USING RECIPROCAL TEACHING TO SUPPORT STRATEGY INSTRUCTION AND LANGUAGE USE AMONG SECOND LANGUAGE LEARNERS

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Recently, a group of researchers (Ardasheva, Wang, Adesope & Valentine, 2017) conducted an analysis to determine whether, and under what conditions, strategy instruction was effective in supporting the learning of second language learners. The purpose of strategy instruction is to equip learners with the means to engage in the self-regulation of their own learning. When learners are self-regulated, they have control over their learning and are directing their cognitive activity and motivation toward their own learning goals. Self-regulated learners: (a) actively engage in learning tasks, (b) set goals for learning, (c) monitor their activity, thoughts, and feelings, and (d) make the adjustments necessary to achieve their goals (Loyens, Magda, & Rikers, 2008).

Ardasheva and colleagues determined that, in fact, there was evidence that: (a) second language learners benefited from strategy instruction when their achievement was compared with learners who did not have access to strategy instruction, (b) "less is more"; in other words, focusing on a small repertoire of strategies was more powerful than teaching many strategies, and (c) ideal instruction focused on a balance of attention to language and strategies. All of this is relevant to this article on Reciprocal Teaching because Reciprocal Teaching is a form of strategy instruction designed to promote self-regulation while reading and learning with text; it addresses the teaching of four strategies, and it engages the teacher and learners in lots of use of language as the group co-constructs the meaning of the text they are reading and discussing.

What is Reciprocal Teaching?

Reciprocal Teaching is an instructional procedure designed to enhance students' comprehension of text. It is a dialogue between teacher and students. The term "reciprocal" describes the nature of the interactions since one person acts in response to the other. This dialogue is structured by the use of four strategies: questioning, summarizing, clarifying, and predicting. The teacher and students take turns assuming the role of dialogue leader. The brief excerpt below is illustrative of a Reciprocal Teaching exchange. In this excerpt, Clare is the discussion leader, and launches the discussion with her question.

TEXT: The pipefish change their color and movements to blend with their surroundings. For example, pipefish that live among green plants change their color to a shade of green to match the plants.

Clare:	[Question] One question that I had about this paragraph is: What is special about the way that the pipefish looks?
Keith:	[Clarification] Do you mean the way that it is green?
Andy:	It's not just that it's green; it's that it's the same color as the plants around it, all around it.
Clare:	[Summary] Yes. That's it. My summary is this part tells how the pipefish looks and that it looks like what is around it. [Prediction] My prediction is that this is about its enemies and how it protects itself and who the enemies are.
Monty:	[Addition to summary] They also talked about how the pipefish moves...
Keith:	It sways back and forth.
Andy:	Along with the other plants.
Teacher:	What do we call it when something looks like and acts like something else? The way that the walkingstick was yesterday? We clarified this word when we talked about the walkingstick.
Angel:	Mimic.
Teacher:	That's right? We said...we would say...that the pipefish mimics the...
Students:	Plants.
Teacher:	Okay! Let's see if Clare's predictions come true.

What is the purpose of Reciprocal Teaching?

The purpose of Reciprocal Teaching is to facilitate a group effort between teacher and students, as well as among students in the activity of bringing meaning to a shared text. These strategies were selected because they not only promote comprehension but they also provide opportunities for the students to monitor their own comprehension. Instruction that is conducted for the purpose of increasing students' awareness and regulation of their own activity is referred to as metacognitive instruction.

How were the four strategies selected?

The four strategies: summarizing, questioning, clarifying, and predicting are all strategies known to be used by proficient learners (see Hattie, 2008). *Summarizing* provides the opportunity to identify, paraphrase, and integrate important information in the text. Text can be summarized across sentences, across paragraphs, and across the passage as a whole. When the students first begin the Reciprocal Teaching procedure, their efforts are generally focused at the paragraph level. As they become more proficient, they are able to integrate larger portions of text.

