann et al., 1993; May 1994; Wilhelm, 2001) suggest that teachers can model self-monitoring by thinking aloud as they read. For example, May (1994) suggests that the teacher can model self-monitoring through verbalizing aloud the following questions while reading:**

**(a) Am I really reading this with my goal in mind?**
**(b) Should I read this slowly to make sure I understand every detail?**
**(c) Which step goes next?**
**(d) Why does this step follow the last one?**
**(e) Now that I know the first event, what do I think the next event will be?**
**(f) Does this statement really follow from the last statement? (Or is this author selling me a used car?)**
**(g) Can I picture the steps (or events) the author wants me to follow?**

**A review of recent research on comprehension monitoring indicates that: (a) good readers are more able to monitor their own comprehension than poor readers (Block, 1992; Devine, 1993; Rubman, 1995; Schmeck, 1993); (b) less proficient readers utilize fewer comprehension-monitoring strategies than their proficient peers and apply them more superficially (Lenhart, 1994); (c) direct instruction in self-monitoring strategies improves students' reading comprehension (Cheng, 1995; Hoppes et al., 1997; Jitendra et al., 1998; Malone and Mastropieri, 1992; Myette, 1993; Payne and Manning, 1992); (d) there is a positive correlation between self-monitoring and reading comprehension**

**(Kinnunen and Vauras, 1995); and (e) comprehension monitoring increases with age and reading ability (Hacker, 1997; Pledger, 1992).**

### 1.2.4.3 Self-assessment

**Self-assessment is considered by many educators as an important metacognitive strategy (e.g., Benson, 2001; Maitland, 2000; Shoemaker, 1998; Wenden, 1998b). As Shoemaker (1998) puts it:**

> **Self-assessment has its foundations in metacognition and self-regulated learning and is seen as having the potential to provide teachers and students with opportunities to understand and enhance the ways students monitor and adjust strategic thinking in literacy learning. (p. 410)**

**A review of theoretical literature reveals that self-assessment has several advantages. The first of these advantages is that it promotes students' autonomy (Ekbatani, 2000; Williams and Burden, 1997; Yancey, 1998). The second advantage is that the involvement of students in assessing their own learning improves their metacognition which can, in turn, lead to better thinking and better learning (Andrade, 1999; O'Malley and Pierce, 1996). The third advantage of self-assessment is that it enhances students' motivation which can, in turn, increase their involvement in learning and thinking (Angelo, 1995; Todd, 2002). The fourth advantage of self-assessment is that it fosters students' self-esteem and self-confidence, which can, in turn, encourage them to see the gaps in their own performance and to quickly begin filling these gaps (Statman, 1993). The fifth and final advantage of self-assessment is that it alleviates the teacher's assessment burden (Cram, 1995).**

**Baker (1996) suggests a framework that students could use to evaluate their understanding of texts. The standards in her framework are: (a) the lexical standard, (b) the syntactic standard, (c) the internal consistency standard, (d) the external consistency standard, (e) the cohesiveness propositional standard, (f) the structural cohesiveness standard, and (g) the informational completeness standard.**

**Wenden (1998a) suggests that self-assessment involves the following:**

**(a) examining the outcome of attempts to learn,**

**(b) accessing the criteria used to judge the outcome, and**

**(c) applying these criteria.**

**Arter and Spandle (1992) make the point that teacher-generated questions can encourage learners to evaluate their own learning processes. They further suggest asking students to respond to the following questions to engage them in self-assessment:**

**(a) What is the process you went through to accomplish this task?**

**(b) What are the problems you encountered?**

**(c) How does this activity relate to what you have learned before?**

**(d) What are the strengths of your work? And**

**(e) What still makes you uneasy?**

**Anderson (2001) suggests that teachers can help students evaluate their strategy use by asking them to respond thoughtfully to the following questions:**

**(a) What are you trying to accomplish?**

**(b) What strategies are you using?**

**(c) How well are you using them? And**

**(d) What else could you do**

**Schraw (1998) offers the following questions to be asked and answered by the student to engage him/her in self-assessment:**

**(a) Have I reached my goal?**

**(b) What worked?**

**(c) What didn't work?**

**(d) Would I do things differently next time?**

**In addition to teacher-constructed questions and self-questioning, a number of instruments have been developed for encouraging students to engage in assessing their own metacognitive knowledge. These instruments include the K-W-L charts, reading logs, and self-assessment checklists. Each of these instruments is briefly described next.**

### 1.2.4.3.1 K-W-L Charts and K-W-L Plus

**The K-W-L chart (what I "Know"/what I "Want" to know/what I've "Learned") is one form of self-assessment instruments (Gold, 1997; Shaaban, 2001). The use of this chart develops students' metacognitive skills, keeps them focused and interested during reading, and gives them a sense of accomplishment when they fill in the L column after reading (Shepard, 2000). Conner (2003b) adds that this chart serves the following purposes:**

**(a) eliciting students' prior knowledge,**

**(b) setting a purpose for reading,**

**(c) helping students to monitor their comprehension,**

**(d) allowing students to assess their comprehension,**

**(e) providing an opportunity for the students to expand ideas beyond the text.**

**Hopper (2000) suggests adding a fourth step to the K-W-L chart to maximize its usefulness. This step, as he suggests, stands for "What I still want to know about the given topic." Bryan (1998) also offers a suggestion to**

**extend the K-W-L chart by adding a "where" column in which learners focus on where specific information can be located. In addition, McLaughlin (1994) suggests the following additions to the K-W-L chart:**

**(a) What we think we know, but aren't sure about.**

**(b) What's our evidence for what we know?**

**(c) How we might find out what we want to know.**

**(d) What could we find out by interacting with or observing the materials/phenomena, rather than by reading or asking experts?**

**(e) What questions do we still have?**

**Tannenbaum (1996) suggests that the K-W-L chart can be used as a class activity or on an individual basis and that this chart can be completed in the first language for students with limited English proficiency.**

**A survey of recent research on the K-W-L chart revealed that only one study was conducted in this area in the last ten years. In this study, Burns (1994) investigated the effect of the K-W-L chart on the reading comprehension and reading attitude of fifth-grade students. The results indicated that the K-W-L chart had a significant effect on the subjects' reading comprehension, but did not significantly affect their reading attitude.**

### 1.2.4.3.2 Reading Logs

**Reading logs go by a variety of names including response journals, literature journals, and reading journals. Such logs are records of the students' experiences in reading outside or inside the classroom. Students can use these logs to record their reading processes, make notes of their awareness of ambiguities and inconsistencies in the text, and comment on how they dealt with difficulties (Carlisle, 2000; Cobine, 1995a; Hiemstra, 2001). At regular intervals, the students reflect on and analyze what they have written in their**

**logs to diagnose their own strengths and weaknesses and to suggest possible remedies for their reading problems (Cobine, 1995b). The advantages of this instrument include (Commander and Smith, 1996; Conrad, 1995; Kerka, 1996):**

**(a) encouraging students to become self reflective,**

**(b) promoting autonomous learning,**

**(c) fostering students' self-confidence, and**

**(d) providing the teacher with assessable data on students' metacognitive skills, and with valuable suggestions for improving students' performance.**

**However, reading logs require time and effort from students and teachers (Angelo and Cross, 1993). Moreover, unless a continuing attempt is made to focus on strengths, this format can leave students demoralized from paying too much attention to their weaknesses and failures (ibid.).**

**Macon et al. (1991) suggest that the reader can divide the reading log into two columns. They further suggest that the left column can be labeled "Predictions" and the right column "What Happened." In the left column the reader predicts what will happen in the passage before reading it. After reading, he or she writes what actually happened in the right column.**

**A review of recent research on reading logs reveals that these logs improve students' reflection (Matsumoto, 1996), critical thinking skills (Demolli, 1997), reading comprehension (Olsen, 1991; Saunders et al., 1999; Yung, 1995), and metacognitive awareness (El-Hindi, 1997).**

### 1.2.4.3.3 Self-assessment Checklists

**A checklist consists of a list of specific behaviors and a place for checking whether each is present or absent (Tenbrink, 1999). Through the use of**

**checklists students can self-assess their own reading processes and become aware of these processes (Burt and Keenan, 1995; Harris et al., 1996).**

**Self-assessment checklists can be developed by the teacher or the students themselves through classroom discussions (Meisles, 1993). Moreover, some examples of checklists are now available for students to use for self-assessing their own reading processes (e.g., El-Koumy, 2002; Miholic, 1994; Zaza, 2001). The following figure, for example, shows a checklist that can be used for self-assessing reading processes.**

**The Reading Process Checklist**

Name: ---------- Date: ----------

(I) Read the following strategies, and check (✓) in the boxes the ones you actually employed before, during and after reading the article you have just finished.

(1) Before reading, I

looked up all the big words in a dictionary. □

made predictions about what the article was likely to contain. □

skimmed the text quickly for the main idea. □

read the title first and imagined what the article might be about. □

read the title and drew inferences from it. □

used embedded headings as advanced organizers. □

related the title to my personal experience. □

previewed the headings and pictures contained in the article and anticipated information to come. □

decided on why I was going to read this article. □

asked myself questions I would like to have answered in the article. □

conceptualized the content of the text in a map. □

thought about what I already knew and how it might relate to the title. □

Other (please specify): ----------

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(2) During reading, I

looked up all the words I did not know in a dictionary. □

asked the teacher for the meanings of unfamiliar words. □

used the context to guess the meanings of unfamiliar words. □

skipped words that may add relatively little to total meaning. □

mentally sounded out parts of the words I did not know. □

anticipated what would come next. □

categorized information I understood. □

made guesses about what would come next and checked to see if my guesses were right or wrong. □

tried to answer the questions I asked myself. □

tried to get the overall meaning of the article. □

tried to get the meaning of each word. □

focused on the grammatical structures of the article. □

focused on the writer's purpose. □

focused on the overall structure of the given article. □

related the text content to my own background knowledge of the subject. □

underlined important points. □

took notes in the margin. □

made up questions and looked for answers to these questions. □

made predictions and verified these predictions. □

formulated hypotheses and tested them. □

looked at the illustrations contained in the text and related them to the content. □

looked at the illustrations contained in the text without relating them to the content. □

Other (please specify): ----------

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(3) After reading, I

checked to see if I met my purpose for reading the article. □

checked to see how many words I learned from the article. □

paraphrased the most important points. □

made a summary of the information read. □

made an outline of the main idea and supporting details. □

made a list of all the important points. □

reread the parts I did not understand. □

Other (please specify): ----------

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(II) In your estimation, to what extent the processes you employed in this session helped you understand the article you have just read?

(a) not at all (b) a little (c) more than a little (d) very much

**Source: Abdel Salam A. El-Koumy (2002). Effect of self-assessment of reading processes versus products on EAP readers' comprehension. *Journal of Reading & Literacy* (pp. 1-22). Ain Shams University, Faculty of Education: Egyptian Reading & Literacy Association**

**A survey of recent research on self-assessment checklists revealed that only one study was conducted in this area in the last ten years. In this study, Allan (1995) found that ready-made checklists risked skewing readers' responses to those the checklist writer had thought of.**

**In addition to the empirical studies conducted in the areas of the K-W-L charts, reading logs and self-assessment checklists, other studies were conducted in the area of self-assessment and reading comprehension in the last ten years. These studies are briefly reported below.**

**Block (1992) compared the self-assessments of proficient readers with those of non-proficient readers. The results indicated that unlike proficient readers, the non-proficient readers relied most extensively on a lexical standard when self-assessing their own comprehension. She wrote, "When they [non-proficient readers] didn't understand words, they felt they didn't understand the sentence, when they did, they felt they had understood the sentence" (p. 334).**

**Moore and Zabrucky (1992) examined the effects of age and skill on self-judged reading comprehension. The results showed that more skilled younger students tended to lower their comprehension judgments while younger students who were less skilled assessed their comprehension as superior to their more skilled peers.**

**Maki et al. (1994) examined the relationship between students' ability to comprehend and their ability to self-assess their own comprehension. The results indicated that better and faster comprehenders judged their levels of performance more accurately than did poorer and slower comprehenders.**

**Matthews (1998) investigated the nature of sixth-grade students' self-assessment of their literacy performance. The results indicated that low-performing students who self-assessed their reading performance**

**demonstrated a change to a more positive perception of themselves as readers and reported more strategic behaviors by the end of the study.**

**Shoemaker (1998) found that fourth-grade students with special education needs provided evidence of their ability to engage in self-assessment of literacy learning when they were asked to do so, but their self-assessments tended to reflect surface elements of reading rather than reflections of strategic thinking.**

## 1.3 Interaction among Types of Metacognitive Knowledge

**Many educators (e.g., Anderson, 2001; Bandura, 1994; Stallworth-Clark et al., 2000) assume that the different types of metacognitive knowledge are interactive. Bandura (1994), for example, argues that students' self-efficacy interacts with task and strategy knowledge in the following way:**

> **People with high assurance in their capabilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided. Such an efficacious outlook fosters intrinsic interest and deep engrossment in activities. They set themselves challenging goals and maintain strong commitment to them. They heighten and sustain their effects in the face of failure. They quickly recover their sense of efficacy after failure or setbacks. They attribute failure to insufficient effort or deficient knowledge and skills which are acquirable. (p. 1)**

**Knowledge about the task also interacts with knowledge about self and strategies. According to Alderson (2000), readers alter their cognitive reading strategies based on the purpose of the task and task demands. Benson (2001)**

**adds that planning for, monitoring, and evaluating one's own reading comprehension are dependent upon the task knowledge and performed in relation to specific goals, and that students' awareness of these goals promotes the development of plans and strategies that help to reach these goals.**

**Strategy use is also related to knowledge about self and task. In this respect, Cohen (1998) states that the effectiveness of a strategy depends largely on the characteristics of a given learner. Skehan (1998) adds that the strategies one adopts "may partly reflect personal preference" (p. 217). Moreover, Singhal (2001), among others, contends that students choose their reading strategies depending on their knowledge about the task.**

**A review of recent research on the interaction among types of metacognitive knowledge indicates that: (a) students' choice of reading strategies is affected by students' self-perceptions, their background knowledge, and task characteristics (Liang, 1997; Moran, 1998); (b) reading strategy instruction promotes students' self-efficacy (Nicaise and Gettinger, 1995; Schunk and Rice, 1992); (c) self-assessment is influenced by task characteristics, students' background knowledge, and learner characteristics (Moritz, 1995); (d) goal setting has a powerful influence on comprehension monitoring (Cheng, 1995); (e) the use of self-regulating comprehension strategies improves poor readers' self-efficacy (Nicaise, 1993); (f) self-assessment develops students' self-efficacy (Smolen et al., 1995); and (g) tasks which invite learners to set personal goals and to self-evaluate their own performance increase students' awareness of themselves (Kohonen, 1993).**

# Chapter Two

# Methods of Teaching Cognitive/Metacognitive Strategy Knowledge

## 2.0 Introduction

**Many theoreticians and researchers recommend that students, particularly poor readers, need instruction in reading strategies, including metacognitive ones (e.g., Cohen, 1998; Gersten et al., 1997; Nunan, 1997; Pressley and El-Dinary, 1997; Swanson and De La Paz, 1998; Williams, 2000). The underlying premise of strategy instruction is that such instruction helps students to monitor their own learning. As Cohen (1998) puts it: "Strategy training...encourages students to find their own pathways to success, and thus it promotes learner autonomy and self-direction" (p. 67). As far as reading is concerned, reading strategy instruction may be (1) detached from reading, (2) embedded in reading, or (3) a combination of the two. Each of these methods is briefly described next.**

## 2.1 Detached Strategy Instruction

**Some theoreticians and researchers (e.g., Casazza, 1993; Hock et al., 1995; Rosenshine and Meister, 1992) recommend teaching reading strategies in isolation from authentic contexts. The steps involved in using this method are the following:**

**(a) The WHAT step: In this step the teacher identifies the strategy by naming, defining and describing it.**

**(b) The HOW step: In this step the teacher explains the procedure of implementing the strategy.**

**(c) The WHEN step: This step is intended to help students understand when they should use the strategy. In this step the teacher illustrates to the**

**students under what conditions (types of written texts, purposes for reading, and so forth) the reading strategy should be used.**

**(d) The WHY step: This last step is intended to help students understand why the strategy is important and why it will help them become better readers.**

**As mentioned previously, detached strategy instruction includes declarative (WHAT), procedural (HOW), and conditional (WHEN and WHY) knowledge about strategies.**

**Those in favor of detached strategy instruction claim that this method directs students' attention to the strategy they are learning, thereby leading them to become more aware of it. However, opponents of this method argue that teaching a strategy in a meaningful context is more effective than teaching it in isolation. Additionally, Chan (1996) indicated that "direct and explicit instruction in the use of prescribed strategies, while found to be beneficial for poor learners could have an adverse interference effect for good and average readers" (p. 125).**

## 2.2 Embedded Strategy Instruction

**Some theoreticians and researchers (e.g., Carrell et al., 1998; Chamot and Rubin, 1994; Graham, 1997; Hattie et al., 1996; Janzen and Stoller, 1998) recommend embedding strategy instruction in the context of reading. As Hattie et al. (1996) put it: "[I]f strategy training is carried out in a metacognitive, self-regulative context, in connection with specific content rather than generalized skills...positive results are much more likely" (p. 101). In this respect, many teaching strategies are suggested. These teaching strategies include reciprocal teaching, the directed reading-thinking activity, the SQ3R, the SQ4R, the RAP and the PLAN. Each of these teaching strategies is briefly described below.**

### 2.2.1 Reciprocal Teaching

**Some educators (e.g., Coley et al., 1993; Hewitt, 1995; Latha, 1999) claim that reciprocal teaching is a useful technique for integrating strategy instruction with reading comprehension instruction. This technique focuses on four comprehension strategies believed to be used by expert readers: predicting, generating questions, clarifying, and summarizing. In this technique, the teacher and a group of students take turns leading a dialogue concerning a section of the text they are jointly attempting to read and understand. This procedure is stated by Palincsar et al. (1991) as follows:**

> **In reciprocal teaching, teachers and students take turns leading a dialogue about the meaning of the text with which they are working. The discussion focuses on (1) generating questions from the text, (2) summarizing the text, (3) clarifying portions that impair understanding, and (4) predicting upcoming content. (p. 46)**

**The major advantages of reciprocal teaching are: (a) developing comprehension through reading strategies, (b) modeling comprehension strategies in authentic contexts, (c) activating relevant background knowledge, and (d) enhancing students' responsibility for comprehending what they read (Kerka, 1992; Speece et al., 1997).**

**A survey of research related to reciprocal teaching revealed that many studies used this technique for teaching both reading comprehension and reading strategies in the last ten years. Most of these studies found that this technique significantly improved students' reading comprehension (e.g., Alfassi, 1998; Aninao, 1993; Boamah, 1997; Bruce and Robinson, 2000; Dao, 1994; Hart, 1996; Kahre et al., 1999; Klinger and Vaughn, 1996; Lovett, 1996), self-perceptions (Russell, 1997), and strategy awareness (Lijeron, 1993). However, only two studies found that reciprocal teaching did not significantly improve students' reading comprehension (Bradford, 1992; Karlonis, 1995).**

## 2.2.2 Directed Reading-Thinking Activity

**The directed reading-thinking activity (DR-TA) is another instructional technique for integrating strategy instruction with reading comprehension instruction (Weaver, 1993). This technique engages students in thinking about what they read in two phases. In the first phase, students generate predictions about what they are going to read. In the second phase, they read to confirm or disconfirm their predictions, then evaluate their initial predictions using information from the text to support their responses. The major advantages of this technique are: (a) engaging students in thinking about what they read, and (b) developing comprehension through reading strategies (Dixon and Nessel, 1992; Young, 1993).**

**A survey of recent research related to the directed reading-thinking activity revealed that only one study was conducted in this area in the last ten years. In this study, Defoe (1999) investigated the effect of the DR-TA on the reading comprehension of middle grade language arts students who frequently failed to make passing scores in reading comprehension exercises. The results of the study indicated that the DR-TA improved the subjects' reading comprehension, but not significantly.**

## 2.2.3 SQ3R and SQ4R

**Many educators (e.g., Abromitis, 1993; Bonds et al., 1992; Conner, 2003a; Irvin and Rose, 1995; Ruddell, 1993) suggest integrating strategy instruction with reading comprehension instruction by using the SQ3R. Here is a brief description of what this acronym stands for (Brown, 1992):**

**(a) S=Survey: In this step the student surveys the reading text by reading the title, subtitles, opening and concluding paragraphs. He or she also glances at any graphs or visuals included in the text.**

**(b) Q=Question: In this step the student uses the knowledge he or she gained from surveying the text as a basis to ask him/herself questions that may be answered from the material in the text.**

**(c) R1=Read: In this step the student reads to answer the questions he or she made. He or she also underlines or highlights the material that answers his or her questions.**

**(d) R2=Recite: In this step the student checks whether he or she can recall the questions and their answers from memory.**

**(e) R3=Review: In this step the student goes over the text again to see how the information fits together. He or she also checks his or her understanding of the text to reinforce it in memory.**

**To maximize its usefulness, Applegate et al. (1994), among others, suggest adding a forth "R" to the SQ3R before the last step. In this step, which is called "Record" or "(w)rite," the student briefly writes the answers to his or her own questions in his or her own words.**