Questioning reinforces the summarizing strategy and carries the learner one more step along the comprehension activity. When students generate questions, they first identify the kind of information that is significant enough that it could provide the substance for a question. Then they pose this information in a question form and self-test to ascertain that they can indeed answer their own question. Question generating is a flexible strategy to the extent that students can be taught and encouraged to generate questions at many levels. For example, some school situations require students to master supporting detail information; others require students to infer from text or apply information from text to new problems or situations.

Clarifying is an activity that is particularly important when working with students who may believe that the purpose of reading is saying the words correctly; they may not be particularly uncomfortable that the words, and in fact the passage, are not making sense. When teaching students to clarify, we call their attention to the many reasons why text is difficult to understand; for example new vocabulary, unclear referent words, and unfamiliar or difficult concepts. They are taught to be alert to the effects of such impediments to understanding and to take the necessary steps to restore meaning (e.g., reread, read ahead, ask for help).

Predicting requires students to hypothesize about what the author might discuss next in the text. In order to do this successfully, the reader must activate the relevant background knowledge that they already possess regarding the topic. The readers then have a purpose for reading; to confirm or disprove their hypotheses. Furthermore, the opportunity has been created for students to link the new knowledge they will encounter in the text with the knowledge they already possess. The predicting strategy also facilitates use of text structure as students learn that headings, subheadings, and questions imbedded in the text are useful means of anticipating what might occur next. In summary, each of these strategies was selected as a means of aiding students to construct meaning from text and monitor their reading to ensure that they are in fact understanding what they read.

How are the four strategies implemented in a typical Reciprocal Teaching dialogue?

While the eventual goal is flexible use of the strategies, they are typically used in the following manner. The discussion leader generates questions to which the group responds. Additional questions are raised by other members of the group. The leader then summarizes the text and asks other members if they would like to elaborate upon or revise the summary. Any clarifications are discussed. Finally, in preparation for moving on to the next portion of text, the group generates predictions.

What is the theoretical basis for Reciprocal Teaching?

The development of the Reciprocal Teaching procedure has been informed by several lines of research that include: progressive reconceptualizations of reading and effective

teaching and learning; cognitive development; as well as metacognitive strategy instruction for self-regulated learning. In the past several decades, there has been a great deal of interest in examining the characteristics of traditional reading instruction and its impact upon students' reading abilities and conceptions of reading. One feature of traditional reading instruction is that the strategies are typically presented as a set of isolated skills. For example, in teaching summarization students might be asked to underline a topic sentence in a series of disconnected passages; this type of task does not reflect the nature of summarization, which involves analyzing and synthesizing information. A second characteristic is that strategies are seldom practiced in the actual context in which they will be useful, specifically while reading extended text. As a result, students, as well as teachers, are likely to lose sight of the purpose of strategy instruction as a means to better comprehension. Finally, the isolated practice of individual strategies does not reinforce their flexible and opportunistic use. Hence, traditional reading instruction has typically provided inadequate opportunities for learners to acquire the conditional as well as the procedural knowledge regarding the use of strategies.

Examinations of traditional reading instruction have led to progressive redefinitions of reading. Reading has been redefined as an interactive process of constructing meaning from written texts. It involves the interaction of the reader, task, context, and materials. The reader interprets the text on the basis of background knowledge, the purpose of reading and the context in which reading occurs (RAND, 2001).

Reciprocal Teaching was developed on the basis of these newer conceptions of reading. First, instruction focuses on helping students to understand the factors that interact and influence their comprehension of text. Second, students are taught to apply the strategies in meaningful contexts, that is while reading extended text rather than in isolation using artificial tasks. Third, students are encouraged to use the strategies flexibly and opportunistically; in other words, students learn to use the strategies as opportunities arise in which they will assist comprehension rather than routinely applying the strategies. The strategies are taught as a means for enhancing comprehension rather than as an end in themselves.