**A survey of recent research related to both the SQ3R and SQ4R revealed that three studies were conducted in this area in the last ten years. In the first study, Penkingcran (1992) compared the effects of generating questions with and without using the SQ3R on the reading comprehension of high school students in Thailand. The results indicated that students who generated questions with and without using the SQ3R obtained significantly higher scores on the reading comprehension posttest than students who did not generate questions. However, there was no significant difference in the mean scores between students who generated questions using the SQ3R and students who generated questions without using the SQ3R. In the second study, Swennumson (1992) investigated whether the SQ3R is effective in increasing nontraditional students' ability to learn through reading. The results of the study revealed that those students made effective use of the SQ3R and indicated an increase in**

**reading comprehension. In the third study, Wander (1996) investigated the effects of the SQ3R and SQ4R on the reading comprehension and question generation of upper elementary school students in content area reading. The results indicated that both the SQ3R and SQ4R significantly improved the quality of students' questions as well as their reading comprehension and that the differences were not statistically significant between the SQ3R and SQ4R groups.**

## 2.2.4 RAP

**Some educators (e.g.,Boudah and O'Neill, 1999) suggest integrating strategy instruction with reading comprehension instruction by using the RAP. Here is a brief description of what this acronym stands for:**

**(a) R=Read a paragraph**

**(b) A=Ask yourself, "What were the main idea and details in this paragraph?"**

**(c) P=Put the main idea and details into your own words.**

**A survey of recent research related to RAP revealed that only one study was conducted in this area in the last ten years. In this study, Lauterbach and Bender (1995) investigated the effectiveness of the RAP strategy in improving paraphrasing, reading comprehension and reading level of seventh graders with mild to moderate disabilities (n= 3). The results showed that the RAP strategy helped to raise the reading level of all three students to the appropriate grade level, and improved paraphrasing and reading comprehension.**

## 2.2.5 PLAN

**The PLAN technique was developed by Caverly et al. (1995) for integrating strategy instruction with content area reading. Here are the basic steps of this technique:**

**(a) P=Plan: In this step the student predicts the structure as well as the content of the text he or she is going to read by previewing the titles, subtitles, and graphics in this text. He or she then constructs a map in the form of a tree with the title as the trunk and the subtitles as the branches.**

**(b) L=Locate: In this step the student evaluates his or her prior knowledge on the map by placing check marks (✓) next to old ideas and question marks (?) next to new ideas.**

**(c) A=Add: In this step the student reads the text and adds new branches to his or her map. He or she also confirms those branches checked as old information to verify his or her existing knowledge.**

**(d) N=Note: In this step the student notes whether the macrostructure of the text is indeed what he or she predicted prior to reading. If the structure is different, he or she constructs a new map to better represent the author's rhetorical structure.**

**The major advantage of the PLAN technique is that it incorporates background knowledge, knowledge about the task and comprehension monitoring within authentic reading materials (ibid.).**

**In addition to the previously mentioned techniques, there are other techniques such as ReQuest (Reciprocal Questioning) and PQRST (Preview, Question, Read, State, and Test) that can be used for teaching certain reading strategies within the context of reading. Moreover, the instruments used for assessing metacognitive knowledge can be used as learning techniques for developing metacognitive reading knowledge.**

## 2.3 A Combination of Both Detached and Embedded Instruction

**Some theoreticians and researchers (e.g., Cohen, 1998; Grant, 1994; Lvingstone, 1996, 1997; Schumaker and Deshler, 1992) suggest a combination of both detached and embedded strategy instruction. As Livingstone (1997) puts it:**

> **While there are several approaches to metcognitive instruction, the most effective involve providing the learner with both knowledge of cognitive processes and strategies (to be used as metacognitive knowledge), and experience or practice in using both cognitive and metacognitive strategies.... Simply providing knowledge without experience or vice versa does not seem to be sufficient for the development of metacognitive control (Livingstone, 1996). (p. 5)**

**This method moves from informed training to independent application of reading strategies in authentic contexts. In other words, this method gradually releases the teacher's responsibility so that students can use the strategy in groups or independently. As an example of the combination of both detached and embedded instruction, Grant (1994) suggests the following four phases for strategy instruction:**

**(a) Informed Training: In this phase the teacher informs students of how, where, and when to use the strategy.**

**(b) Modeling and Scaffolding: In this phase the teacher implements the strategy by thinking aloud as he or she performs its procedure.**

**(c) Self-monitoring and Evaluation: In this phase the teacher shows the students how to monitor and evaluate their strategy use.**

**(d) Practice: In this phase students use the strategy, first in small groups and then independently.**

**(e) Transfer: In this phase each student uses the strategy independently in a meaningful context.**

**As another example of the combination of both detached and embedded instruction, Beckman (2002) suggests the following steps for strategy instruction:**

**(a) Describe the strategy: In this step students know why the strategy is important, when it can be used, and how to use it.**

**(b) Model its use: In this step the teacher models the strategy, explaining to the students how to use it.**

**(c) Provide ample assisted practice time: In this step the teacher lets the students practice the strategy under his/her guidance.**

**(d) Promote student self-monitoring and evaluation of personal strategy use: In this step students use the strategy and evaluate its use by themselves.**

**(e) Encourage continued use and generalization of the strategy: In this step students are encouraged to try the strategy by themselves in other learning situations.**

**To conclude this section, the writer recommends that effective strategy instruction should follow these steps:**

**(a) discovering strategies that good readers use for a specific task,**

**(b) presenting these strategies to the students by explicitly identifying, describing and modeling them,**

**(c) providing students with opportunities to apply these strategies in authentic, meaningful tasks, and finally**

**(d) providing opportunities for students to evaluate their own applications.**

# Chapter Three

## Instruments for Assessing Students' Metacognitive Knowledge

### 3.0 Introduction

**Assessing students' metacognitive knowledge is crucial for both teachers and students because it guides teachers' interventions and develops students' awareness of their own cognition (Nitko, 2001). Assessment specialists (e.g., Ericsson and Simon, 1993; O'Malley, 1996; Tittle et al., 1993) have proposed many instruments for assessing students' metacognitive knowledge. The instruments that are well suited for assessing metacognitive knowledge in the area of reading are described next.**

## 3.1 Verbal Reports and Think-Aloud Protocols

**Verbal reports are the most frequently employed instrument for assessing students' reading processes (O'Malley and Chamot, 1995). These reports refer to readers' descriptions of what they do while reading or immediately after reading. Such descriptions develop readers' metacognitive awareness and make teachers aware of their students' reading processes (Anderson, 1999; Matsumoto, 1993). Based on this awareness, students can make conscious decisions about what they can do to improve their own reading comprehension and teachers can assist those who need improvement in their reading processes (Chamot and Rubin, 1994).**

**Verbal reports may be introspective or retrospective. Introspective reports are collected as the student is engaged in the task. This type of reports has been criticized for interfering with the processes of task performance (Gass and Mackey, 2000). Retrospective reports are collected after the student completes the task. This type of reports has been criticized because students may forget or inaccurately recall the mental processes they employed while doing the task (Smagorinsky, 1995; Wenden, 1998a).**

**To help teachers collect accurate verbal reports, Ericsson and Simon (1993) offer the following recommendations:**

**(a) reducing the interval between processing and reporting,**

**(b) emphasizing that reports reflect exactly what is being thought,**

**(c) providing directions to students to help them report their actual processes, and**

**(d) recognizing that there are individual differences in students' abilities to provide verbal reports.**

**To help students produce useful and accurate verbal reports, Anderson and Vandergrift (1996) suggest that the assessor should:**

**(a) provide training for students in reporting their learning processes,**

**(b) elicit verbal reports as close to students' completion of the task as possible, or even better, during the accomplishment of the task,**

**(c) provide students with some contextual information to help them remember the strategies used during doing the task if the report is retrospective,**

**(d) videotape students while doing the task, and**

**(e) allow students to use either L1 or L2 to produce their verbal reports.**

**There are different opinions with respect to the validity and reliability of verbal reports. However, many assessment specialists (Alderson, 2000; Ericsson and Simon, 1993; Matsumoto, 1993) agree that verbal reports can be valuable sources of information about students' cognitive processes when they are elicited with care and interpreted with full understanding of the conditions under which they were obtained.**

**A survey of research on introspective and retrospective verbal reports indicated that several studies used this format as a research tool for exploring students' reading processes (e.g., Chamot and El-Dinary, 1999; Harmon, 1996; Suh, 1999). In addition to these studies, Allan (1995) investigated whether students can effectively report their reading processes.**

**Results indicated that many students were not highly verbal and found it difficult to report their reading processes.**

**With respect to student think-aloud protocols, they are regarded by many educators (e.g., Kucan and Beck, 1997; Witney and Budd, 1996) as an important technique for assessing as well as developing students' reading processes. These protocols are collected by asking readers to say out loud whatever goes through their minds while reading.**

**The major disadvantage of these protocols is that students may need extensive training in order to produce useful articulations of their reading processes.**

**For think-aloud protocols to be accurate, Ericsson and Simon (1993) suggest that these protocols should be recorded and that the recording device and the assessor should be out of sight.**

**A survey of recent research on think-aloud protocols indicated that many studies used this instrument as a research tool for exploring students' reading processes (e.g., Crain-Thoreson et al. 1997; Cullum, 1998; Davis and Bistodeau, 1993; Kucan, 1993; McGuire and Yewchuk, 1996). In addition to these studies, two other studies used this instrument as an on-going assessment technique. In one of them, Silven and Vauras (1992) found that students who were prompted to think aloud as part of their comprehension training were better at summarizing information than students whose training did not include this technique. In the other study, Baumann and his colleagues (1992) found that training students in thinking aloud improved their ability to monitor their comprehension while reading.**

## 3.2 Structured Interviews

**Students' metacognitive knowledge can also be assessed by means of structured interviews. The questions in these interviews are usually structured to elicit responses from the reader regarding his/her knowledge about him/herself as a reader, the reading strategies he or she employs, and his or her knowledge about reading tasks. This instrument can develop students' awareness of how they feel about reading and of their reading processes (Ransom and Snyder, 1991).**

**To make interviewing intimately tied to the goal of assessment, the interviewer should use interview sheets (Lumley and Brown, 1996). Such sheets usually contain the questions the interviewer will ask and blank spaces to record the student's responses (ibid.). Additionally, audio and video cassettes can be made of such interviews for later analysis and evaluation (Tannenbaum, 1996).**

**Stansfield and Kenyon (1996) suggest using a tape-recorded format as an alternative to face-to-face interviews. They claim that such a tape-recorded format can be administered to many students within a short span of time, and that this format can help assessors to control the quality of the questions as well as the elicitation procedures (ibid.).**

**Alderson (2000) suggests that structured interviews can be extremely helpful in assessing students' reading strategies and attitudes towards reading. He further suggests that, in such a case, students can be asked about the texts they have read, how they liked them, what they did not understand, what they did about this, and so on (ibid.).**

**The following are examples of the questions an interviewer can ask to detect what a student thinks about while reading (Keene and Zimmerman, 1997):**

**(a) When you read that text did it remind you of anything you know about? What did it remind you of? Did it remind you of any experiences or things that have happened?**

**(b) Are there things you know about or things in your life that help you to understand this text? How does that help?**

**(c) We have just talked about what this text reminds you of. (The teacher restates the student's response.) What do you understand now that you didn't understand before?**

**As with other instruments that assess metacognitive knowledge or unobservable processes, interviews can lead to distorted and unreliable estimate of what readers know about their reading processes.**

**A survey of recent research on structured interviews indicates that several studies used this format as a research tool for exploring students' reading strategies (e.g., Galli-Banducci, 1996; Harmon, 1996; Maclellan, 1996, Mccrann, 1998) and readers' self-perceptions (e.g., Nes, 1997).**

## 3.3 Metacognitive Questionnaires

**Students' metacognitive knowledge can also be assessed by means of questionnaires (e.g., Brophy and Good, 1999). Such questionnaires can be used to collect data on readers' beliefs, strategy use, preferences, etc. (Fleming and Walls, 1998).**

**To develop metacognitive questionnaires, Tittle et al. (1993) suggest the following two-step procedure:**

**(a) identifying a specific instructional skill on which to focus the items of the questionnaire (e.g., reading),**

**(b) using the subcategories of metacognition to write positive and negative statements that describe students thoughts, beliefs, or awareness**

**regarding the specific skill identified before (e.g., "good" and "poor" readers' strategies).**

**Press (1996) contends that in analyzing metacognitive questionnaire data it is important to bear in mind that the answers given represent evidence of what the respondents say they believe or do, rather than evidence of what they actually believe or do.**

**Many examples of metacognitive questionnaires are now available for teachers to use for assessing students' reading processes (e.g., Jung, 1992; Little, 1994; Torut, 1994). But according to Oxford and Burry-Stock (1995), some of these questionnaires lack reliability and validity data and do not systematically cover all the kinds of knowledge viewed as important in metacognition.**

**A survey of research on metacognitive questionnaires indicated that several studies used this format as a research tool for exploring students' reading processes (e.g., Asquith, 1996; Mokhtari and Reichard, 2002; Swanson and Trahan, 1996).**

**To conclude this chapter, the writer suggests that the teacher or the assessor should use multiple metacognitive instruments to increase the validity of the results.**

# Chapter Four

## Conclusions and Recommendations

**From the literature reviewed in this paper, the following conclusions can be drawn:**

**(a) There is much research to suggest that readers' beliefs about their reading abilities and their background knowledge about the text they are going to read influence their reading comprehension.**

**(b) A considerable body of research findings suggest that knowledge about task purpose and task characteristics influences students' reading behavior, and ultimately, their reading comprehension.**

**(c) A large number of studies provide evidence to suggest that explicit teaching of cognitive reading strategies improves students' reading comprehension.**

**(d) There is some evidence to suggest that good readers prepare for, monitor and assess their own reading comprehension.**

**(e) A considerable body of research findings suggest that direct instruction in comprehension-monitoring strategies improves students' reading comprehension.**

**(f) Although there is conflicting evidence, the majority of studies support the notion that reciprocal teaching improves students' reading comprehension and strategy awareness.**

**(g) Although there are different opinions with respect to the validity and reliability of the instruments used for assessing students' metacognitive knowledge (e.g., verbal reports, think-aloud protocols, structured interviews, metacognitive questionnaires), many researchers agree that these instruments can be valuable sources of information when they are elicited with care and interpreted with full understanding of the conditions under which they were obtained.**

**In light of the above conclusions, the writer recommends that English language teachers should: (a) develop readers' self-efficacy; (b) build students' background knowledge; (c) teach text structures to their students; (d) weave reading strategies training into everyday lessons; (e) encourage students to**

**prepare for, monitor, and assess their own reading comprehension; and (f) create a supportive environment in which metacognition can work best by emphasizing independent learning at the end of every reading lesson.**

**Finally, it is recommended that metacognitive knowledge should be part of the ELT methodology courses being taught to prospective EFL teachers in the faculties of education all over the country.**

# References


**Abdel-Reheim, A. (1993).** ***The Effect of Metacognitive Strategies in Enhancing Reading Comprehension among Prospective Teachers of English.*** **Unpublished Ph.D. Dissertation, Faculty of Education, Al-Azhar University.**

**Abromitis, B. (1993). Metacognition-based strategies can help middle school readers.** ***Reading Today,*** **11(2), 28-34.**

**Ai, M. (1995). The effects of cultural background knowledge on graduate students' response to reading American and Chinese short stories in English and Chinese.** ***DAI-A,*** **55(1), 3114.**

**Alderman, M. (1999).** ***Motivation for Achievement: Possibilities for Teaching and Learning.*** **Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.**

**Alderson, J. (2000).** ***Assessing Reading*****. Cambridge: Cambridge University Press.**

**Alfassi, M. (1998). Reading for meaning: The efficacy of reciprocal teaching in fostering reading comprehension in high school students in remedial reading classes.** ***American Educational Research Journal,*** **35(2), 309-332.**

**Allan, A. (1995). Begging the questionnaire: Instrument effect on readers' responses to a self-report checklist.** ***Language Testing,*** **12(2), 133-156.**

**Amer, A. (1993). The effect of metacognitive instruction on EFL and L1 reading comprehension.** ***Journal of Assuit Faculty of Education,*** **1(9), 341-354.**

**Anderson, N. (1999).** ***Exploring Second Language Reading: Issues and Strategies.*** **Boston: Heinle and Heinle.**

**Anderson, N. (2001).** ***The Role of Metacognition in Second Language Teaching and Learning*** **(On-Line). Available at: eric@cal.org.**

**Anderson, N. and Vandergrift, L. (1996). Increasing metacognitive awareness in the L2 classroom by using think-aloud protocols and other verbal report formats. In Rebecca L. Oxford (Ed.),** ***Language Learning Strategies Around the World: Cross-Cultural Perspectives*** **(pp. 3-18). Honolulu: University of Hawaii, Second Language Teaching and Curriculum Center.**

**Andrade, H. (1999).** ***Student Self-Assessment: At the Intersection of Metacognition and Authentic Assessment.*** **ERIC Document No. ED 431 030.**

**Angelo, T. (1995). Improving classroom assessment to improve learning: Guidelines from research and practice.** ***Assessment Update,*** **7 (1-2), 12-13.**

**Angelo, T. and Cross, K. (1993).** ***Classroom Assessment Techniques: A Handbook for College Teachers*****. San Francisco, CA: Jossey-Bass.**

**Aninao, J. (1993). Training high school ESL students to use language-learning strategies.** ***DAI-A,*** **54(6), 2074.**

**Applegate, M., Quinn, K., and Applegate, A. (1994). Using metacognitive strategies to enhance achievement for at-risk liberal arts college students.** ***Journal of Reading,*** **38(1), 32-40.**

**Arter, J. and Spandel, V. (1992). NCME instructional module: Using portfolios of student work in instruction and assessment.** ***Educational Measurement: Issues and Practice,*** **11(1), 36-44.**

**Asquith, P. (1996). Relations between metacognition and instruction: Development of metacognitive awareness via instruction of reflective research skills in an academic context for middle school students.** ***DAI-A,*** **57(4), 1479.**

**Baker, L. (1996). Social influence on metacognitive development in reading. In C. Cornoldi and J. Oakhill, (Eds.),** ***Reading Comprehension Difficulties.*** **Hillsdale, NJ: Lawrence Erlbaum Associates.**

**Bakken, J. and Whedon, C. (2002). Teaching text structure to improve reading comprehension.** ***Intervention in School and Clinic,*** **37(4), 229-233.**

**Ballantyne, M. (1993). The effects of narrative and expository discourse on the reading comprehension of of middle school-aged good and poor readers.** ***DAI-A,*** **45(11), 4046.**

**Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning.** ***American Psychologist,*** **28(2), 117-148.**

**Bandura, A. (1994). Self-efficacy. In V. Ramachaudran (Ed.),** ***Encyclopedia of Human Behavior*** **(Vol. 4, pp. 71-81). New York: Academic Press.**

**Bandura, A. (1997).** ***Self-Efficacy: The Exercise of Control.*** **New York: Freeman.**

**Baumann, J., Jones, L., and Seifert-Kessell, N. (1993). Using think alouds to enhance children's comprehension monitoring abilities.** ***Reading Teacher,*** **47(3), 184-193.**

**Baumann, J. Seifert-Kessel, N., and Jones, L. (1992). Effect of think aloud instruction on elementary students' comprehension monitoring abilities.** ***Journal of Reading Behavior,*** **24, 143-167.**

**Beckman, P. (2002).** ***Strategy Instruction*** **(On-Line). Available at: http://ericec.org/digests/e638.html.**

**Benson, P. (2001).** ***Teaching and Researching Autonomy in Language Learning*****. London: Longman.**

**Biehler, R. and Snowman, J. (1993).** ***Psychology Applied to Teaching*****. Boston: Houghton Mifflin Company.**

**Block, E. (1992). See how they read: Comprehension monitoring of L1 and L2 readers.** ***TESOL Quarterly,*** **26(2), 319-343.**

**Boamah, N. (1997). Reciprocal teaching of comprehension fostering and monitoring strategies in an ESL setting in China.** ***DAI-A,*** **58(12), 4598.**

**Bock, S. (1993). Developing materials for the study of literature.** ***English Teaching Forum,*** **31(3).**

**Bonds, C., Grant Bonds, L., and Peach, W. (1992). Metacognition: Developing independence in learning.** ***Clearing House,*** **66(1), 56-59.**

**Boudah, D. and O'Neill, K. (1999).** ***Learning Strategies.*** **Reston, VA: ERIC Clearinghouse on Disabilities and Gifted Education.**

**Bouffard-Bouchard, T. (1995). Effect of activating conditional knowledge on self-efficacy and comprehension monitoring.** ***International Journal of Behavioral Development,*** **17 (3), 577-592.**

**Bouffard, T and Vezeau, C. (1998). The developing self-system and self-regulation of primary school children. In Michael D. Ferrari et al. (Eds.),** ***Self-Awareness: Its Nature and Development*** **(pp. 246-272). New York: The Guillford Press.**

**Bradford, L. (1992). Metacognition and reading instruction: The effects of reciprocal teaching on reading comprehension of poor readers.** ***DAI-A,*** **52(9), 3221.**

**Brenna, B. (1995). The metacognitive reading strategies of five early readers.** ***Journal of Research in Reading,*** **18(1), 53-62.**

**Brenton, H. (1997). Metacognitive strategies and attribution training with children displaying attentional problems.** ***DAI-A,*** **58(10), 3885.**