The four strategies of Reciprocal Teaching are not novel to most educators. What is unique about Reciprocal Teaching for some teachers is the nature of the instruction. Reciprocal Teaching encompasses many aspects of effective teaching. From the students' perspective, Reciprocal Teaching is effective since students are actively engaged in learning, with frequent opportunities for immediate and specific feedback regarding their performance. This kind of guided learning is essential for helping students to improve their performance. From the teacher's perspective, Reciprocal Teaching provides frequent opportunities for diagnostic teaching. The dialogic nature of the instruction enables teachers to access students thought processes as they discuss their understanding of the text. This valuable diagnostic information enables the teacher to individualize instruction by providing the kind of support needed by the student.

Underlying the model of Reciprocal Teaching is the notion that expert-led social interactions play an important role in learning and can provide a major impetus to cognitive development. This idea can be found in the writings of Vygotsky (1978), Dewey (1910/1933), and Piaget (1967), who emphasized the role of guided learning in social contexts as a key to developmental change. Dialogue is a critical element of socially mediated instruction since it is the means by which experts provide and adjust support to novice learners. Reciprocal Teaching is an example of socially mediated instruction in which the teacher and students engage in dialogue for the purpose of constructing meaning from text.

Socially mediated instruction is sometimes referred to as scaffolded instruction. A scaffold represents a structure that can provide support, but that support is temporary and can be adjusted to meet one's needs. The metaphor of a scaffold appropriately characterizes the nature of this kind of instruction since the teacher and group provide support for individual learning that is temporary and adjusted over time (Bruner, 1978; Wood, Bruner & Ross, 1976). In the initial phase of instruction, teachers provide a great deal of support to students as they learn about the strategies and how to use the Reciprocal Teaching procedure. The teachers scaffold student learning by providing considerable explanation regarding the four strategies and how the strategies can be applied. Teachers further support students by modelling the application of the strategies thereby making their own problem-solving public. During the dialogues, there is a conscious effort on the part of the teachers to gradually decrease the amount of support provided to the students over time. Eventually, the teachers provide minimal support or scaffolding and act more in the role of a coach providing feedback and prompting as necessary.

Metacognitive Strategy Instruction for Self-regulated Learning

Metacognitive strategy instruction for self-regulated learning is another line of research that has informed the development of the Reciprocal Teaching procedure. Metacognition refers to (1) the knowledge that we have about ourselves as learners, the demands of learning tasks, and the strategies we employ; and (2) the ability to monitor and regulate learning. As learners, we may know the following about ourselves: we perform better on essay tests than on multiple-choice exams and we have difficulty understanding science concepts. We may know the following about task demands: studying for multiple choice exams usually requires less time than studying for essay exams since one need only recognize rather than recall and elaborate upon key concepts. We may also possess knowledge of specific strategies that can be employed when reading text including picturing ideas, previewing the text, and illustrations and asking questions prior to reading. These three factors are not independent, instead they are highly interactive; as learners, we must consider the relationships that exist among ourselves, the task, and the strategies to effectively monitor and regulate our learning.

How effective is the Reciprocal Teaching Procedure?

Ann L. Brown and I conducted an extensive research program investigating the effectiveness of the Reciprocal Teaching procedure. The majority of the research on Reciprocal Teaching was conducted in reading and listening comprehension instruction by general, remedial, and special education teachers. Since the beginning of the research program, approximately 300 middle-school students and 400 elementary students (1st to 3rd grade) participated in this research. This instructional procedure was principally designed for students who were at-risk for academic difficulty or had already been identified as remedial or special education students. Prior to instruction, the students who participated in the research were generally scoring below the 40th percentile on nationally normed measures of reading achievement. To evaluate the success of the intervention, criterion-referenced measures of text comprehension were administered as one of several measures of student performance. These assessments were designed to evaluate students' ability to recall information, draw inferences, identify the gist of the passage, and apply information presented in the text to a novel situation. The criterion level of performance established for this measure was defined as the ability to score 75-80% correct on four out of five consecutive assessments. Prior to instruction, students typically scored approximately 30% on these criterion-referenced measures of text comprehension (averaging 3 of 10 questions correct). However, at the end of instruction approximately 80% of both the elementary and middle school students achieved the criterion level of performance. Furthermore, students demonstrated maintenance of their gains for up to six months to a year following instruction (Brown & Palincsar, 1982, 1989; Palincsar & Brown, 1984, 1989).