**Brophy, J. and Good, T. (1999).** ***Looking in the Classroom*****. Glenview, IL: Longman.**

**Brown, L. (1993). A study of the relationships among self-concept, reading attitude and reading comprehension in second grade readers.** ***DAI-A,*** **31(4), 1468.**

**Brown, R. (1992).** ***Developing Reading Competence in University ESL Classes.*** **ERIC Document No. ED 368 169.**

**Bruce. M. and Robinson, G. (2000). Effectiveness of metacognitive reading program for poor readers.** ***Issues in Educational Research,*** **10(1), 1-20.**

**Bryan, J. (1998). K-W-W-L: Questioning the known.** ***Reading Teacher,*** **51(7), 618-620.**

**Burns, P. (1994). The effect of the K-W-L strategy of fifth-graders' reading comprehension and reading attitude. *DAI-A*, 56(1), 149.**

**Burt, M. and Keenan, F. (1995). *Adult ESL Assessment: Purposes and Tools*. ERIC Digest No. ED 386 962.**

**Carlisle, A. (2000). Reading logs: An application of reader-response theory in ELT. *ELT Journal*, 54(1), 12-19.**

**Carrell, P. (1992). Awareness of text structure: Effects on recall. *Language Learning*, 42(1), 1-20.**

**Carrell, P., Wise, T., and Gajdusek, L. (1998). Metacognition and ESL/EFL reading. *Instructional Science*, 26(1-2), 97-112.**

**Casazza, M. (1993). Using a model of direct instruction to teach summary writing in a college reading class. *Journal of Reading*, 37(3), 202-208.**

**Caverly, D., Mandeville, T., and Nicholson, S. (1995). PLAN: A study reading strategy for informational text. *Journal of Adolescent and Adult Literacy*, 39(3), 190-199.**

**Chamot, A. and El-Dinary, P. (1999). Children's learning strategies in language immersion classrooms. *Modern Language Journal*, 83(3), 19-38.**

**Chamot, A. and Rubin, J. (1994). Comments on Janie Rees-Miller's "A critical appraisal of learner training: Theoretical bases and teaching implications": Two readers react. *TESOL Quarterly*, 28(4), 771-776.**

**Chan, L. (1994). Relationship of motivation, strategic learning, and reading achievement in grades 5, 7, and 9. *Journal of Experimental Education*, 62(4), 319-339.**

**Chan, L. (1996). Combined strategy and attributional training for seventh grade average and poor readers. *Journal of Research in Reading*, 19(2), 111-127.**

**Chen, C. (1995). Differences between poor and good readers and effects of story-structure knowledge training on poor readers. *DAI-A*, 57(1), 109.**

**Cheng, P. (1995). Children's reading comprehension monitoring: Exploring the relations among attribution, goal/motive, knowledge, process, strategy, and reading performance. *DAI-A*, 55(7), 1905.**

**Chia, H. (2001). Reading activities for top-down processing. *English Teaching Forum*, 39(1), 22-27.**

**Christen, W. and Murphy, T. (1991). *Increasing Comprehension by Activating Prior Knowledge*. Indiana University: ERIC Clearinghouse on Reading, English, and Communication. Available at: http: www. Indiana.edu/~eric_rec/ieo/ digests/d61.html.**

**Clapham, C. (1998). The effect of language proficiency and background knowledge on EAP students' reading comprehension. In A. Kunnan (Ed.), *Validation in Language Assessment* (pp. 141-168). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.**

**Clery, C. and Smith, A. (1993). Evaluating reader-response journals: A coding system. In T. Rasinski and N. Padak (Eds.), *Inquiries in Literacy Learning and Instruction* (pp. 57-63). Newark, DE: International Reading Association.**

**Cobine, G. (1995a). *Effective Use of Student Journal Writing*. ERIC Digest No. ED 378 587.**

**Cobine, G. (1995b). *Writing as a Response to Reading*. ERIC Digest No. ED 386 734.**

**Cohen, A. (1998). *Strategies in Learning and Using a Second Language*. London: Longman.**

**Coley, J., DePinto, T., Craig, S., and Gardner, R. (1993). From college to classroom: Three teachers' accounts of their adaptations of reciprocal teaching. *The Elementary School Journal*, 94(2), 255-266.**

**Collins, N. (1994). *Metacognition and Reading to Learn* (On-Line). Available at: http://www.ed.gov/databases/ERIC_Digests/ ed376427.html.**

**Commander, N. and Smith, B. (1996). Learning logs: A tool for cognitive monitoring. *Journal of Adolescent and Adult Literacy*, 39(6), 446-453.**

**Conner, J. (2002a). *Monitoring Comprehension.* (On-Line). Available at: http://www.indiana.edu/~151//monitoring. html.**

**Conner, J. (2002b). *Providing Students with a Purpose for Reading.* (On-Line). Available at: http://www.indiana.edu/~1517/ purpose.html.**

**Conner, J. (2003a). *Independent Reading Strategies for College Students* (On-Line). Available at: URL:http://www.indiana. edu/~1506connor.htm.**

**Conner, J. (2003b). *Instructional Reading Strategy: KWL (Know, Want to Know, Learned)* (On-Line). Available at: http://www.indiana.edu/~1517/KWL.htm.**

**Conrad, L. (1995). *Assessing Thoughtfulness: A New Paradigm*. ERIC Document No. ED 409 352.**

**Craig, M. and Yore, L. (1996). Middle school students' awareness of strategies for resolving comprehension difficulties in science reading. *Journal of Research and Development in Education*, 29(4), 226-238.**

**Crain-Thoreson, C., Lippman, M., and McClendon-Magnuson, D. (1997). Windows on comprehension: Reading comprehension processes as revealed by two think-aloud procedures. *Journal of Educational Psychology*, 89(4), 579-591.**

**Cram, B. (1995). Self-assessment: From theory to practice. In G. Brindley (Ed.), *Language Assessment in Action* (pp. 271-306). Sydney: Macquarie University.**

**Crandall, J., Jaramillo, A. Olsen, L. and Peyton, J. (2001). Diverse teaching strategies for immigrant children. In R. W. Cole (Ed.), *More Strategies for Educating Everybody's Children*. Alexandria, VA: Association for Supervision and Curriculum Development.**

**Cullum, L. (1998). *Encouraging the Reluctant Reader: Using a Think-Aloud Protocol to Discover Strategies for Reading Success*. ERIC Document No. ED 420 837.**

**Dabbour, K. (2001). *A Cognitive Strategies Program in English Language to Improve Reading Comprehension for University Students*. Unpublished M.Ed. Thesis, Faculty of Education, Ain Shams University.**

**Dao, M. (1994). An investigation into the application of the reciprocal teaching procedure to enhance reading comprehension with educational at-risk Vietnamese American pupils. *DAI-A*, 55(6), 1470.**

**Davis, J. and Bistodeau, L. (1993). How do L1 and L2 reading differ? Evidence from think aloud protocols. *Modern Language Learning*, 77(4), 59-72.**

**Day, R. (1994). Selecting a passage for the EFL reading class. *English Teaching Forum*, 32(1), 20-26.**

**Defoe, M. (1999). *Using Directed Reading Thinking Activity Strategies to Teach Students Reading Comprehension Skills in Middle Grades Language Arts.* ERIC Document No. ED 432 011.**

**Demolli, R. (1997). *Improving High School Students' Critical Thinking Skills*. ERIC Document No. ED 420 600.**

**Demont, E. and Gombert, J. (1996). Phonological awareness as a predictor of reading skills and syntactic awareness as a predictor of comprehension skills. *British Journal of Educational Psychology*, 66(3), 315-332.**

**Devine, J. (1993). The role of metacognition in second language reading and writing. In J. Carson and I. Leki (Eds.), *Reading in the Composition Classroom: Second Language Perspectives* (pp. 105-127). Boston: Heinle and Heinle.**

**Dixon, C. and Nessel, D. (1992). *Meaning Making: Directed Reading and Thinking Activities for Second Language Students*. Englewood Cliffs, NJ: Alemany Press.**

**Droop, M. and Verhoeven, V. (1998). Background knowledge, linguistic complexity, and second language reading comprehension. *Journal of Literacy Research*, 30(2), 253-271.**

**Dutta, S. (1994). Predicting as a pre-reading activity. *English Teaching Forum*, 32(1), 39-41.**

**Dymoc, S. (1998). A comparison study of the effects of text structure training, reading practice, and guided reading on reading comprehension. *National Reading Conference Yearbook*, 47, 90-102.**

**Eggen, P. and Kaucbak, D. (1995). *Strategies for Teachers: Teaching Content and Thinking Skills*. Boston: Allyn and Bacon.**

**Ekbatani, G. (2000). Moving toward Learner-Directed Assessment. In G. Ekbatani and H. Pierson (Eds.), *Learner-Directed Assessment in ESL* (pp. 1-11). New Jersey: Mahwah.**

**El-Hindi, A. (1997). Connecting reading and writing: College learners' metacognitive awareness. *Journal of Developmental Education*, 21(2), 10-19.**

**El-Koumy, A. (2002). Effect of self-assessment of reading processes versus products on EAP readers' comprehension. *Journal of Reading & Literacy* (pp. 1-22). Ain Shams University, Faculty of Education: Egyptian Reading & Literacy Association**

**Enrlich, M., Kurtz, C., and Loridant, C. (1993). Cognitive and metacognitive determinants of reading comprehension in good and poor readers. *Journal of Reading Behavior*, 25(4), 365-381.**

**Ericsson, K. and Simon, H. (1993). *Protocol Analysis: Verbal Reports as Data*. Cambridge, MA: MIT Press.**

**Fan, M. (1999). An investigation into the beliefs and strategies of Hong Kong students in the learning of English. *Education Journal*, 27(2), 56-81.**

**Faris, K. and Smeltzer, L. (1997). Schema theory compared to text-centered theory as an explanation for the reader's understanding of a business message. *Journal of Business Communication*, 34(1), 7-26.**

**Fleming, F. and Walls, G. (1998). What pupils do: The role of strategic planning in modern foreign language learning. *Language Learning Journal*, 18, 14-21.**

**Galli-Banducci, J. (1996). Building pairs to understanding: A qualitative study of monolingual English, biliterate Latino and bilingual Mien students' comprehension strategies. *DAI-A*, 57(5), 1992.**

**Garb, E. (2000). Maximizing the potential of young adults with visual impairments: The metacognitive element. *Journal of Visual Impairment and Blindness*, 94(9), 574-583.**

**Garner, R. (1992). Metacognition and self-monitoring strategies. In S. Jay Samules and Alan E. Farstrup (Eds.),** ***What Research Has To Say About Reading Instruction*** **(pp. 236-252). New York: International Reading Association.**

**Gass, S. and Mackey, A. (2000).** ***Stimulated Recall Methodology in Second Language Research*****. Mahwah, NJ: Lawrence Erlbaum Associates.**

**Gersten, R., Vaughn, S., Deshler, C. and Schiller, E. (1997). What we know about using research findings: Implications for improving special education practice.** ***Journal of Learning Disabilities*****, 30(5), 466-476.**

**Glazer, S. (1992).** ***Reading Comprehension: Self-Monitoring Strategies to Develop Independent Readers*****. ERIC Document No. ED 377 450.**

**Gold, R. (1997). K-W-L: A strategy for active reading.** ***English Teacher Journal*****, 51, 46-66.**

**Graham, S. (1997).** ***Effective Language Learning*****. Clevedon: Multilingual Matters.**

**Grant, R. (1994). Comprehension strategy instruction: Basic considerations for instructing at-risk college students.** ***Journal of Reading*****, 38(1), 42-48.**

**Griffith, P. and Olson, M. (1992). Phonemic awareness helps beginning readers break the code.** ***Reading Teacher*****, 45(7), 516-523.**

**Grossen, B. and Carnine, D. (1992). Translating research on text structure into classroom practice.** ***Teaching Exceptional Children*****, 24(4), 48-53.**

**Hacker, D. (1997). Comprehension monitoring of written discourse across early-to-middle adolescence.** ***Reading and Writing: An Interdisciplinary Journal*****, 9(3), 207-240.**

**Hardin, V. (2001).** ***Transfer and Variation in Cognitive Reading Strategies of Latino Fourth-Grade Students in a Late-Exit Bilingual Program*****. Available at: http://brj. Asu.edu/ v254/articles/ar7.html.**

**Harmon, J. (1996). Constructing word meanings: Independent strategies and learning opportunities for middle school students in a literature-based reading program.** ***DAI-A*****, 57(7), 2943.**

**Harris, D., Carr, J., Flynn, T., Petit, M., and Rigney, S. (1996).** ***How to Use Standards in the Classroom*****. Alexandria, Virginia: Association for Supervision and Curriculum Development.**

**Hart, E. (1996). The effects of reciprocal teaching on the reading comprehension of postsecondary students at-risk for academic reading.** ***DAI-A*****, 57(9), 3873.**

**Harvey, S. and Goudvis, A. (2000).** ***A Study Guide for Strategies That Work: Teaching Comprehension to Enhance Understanding*****. Available at: http:www.ncela.gwu.edu/ miscpubs/nabe/brij/v16/16_chamot.pdf.**

**Hattie, J., Biggs, J., Purdie, N. (1996). Effects of learning skills interventions on student learning: A meta-analysis.** ***Review of Educational Research*****, 66(2), 99-136.**

**He, T. (2001). Contrastive goal orientation in an EFL reading context: Influences on reading strategy use and comprehension patterns.** ***TESL-EJ*****, 5(1), 1-18.**

**Hertzog, C. (2002). Metacognition in older adults: Implication application. In T. J. Perfect and L. Schwartz (Eds.),** ***Applied Metacognition*** **(pp. 169-183). London: Cambridge University Press.**

**Hewitt, G. (1995). Toward student autonomy in reading: Reciprocal teaching.** ***English Teaching Forum*****, 33(4), 29-30.**

**Hiemstra, R. (2001). Uses and Benefits of journal writing.** ***New Directions for Adult and Continuing Education*****, 90, 19-26.**

**Hock, C., Schumaker, J., and Deshler, D. (1995). Training strategic tutors to enhance learner independence.** ***Journal of Developmental Education*****, 19(1), 18-26.**

**Hopper, N. (2000).** ***Introducing the K-W-L+ Reading Strategy to College Readers*** **(On-Line). Available at: http://askeric.org/cgi/binprintlessons.cgi/ Virtual/ Lessons/ Language_Arts/Reading/RD...**

**Hoppes, M. Jitendra, A., Wilson, B., and Cole, C. (1997).** ***Enhancing Reading Comprehension: The Role of a Summarization Strategy and Self-Monitoring.*** **ERIC Document No. ED 420 122.**

**Irvin, J. and Rose, E. (1995).** ***Starting Early with Study Skills: A Week by Week Guide for Elementary Students*****. ERIC Document No. ED 379 066.**

**Isaacs, M. (1996). Levels of phonemic awareness and their relationship to reading and spelling.** ***DAI-A*****, 58(1), 0072.**

**Janzen, J. and Stoller, F. (1998). Integrating strategic reading into L2 instruction.** ***Reading in a Foreign Language*****, 12(1), 251-269.**

**Jitendra, A., Cole, C., Hoppes, M., and Wilson, B. (1998). Effects of a direct instruction main idea summarization program and self-monitoring on reading comprehension of middle school students with learning disabilities.** ***Reading and Writing Quarterly: Overcoming Learning Difficulties*****, 14(4), 379-396.**

**Johnson, L., Graham, S. and Harris, K. (1997). The effects of goal setting and self-instruction on learning a reading comprehension strategy: A study of students with learning disabilities.** ***Journal of Learning Disabilities*****, 30(1), 80-91.**

**Julaeha, S. (1994).** ***Self-Efficacy for Learning*** **(On-Line). Available at: http://202.159.18.43/jp/22julaeha.htm.**

**Jung, H. (1992).** ***The relationship between adult second language readers' metacognitive awareness of reading and their processes in a second language.*** **Unpublished Ph.D. Dissertation, The University of Arizona.**

**Kahre, S., McWethy, C., Robertson, J., and Waters, S. (1999).** ***Improving Reading Comprehension through the Use of Reciprocal Teaching*****. ERIC Document No. ED 435 974.**

**Kane, S. (1998). The view from the discourse level: Teaching relationships and text structure.** ***Reading Teacher*****, 52(2), 182-184.**

**Karloins, P. (1995). The effect of reciprocal teaching on the reading comprehension and reading attitude of fifth-grade students.** ***DAI-A*****, 55(12), 3795.**

**Keene, E. and Zimmermann, S. (1997).** ***Mosaic of Thought: Teaching Comprehension in a Reader's Workshop*****. Portsmouth, NH: Heinemann.**

**Kerka, S. (1992).** ***Higher Order Thinking Skills in Vocational Education*****. ERIC Digest No. ED 350 487.**

**Kerka, S. (1996).** ***Journal Writing and Adult Learning*****. ERIC Document No. ED 399 413.**

**Khalaf, H. (2002).** ***The Effectiveness of Prereading for Developing Background Knowledge in EFL Preparatory School Students' Reading Comprehension.*** **Unpublished M. Ed. Thesis, Damietta Faculty of Education, Mansoura University.**

**Kinnunen, R. and Vauras, M. (1995). Comprehension monitoring and the level of comprehension in high- and low-achieving primary school children's reading. *Learning and Instruction*, 5(2), 143-165.**

**Kletzien, S. (1992). Proficient and less proficient comprehenders' strategy use for different top-level structures. *Journal of Reading Behavior*, 24(2), 191-215.**

**Klinger, J. and Vaughn, S. (1996). Reciprocal teaching of reading comprehension strategies for students with learning disabilities who use English as a second language. *Elementary School Journal*, 96(3), 275-293.**

**Knutson, E. (1998). *Reading with a Purpose: Communicative Reading Tasks for the Foreign Language Classroom*. ERIC Digest No. ED 425 658.**

**Kohonen, V. (1993). Language learning as learner education is also a question of school development. In L. Lofman, L. Kurki-Suonio, S. Pellinen, and J. Lehtonen (Eds.), *The Competent Intercultural Communicator* (pp. 267-287). Tampere: University of Tampere.**

**Kohonen, V., Jaatinen, R., Kaikkonen, P., and Lehtovaara, J. (2001). *Experiential Learning in Foreign Language Education*. Harlow: Longman.**

**Kucan, L. (1993). *Uncovering Cognitive Processes in Reading*. ERIC Document No. ED 364 842.**

**Kucan, L. and Beck, I. (1997). Thinking aloud and reading comprehension research: Inquiry, instruction, and social interaction. *Review of Educational Research*, 67(3), 271-299.**

**Latha, R. (1999). A reading program for elementary schools. *English Teaching Forum*, 37(4), 12-18.**

**Lauterbach, S. and Bender, W. (1995). Cognitive strategy instruction for reading comprehension: A success for high school freshmen. *High School Journal*, 79(1),58-64.**

**Leahey, T. and Harris, R. (1997). *Learning and Cognition*. New Jersey: Prentice Hall.**

**Legge, J. (1994). The interrelationships among and the gender effects of parental children's attitudes toward reading, children's self-concepts as readers and children's reading comprehension. *DAI-A*, 34(2), 507.**

**Lemons, A. (1996). The effect of reading strategies on the comprehension development of the ESL learner. *DAI-A*, 57(7), 2945.**

**Lenhart, I. (1994). Metacognitive monitoring strategies of third to sixth grade proficient and less proficient readers. *DAI-A*, 55(4), 864.**

**Leon, J. and Carretero, M. (1995). Intervention in comprehension and memory strategies: Knowledge and use of text structure. *Learning and Instruction*, 5(3), 203-220.**

**Liang, J. (1997). How college EFL regulate their cognition and motivation to deal with difficulties in reading comprehension: A case study of Chinese EFL learners' reading strategy use. *DAI-A*, 59(1), 183.**

**Lijeron, J. (1993). Reciprocal teaching of metacognitive strategies to strengthen reading comprehension of high school students in Spanish: A descriptive case study. *DAI-A*, 54(5), 1734.**

**Lin, Z. (2002). Discovering EFL learners' perception of prior knowledge and its roles in reading comprehension. *Journal of Research in Reading*, 25(2), 172-190.**

**Little, C. (1994). Modeling study strategies of good readers and the effects upon recall of poor readers. *DAI-A*, 55(11), 3461.**

**Livingstone, J. (1996). *Effects of Metacognitive Instruction on Strategy Use of College Students*. Unpublished Manuscript, State University of New York at Buffalo.**

**Livingstone, J. (1997). *Metacognition: An Overview*. Available at: http: www.gse.buffalo.edu/fas/shuell/cep.546/Metacog.htm**

**Loranger, A. (1994). The study of successful and unsuccessful high school students. *Journal of Reading Behavior*, 26(4), 374-360.**

**Lovett, M., Borden, S., Warren-Chaplin, P., and Lacerenza, L. (1996). Text comprehension training for disabled readers: An evaluation of reciprocal teaching and text analysis training programs. *Brain and Language*, 54(3), 447-480.**

**Lumley, T. and Brown, A. (1996). Specific-purpose language performance tests: Task and interaction. *Australian Review of Applied Linguistics*, 13, 105-136.**

**Machowicz, M. (1998). The effectiveness of teaching learning strategies within the curriculum: A short summary for busy teachers. *Thresholds in Education*, 24(3), 28-29.**

**Maclellan, E. (1996). Never mind the strategy, feel the despair: Evidence of higher education students' ineffectual reading. *Scottish Educational Review*, 28(1), 26-36.**