What are the essential components of Reciprocal Teaching? Specifically, how important are the dialogues and are all four strategies needed?

Comparative studies were conducted to determine the essential features of the Reciprocal Teaching method. Specifically, the studies were designed to evaluate the role of dialogue in teaching students to become self-regulated learners and to determine whether all four strategies were needed to improve students' comprehension of text. First, the Reciprocal Teaching method was compared to other kinds of instruction that focused on teaching students the same four reading strategies, but were not conducted in a dialogic manner. Reciprocal Teaching was compared with: (a) modeling in which the teacher demonstrated how to use the strategies while reading text, and the students observed and responded to the teacher's questions; (b) isolated skills practice, in which students were taught the strategies using worksheet activities with extensive teacher feedback regarding their performance; and c) Reciprocal Teaching/independent practice, in which students were taught Reciprocal Teaching for only four days followed by eight days of independently applying the strategies in writing while reading text. Only the traditional Reciprocal

Teaching procedure that incorporated dialogic instruction was effective in bringing about large and reliable changes in student performance (Brown & Palincsar, 1987).

The second comparative study was conducted to determine if all four strategies were needed to improve students' comprehension abilities or whether a subset of these strategies would be sufficient. The performance of students who were taught ten days of reciprocal questioning alone were compared to those taught ten days of reciprocal summarizing alone. Neither intervention was as effective as the ten days of traditional Reciprocal Teaching procedure in which students were taught all four strategies (Brown & Palincsar, 1987).

Is the Reciprocal Teaching procedure effective in improving the listening comprehension of non-readers?

Additional studies were conducted at the primary level to determine whether Reciprocal Teaching would be an effective means of improving nonreaders listening comprehension. First grade students were taught Reciprocal Teaching by their classroom teacher in small heterogeneous groups within the regular classroom setting. Each group was composed of five at-risk students, who were identified on the basis of special education/remedial reading referrals or teacher nominations, as well as one normally achieving student. Instruction was conducted for twenty-five consecutive days, which included five days of worksheet activities to introduce the strategies followed by twenty days of dialogic instruction. Each day's session lasted approximately twenty to thirty minutes. Reciprocal Teaching was compared to traditional basal reading instruction in which both groups of students read identical text from basal readers. Prior to instruction both groups performed comparably on criterion referenced measures of listening comprehension, the Reciprocal Teaching group averaging 51% correct compared to 49% for the basal reading group. At the end of instruction, the Reciprocal Teaching groups achieved 72% on average as compared to only 55% for the basal reading instruction groups.

Implementation

What are some important instructional issues to consider before beginning instruction?

Before implementing Reciprocal Teaching, it is important to identify the instructional objectives you hope to accomplish. Reciprocal Teaching was designed to teach less proficient students to employ the kinds of strategic behaviors used by more skillful readers Thus, the primary instructional objective is to teach students reading processes, and content coverage is a secondary objective. Initially, the additional time spent discussing reading processes means that less content is covered than would be the case if students merely read the text. Eventually, however, as students become more proficient in their use of the strategies, it is possible to cover increasingly more content. Not only do the students develop automaticity using the strategies, but they also learn to use the strategies in a more

flexible manner based on need rather than applying them in a rote fashion. Although content coverage is sacrificed initially, the long-term payoff for focusing on process objectives with the Reciprocal Teaching procedure is providing students the strategies or tools for self-regulated learning.

How should students be grouped for instruction?