**Macon, J. Bewell, D. and Vogt, M. (1991). *Responses to Literature: Grades K-8*. Newark, DE: International Reading Association.**

**Maitland, L. (2000). Ideas in practice: Self-regulation and metacognition in the reading lab. *Journal of Developmental Education*, 24(2), 26-32.**

**Maki, R., Jonas, D., and Kallod, M. (1994). The relationship between and metacomprehension ability. *Psychonomic Bulletin and Review*, 1(1), 126-129.**

**Malone, L. and Mastropieri, M. (1992). Reading comprehension instruction: Summarization and self-monitoring training for students with learning disabilities. *Exceptional Children*, 58(3), 270-279.**

**Many, J., Fyfe, R., Lewis, G., and Mitchell, E. (1996). Traversing the topical landscape: Exploring students' self-directed reading-writing-research processes. *Reading Research Quarterly*, 31(1), 12-35.**

**Manzo, A. and Manzo, U. (1995*). Teaching Children to Be Literate: A Reflective Approach*. USA: Holt Rinehart and Winston, Inc.**

**Martin, A. (1994). Case study of a good reader and a poor reader at the primary level: The construction of meaning *DAI-A*, 33(5), 1386.**

**Matsumoto, K. (1993). Verbal-report data and introspective methods in second language research: State of the art. *RELC Journal: A Journal of Language Teaching and Research in Southeast Asia*, 24(1), 32-60.**

**Matsumoto, K. (1996). Helping L2 learners reflect on classroom learning. *ELT Journal*, 50(2), 143-148.**

**Matthews, M. (1998). Sixth-grade students' self-assessment of literacy. *DAI-A*, 59(2), 446.**

**May, F. (1994). *Reading as Communication*. New York: Macmillan Publishing Company.**

**McCabe, P. and Margolis, H. (2001). *Enhancing the Self-Efficacy of Struggling Readers* (On-Line). Available at: http://proquest. umi.com.pqdlink?Ver=1&Exp=07-01-2003 &FMT=FT&DID=00000008...**

**Mccrann, T. (1998). Native English speakers' reading strategies for Japanese and Spanish: Are they same? A multiple case study. *DAI-A*, 59(6), 2001.**

**McDonough, S. (1999). Learner strategies. *Language Teaching*, 32, 1-18.**

**McGuire, K. and Yewchuk, C. (1996). Use of metacognitive reading strategies by gifted learning disabled students: An exploratory study. *Journal for the Education of the Gifted*, 19(3), 293-314.**

**McLaughlin, M. (1994). *Using KWL to Introduce Inquiry*. Available at: http: www.exploratorium.edu/IFI/resources/ lifescienceinquiry/usingkwl.html.**

**Medo, M. (2000). The status of high school students' learning strategies: What students do as they read to acquire knowledge. *DAI-A*, 6(1), 0934.**

**Meisles, S. (1993). Remaking classroom assessment with the work sampling system. *Young Children*, 48(5), 34-40.**

**Menchaca, V. and Ruiz-Escalante, J. (1995). *Instructional Strategies for Migrant Students*. ERIC Digest No. ED 388 491.**

**Miholic, V. (1994). An inventory to pique students' metacognitive awareness of reading strategies. *Journal of Reading*, 38(2), 84-86.**

**Mokhtari, K. and Reichard, C. (2002). Assessing students' metacognitive awareness of reading strategies. *Journal of Educational Psychology*, 94(2), 249-259.**

**Moore, D. and Zabrucky, K. (1992). Self-judged comprehension in adults: Effects of age and skill. *Experimental Aging Research*, 18(1-2), 3-7.**

**Moran, K. (1998). Comprehension-monitoring in a college student population: The relationship of motivation. *DAI-A*, 59(1), 84.**

**Moritz, C. (1995). Self-assessment of foreign language proficiency: A critical analysis of issues and a study of cognitive orientations of French learners. *DAI-A*, 56(7), 2592.**

**Myers, M. (1992). A qualitative study of the impact of teaching self-regulated learning strategies on college students' reading comprehension. *DAI-A*, 53(4), 1110.**

**Myette, P. (1993). Comparing the effectiveness of three reading comprehension strategies with hearing impaired children. *DAI-A*, 53(9), 3171.**

**Nes. S. (1997). Less-skilled readers: Surveying the effects of paired reading on reading fluency, accuracy, comprehension, reader self-perceptions, and lived experience. *DAI-A*, 58(6), 2161.**

**Nicaise, M. (1993). Fostering the self-regulation of reading comprehension in college students. *DAI-A*, 54(6), 2099.**

**Nicaise, M. and Gettinger, M. (1995). Fostering reading comprehension in college students. *Reading Psychology*, 16(3), 283-337.**

**Nist, S. and Simpson, M. (1994). Why strategies fail: Students' and researchers perceptions. In C. Kinzer and D. Leu (eds.), *Multidimentional Aspects of Literacy Research, Theory, and Practice* (pp. 287-295). Chicago, IL: National Reading Conference.**

**Nitko, A. (2001). *Educational Assessment of Students*. New Jersey: Merrill.**

**Nolan, T. (1991). Self-questioning and prediction: Combining metacognitive strategies. *Journal of Reading*, 35(2), 132-138.**

**Nunan, D. (1997). Does learning strategy training make a difference? *Lenguas Modernas*, 24, 125-142.**

**Olsen, M. (1991). The effect of the reader response journal technique on reading comprehension, attitude toward reading, and writing ability of sixth and eighth graders. *DAI-A*, 52(3), 864.**

**O'Malley, J. (1996). *Using Authentic Assessment in ESL Classrooms*. Glenview: Scott Foresman.**

**O'Malley, J. and Chamot, A. (1995). *Learning Strategies in Second Language Acquisition*. New York: Cambridge University Press.**

**O'Malley, J. and Pierce, L. (1996). *Authentic Assessment for English Language Learners: Practical Approaches for Teachers*. Reading, MA: Addison-Wesley.**

**Ono, N. (1993). Reading as inquiry: A new horizon for ESL learners. *DAI-A*, 53(12), 4265.**

**O'Phelan, M. (1994). The effect of incorporating personal style information within strategy training on strategy choice, retention, and transfer of learning. *DAI-A*, 55(5), 1227.**

**O'Shea, L. and O'Shea, D. (1994). A component analysis of metacognition in reading comprehension: The contribution of awareness and self-regulation. *International Journal of Disability*, 41(1), 15-32.**

**O'Sullivan, J. (1992). *Reading Beliefs and Reading Achievement: A Development Study of Students from Low Income Families*. ERIC Document No. ED 354 505.**

**Oxford, R. (1992-1993). Language learning strategies in a nutshell: Update and ESL suggestions. *TESOL Journal*, 2(2), 18-22.**

**Oxford, R. (1994). *Language Learning Strategies: An Update*. Washington, DC: ERIC Clearinghouse on Languages and Linguistics.**

**Oxford, R. and Burry-Stock, J. (1995). Assessing the use of language learning strategies worldwide with ESL/EFL version of the strategy inventory for language learning skill . *System*, 23(1), 1-23.**

**Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research*, 66(4), 543-578.**

**Pajares, F. and Miller, M. (1994). Role of self-efficacy and self-concept beliefs in mathematical problem solving: A path analysis. *Journal of Educational Psychology*, 86(2), 193-203.**

**Palincsar, A., David, Y., Winn, J., and Stevens, D. (1991). Examining the content of strategy instruction. *Remedial and Special Education*, 12(3), 44-53.**

**Park, O. (1994). Self-regulated strategy training in second language reading: Its effects on reading comprehension, strategy use, reading attitudes, and learning styles of college ESL students. *DAI-A*, 55(6), 1463.**

**Payne, B. and Manning, B. (1992). Basal reader instruction: Effects of comprehension monitoring training on reading comprehension, strategy use and attitude. *Reading Research and Instruction*, 32(1), 29-38.**

**Payne, L. (1995). The magic is in the language: Investigations of the schema assessing cues used y good and poor readers. *DAI-A*, 56(7), 2622.**

**Pearson, P. and Camperell, K. (1994). Comprehension of text structure. In Robert R. et al. (Ed.), *Theoretical Models and Processes of Reading* (pp. 448-468). Newark, DE: International Reading Association.**

**Pearson, U. (1994). *Reading for Understanding: An Empirical Contribution to the Metacognition of Reading Comprehension*. ERIC Document No. ED 381 773.**

**Penkingcran, W. (1992). The effects of student-generated questions on the reading comprehension of high school students in Thailand. *DAI-A*, 35(12), 4265.**

**Pledger, L. (1992). Development of self-monitoring behavior from early to late adolescence. *Adolescence*, 27(1), 329-338.**

**Press, M. (1996). Ethnicity and the autonomous language learner: Different beliefs and different strategies. In E. Broady and M. Kenning (Eds.), *Promoting Learner Autonomy in University Language Teaching* (pp. 237-259). London: Association for French Language Studies/CILT.**

**Pressley, M. and El-Dinary, P. (1997). What we know about translating comprehension strategies instruction research into practice. *Journal of Learning Disabilities*, 30(5), 486-512.**

**Ramos, M. (1996). Effect of reading strategy instruction on reading skills of diverse students. *DAI-A*, 57(6), 2415.**

**Ransom, P. and Snyder, L. (1991). Effective evaluation and diagnosis and reading instruction. In B. Hayes (Ed.), *Effective Strategies for Teaching Reading* (pp. 173-194). Boston: Allyn and Bacon.**

**Readence, J., Moore, D., and Rickelman, R. (2000). *Prereading Activities for Content Area Reading and Learning*. Newark, DE: International Reading Association.**

**Rosenshine, B. and Meister, C. (1992). The use of scaffolds for teaching higher-level cognitive strategies. *Educational Leadership*, 49(7), 26-33.**

**Rubman, C. (1995). A B seeing: The role of constructive processes in children's comprehension monitoring. *DAI-A*, 57(1), 96.**

**Ruddell, M. (1993). *Teaching Content Reading and Writing.* Boston: Allyn and Bacon.**

**Russell, V. (1997). Effects of reciprocal teaching on reading and oral language proficiency and reader self-perception of sixth-grade ESL students. *DAI-A*, 58(9), 3408.**

**Salataci, R. and Akyel, A. (2002). Possible effects of strategy instruction on L1 and L2 reading. *Reading in a Foreign Language* (On-Line), 14(1).**

**Saunders, W., Goldenbeg, C., and Rennie, J. (1999). *The Effects of Instructional Conversations and Literature Logs on the Story comprehension and Thematic Understanding of English Proficient and Limited English Proficient Students.* ERIC Document No. ED 426 631.**

**Scarcella, R. and Oxford, R. (1992). *The Tapestry of Language Learning: The Individual in the Communicative Classroom*. Boston: Heinle and Heinle.**

**Schmeck, D. (1993). Effect of mode of presentation on comprehension and comprehension monitoring as a function of passage length, question type and reading ability. *DAI-A*, 54(4), 1303.**

**Schraw, G. (1998). Promoting general metacognitive awareness. *Instructional Science*, 26(1-2), 113-125.**

**Schraw, G. and Dennison, R. (1994). The effect of reader purpose on interest and recall. *Journal of Reading*, 26, 1-17.**

**Schumaker , J. and Deshler, D. (1992). Validation of learning strategy interventions for students with LD: Results of a programmatic research effort. In Y. L. Wong (Ed.), *Contemporary Intervention Research in Learning Disabilities: An International Perspective*. New York: Springer-Verlag.**

**Schunk, D. (1997). *Self-Monitoring as a Motivator during Instruction with Elementary School Students*. ERIC Document No. ED 404 035.**

**Schunk, D. and Rice, J. (1994). Strategy fading and progress feedback: Effects on self-efficacy and comprehension among students receiving remedial reading services. *Journal of Special Education*, 27(3), 257-276.**

**Schwartz, R. (1997). Self-monitoring in beginning reading. *Reading Teacher*, 51(1), 40-48.**

**Sequero, W. (1998). A ready-made reading class: "Warming-up for reading." *English Teaching Forum*, 36(4), 29-36.**

**Shaaban, K. (2001). Assessment of young learners. *English Teaching Forum*, 39(4), 16-26.**

**Shawaker, P. and Dembo, M. (1996). *The Effects of Efficacy-Building Instruction on the Use of Learning Strategies.* ERIC Document No. ED 395 301.**

**Shepard, L. (2000). *The Role of Classroom Assessment in Teaching and Learning*. CSE Technical Report, No. 517. CRESST, University of California, Los Angeles, and CREDE, University of California, Santa Cruz.**

**Shoemaker, S. (1998). Literacy self-assessment of students with special education needs. *DAI-A*, 59(2), 0410.**

**Silven, M. and Vauras, M. (1992). Improving reading comprehension through thinking aloud. *Learning and Instruction*, 17, 166-186.**

**Simmons, D. (1994). It takes more than a book talk: Predicting strategies. *Emergency Librarian*, 21(5), 18-22.**

**Simpson, M. and Nist, S. (2000). An update on strategic learning: It's more than textbook reading strategies. *Journal of Adolescent and Adult Literacy*, 43(6), 528-541.**

**Singhal, M. (1998). *A Comparison of L1 and L2 Reading: Cultural Differences and Schema* (On-Line). Available at: http://iteslj.org/Articles/Singhal-ReadingL1L2. html.**

**Singhal, M. (2001). Reading proficiency, reading strategies, metacognitive awareness and L2 readers. *The Reading Matrix*, 1(1), 1-8.**

**Skehan, P. (1998). *A Cognitive Approach to Language Learning.* Oxford: Oxford University Press.**

**Smagorinsky, P. (1995). *Speaking about Writing: Reflections on Research Methodology*. Thousand Oaks. CA: Sage.**

**Smolen, L., Newman, C., Wathen, T., and Lee, D. (1995). Developing Student Self-Assessment Strategies. *TESOL Journal*, 5(1), 22-27.**

**Snyder, V. (2002). The effect of course-based reading strategy training on the reading comprehension skills of developmental college students. *Research and Teaching in Developmental Education*, 18(2), 37-41.**

**Soranastaporn, S. and Chuedoung, M. (1999). A comparative study of reading comprehension strategies employed by ESP students. *SLLT Occasional Papers*, 8, 39-52.**

**Spedding, S. and Chan, L. (1993). Metacognition, word identification, and reading competence. *Contemporary Educational Psychology*, 18(1), 91-100.**

**Speece, D., MacDonald, V., Kilsheimer, L. and Krist, J. (1997). Research to Practice: Preservice teachers reflect on reciprocal teaching. *Learning Disabilities: Research and Practice*, 12(3), 177-187.**

**Spires, H., Gallini, J. and Riggsbee, J. (1993). Effects of schema-based and text-structure-based cues on expository prose comprehension in fourth graders. *Journal of Experimental Education*, 60(4), 307-320.**

**Stallworth-Clark, R., Nolen, M., Warkentin, R., and Scott, J. (2000). *College Students' Academic Performance: The Interaction of Strategy Engagement, Content, and Context.* ERIC Document No. ED 442 443.**

**Stansfield, C. and Kenyon, K. (1996). *Stimulated Oral Proficiency Interviews: An Update*. ERIC Digest No. ED 395 501.**

**Statman, D. (1993). Self-assessment, self-esteem and self-acceptance. *Journal of Moral Education*, 22, 55-62.**

**Stoller, F. (1994). Making the most of a newsmagazine passage for reading-skills development. *English Teaching Forum*, 32(1), 2-14.**

**Suh, J. (1999). The effects of reading instruction on reading attitude and reading process by Korean students learning English as a second language. *Applied Language Learning*, 10(1), 77-122.**

**Swanson, H. and Trahan, M. (1996). Learning disabled and average readers' working memory and comprehension. Does metacognition play a role? *British Journal of Educational Psychology*, 66(3), 333-355.**

**Swanson, P. and De La Paz, S. (1998). Teaching effective comprehension strategies to students with learning and reading disabilities. *Intervention in School and Clinic*, 33(4), 209-218.**

**Swennumson, S. (1992). The effect of the SQ3R study method on reading comprehension of nontraditional college students. *DAI-A*, 53(7), 2209.**

**Tang, H. (1996). *A Study on Reading Comprehension Processes in Chinese and English: Interdependent or Universal*. Available at: http: www. Educ.uvic.ca/connections/Conn96/10Tang. html.**

**Tang, H. and Moore, D. (1992). Effects of cognitive and metacognitive pre-reading activities on the reading comprehension of ESL learners. *Educational Psychology*, 12(3-4), 315-331.**

**Tannenbaum, J. (1996). *Practical Ideas on Alternative Assessment for ESL Students.* ERIC Digest No. ED 395 500.**

**Tenbrink, T. (1999). Assessment. In James M. Cooper et al. (Eds.), *Classroom Teaching Skills* (pp. 310-384). Boston, MA: Houghton Mifflin Company.**

**Thanasoulas, D. (2000). *What is Learner Autonomy and How Can It Be Fostered?* Available at: http;//iteslj.org/Articles/ Thanasoulas-Autonomy.html**

**Tittle, C., Hecht, D., and Moore, P. (1993). Assessment theory and research for classrooms: From taxonomies to constructing meaning in context. *Educational Measurement: Issues and Practice*, 12(4), 13-19.**

**Todd, R. (2002). Using self assessment for evaluation. *English Teaching Forum*, 40(1), 16-19.**

**Tompkins, G. and Hoskisson, K. (1995). *Language Arts: Content and Teaching Strategies*. Englewood Cliffs, NJ: Prentice Hall.**

**Torut, B. (1994). Metacognitive strategy awareness and EFL comprehension. A study of Thai secondary students. *DAI-A*, 56(5), 1695.**

**Urquhart, A. and Weir, C. (1998). *Reading in a Second Language: Process, Product and Practice*. London: Longman.**

**Van-Duzer, C. (1999). *Reading and the Adult English Language Learner*. ERIC Digest No. ED 433 729.**

**Vann, R and Abraham, R. (1992). Strategies of unsuccessful language learners. *TESOL Quarterly*, 24(1), 144-198.**

**Wander, D. (1996). The effectiveness of modified SQ3R study strategies for studying content area texts in upper elementary school. *DAI-A*, 75(12), 5057.**

**Wang, H. and Guthrie, J. (1997). *Skilled and Unskilled Reading among Taiwanese Fifth Graders: A Cross-Cultural Perspective*. ERIC Document No. ED 418 385.**

**Weaver, C. (1993). Reading strategies: A discussion/demonstration with Connie Weaver. In A. Carrasquillo and C. Hedley (Eds.), *Whole Language and the Bilingual Learner* (pp. 87-106). Norwood, NJ: Ablex Publishing Company.**

**Wenden, A. (1995). Learner training in context: A knowledge-based approach. *System*, 23(2), 183-194.**

**Wenden, A. (1998a).*Learner Strategies for Learner Autonomy*. Great Britain: Prentice Hall.**

**Wenden, A. (1998b). Metacognitive knowledge and language learning. *Applied Linguistics*, 19(4), 515-537.**

**Whiteway, R. (1995). A study of the interrelationships among fifth-grade students' concepts of personal relationships, peer relationships, reader self, gender, reading attitude and comprehension. *DAI-A*, 34(4), 1345.**

**Wilhelm, J. (2001). Think-alouds: Boost reading comprehension. *Instructor*, 111(4), 26-28.**

**Williams, J. (2000). *Strategic Processing of Text: Improving Reading Comprehension of Students with Learning Disabilities*. ERIC Digest No. ED 449 596.**

**Williams, M. and Burden, R. (1997). *Psychology for Language Teachers.* Cambridge: Cambridge University Press.**

**Witney, P. and Budd, D. (1996). Think-aloud protocols and the study of comprehension. *Discourse Processes*, 21 (3), 341-351.**

**Yancey, K. (1998). Getting beyond exhaustion, reflection, self-assessment, and learning. *Clearing House*, 72, 13-17.**

**Yang, Y. (2002). *Reassessing Readers' Comprehension Monitoring* (On-Line). Available at: http://nflrc.hawaii.edu./rfl/ April2002/yang/yang.html.**

**Young, E., Righeimer, J. and Montbriand, C. (2002). *Strategic Teaching and Reading Project: Comprehension Resource Handbook*. Naperville, IL: Author.**

**Young, L. (1993). *Helping Older Inexperienced Readers*. Newtown (Australia): Primary English Teaching Association.**

**Yung, V. (1995). Using reading logs for business English. *English Teaching Forum*, 33(2), 40-41.**

**Zaid, M. (1995). Semantic mapping. *English Teaching Forum*, 33(3), 6-17.**

**Zaza, M. (2001). *Developing Metacognitive Strategies and Determining their Effect on the Academic Reading Skills of Freshmen Students of the English Section in Faculties of Education*. Unpublished Ph.D. Dissertation, Benha Faculty of Education, Zagazig University.**

**Zhang, Y. and Feng, X. (1997). Teaching *Reading Strategies: A New Approach for ESL/EFL Teachers* (On-Line). Available at: http://www.coeuh.edu. insite/elec_pub/HTML1997/rl_zhan. htm.**

**Zimmerman, B. (1995). Dimensions of academic self-regulation: A conceptual framework for education. In B. J. Zimmerman and D. H. Schunk (Eds.), *Self-Regulation of Learning and Performance* (pp. 3-24). Hillsdale, NJ: Lawrence Erlbaum Associates.**