An important component of effective Reciprocal Teaching is providing students with frequent opportunities to practice applying the strategies with the guidance of others who are more capable. For this reason, it is recommended that students be taught in small heterogeneous groups to ensure that each student has ample opportunities to practice using the strategies while receiving evaluative feedback about his/her performance. Generally, the optimal group size is between six to eight students. In groups larger than eight, it becomes difficult to provide the opportunity for each student to take a turn applying the strategies on a frequent basis. This kind of frequent guided practice is essential in helping students to become more proficient in their use of the strategies. Some teachers have modified the procedure for whole-class instruction by incorporating more writing activities to provide students opportunities to practice applying the strategies and to receive teacher feedback regarding their performance.

What criteria should be used to select appropriate instructional materials for teaching students to use the Reciprocal Teaching procedure?

When selecting instructional materials there are a number of issues to consider that include selecting materials on the basis of the students' reading/listening comprehension level, identifying materials that are sufficiently challenging as well as, incorporating text that is representative of the kinds of materials students are expected to read in school. When implementing Reciprocal Teaching as a reading comprehension intervention, reading materials should be selected at the students' instructional reading level. If there is concern that decoding itself poses a significant problem, the text can be read aloud.

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The second issue to consider when selecting instructional materials is trying to identify materials that are sufficiently challenging to the students. This is important since materials that are difficult to understand provide a reason for the students to employ the strategies to assist their comprehension. This issue is particularly important for students who are reading at lower reading levels, since the content of primary-level text is often so simplistic that it would be difficult, if not impossible, to carry on a sustained discussion about the content. For that reason, it might be necessary to implement Reciprocal Teaching as a read-along activity especially for older students with low reading levels. This provides them the opportunity to use the strategies to improve their comprehension while working with more difficult text.

The third issue to consider involves incorporating texts that are representative of the kinds of materials students are expected to read in their classes at school or in contexts out of school. Generally, the passages that were used in the Reciprocal Teaching interventions were selected from the students' basal readers or content area texts (e.g., science and social studies). Providing students with opportunities to apply the strategies using materials that are comparable to the kind of texts they are expected to read independently will enhance their ability to transfer the strategies to other situations.

Conclusion

Reciprocal Teaching offers teachers of second language learners a way to support them in becoming strategic and self-regulating as they learn how to interpret and learn from text. It has the advantage of providing a context in which there is rich use of language as the teacher and other members of the group build upon one another's ideas and the ideas in the text. While it is a demanding form of instruction, requiring thoughtfulness and guidance on the part of the teacher, it comes with a significant benefit for learners who come to a better understanding of the active nature of text comprehension and of themselves as constructors of meaning.

References

Ardasheva, Y., Wang, Z., Adesope, O. O., & Valentine, J. C. (2017). Exploring Effectiveness and Moderators of Language Learning Strategy Instruction on Second Language and Self-Regulated Learning Outcomes. *Review of Educational Research, 87*(3), 544–582.

Brown, A. L. & Palincsar, A. S. (1982). Inducing strategic learning from texts by means of informed, self-control training. *Topics in Learning and Learning disabilities, 2*(1), 1–17.

Dewey, J. (1910). *How we think*. Boston: Heath. (2nd ed., Heath, 1933).

Hattie, J. (2008). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. Routledge.

Loyens, S. M., Magda, J., & Rikers, R. M. (2008). Self-directed learning in problem-based learning and its relationships with self-regulated learning. *Educational Psychology Review, 20*(4), 411–427.

Palincsar, A. S. (1986). The role of dialogue in providing scaffolded instruction. *Educational Psychologist, 21*(1 & 2), 73–98.

Palincsar, A. S. & Brown, A. L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and Instruction, 1*(2) 117–175.

Piaget, J. (1967). *Biologie et connaissance* [Biology and knowledge]. Paris: Gallimard.

RAND Reading Study Group. (2002). *Reading for understanding: Toward an R&D program in reading comprehension.*

Vygotsky, L. (1978). In M. Cole, V. John-Steiner, S. Scribner, & E. Souberman (Eds.), *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wood, P., Bruner, J & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry, 17,* 89–100.

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