Protocol for Internet Reciprocal Teaching (IRT)

INTERNET RECIPROCAL TEACHING (IRT)

Summary

Teaching reading comprehension on the Internet presents unique challenges to comprehension instruction. These procedures describe how we have been adapting Reciprocal Teaching (RT) to the new comprehension skills and strategies required on the Internet, such as those needed to comprehend search engine results. In this case students must learn to select the best resource from among thousands available online and to critically evaluate these information resources to make informed reading choices.   Here, we outline the various contexts in which these lessons will be applied provide an example of teaching procedures for one online reading context. It is important to note the differences between traditional RT and IRT namely: 1.) Each student will likely follow different informational paths while reading rather than a common linear path more typical of traditional text and 2.) It is not possible to have the same text in the hands of all students when providing whole class lessons, thus an LCD projector is required. Given these unique aspects of reading comprehension instruction, we have modified RT slightly. Below, we describe the approach we have been taking in our work, using a model we call Internet Reciprocal Teaching (IRT) (Castek, in process). We base this modification on work by Palincsar (1986), Palincsar & Brown (1984), Palinscar, David, & Brown (1989) and Hacker & Tenent, (2002).

Step 1: Establishing a foundation for RT among Participating Teachers
Teachers read and discuss *Using Reciprocal Teaching in the Classroom: A Guide for Teachers* (Palinscar, David, & Brown, 1989). This text provides a theoretical underpinning and information about classroom applications.

Step 2: Whole-class instruction of the four RT strategies
Explicit instruction in predicting, questioning, clarifying and summarizing occurs over a period of four to six weeks through guided demonstrations and think-alouds. The teacher models how the strategies can be applied. Beginning with book-based informational texts, teachers scaffold the use of the strategies; providing support as needed (Hacker & Tenent, 2002). By scaffolding students' attempts, they begin to acquire the modeled behaviors and processes. Guided modeling prepares students to share their insights as they take turns applying the four strategies.

Step 3: Forming RT groups
The teacher administers a survey of Internet use (O'Lima, manuscript in preparation) that measures students' experience in reading a variety of online materials. Using these results, the teacher forms heterogeneous groups of 3-4 students each. Each group will be made up of students with varying reading abilities and varying amounts of Internet experience. In this way, those students with high Internet experience and low reading ability will be instrumental in sharing their knowledge of the Internet with other group members, increasing engagement in the learning task. Assignment to groups is flexible and fluid to promote engagement in student dialogues.

Step 4: Getting the RT groups started
The teacher provides support to groups as each member takes a turn facilitating the dialogue for a portion of the text.   Cooperatively, students apply the four RT strategies during the

discussion. The teacher circulates to monitor the quality of the dialogues and to support as needed. Students act as models for one another as they apply the four key strategies in a variety of reading contexts (Hacker & Tenent, 2002).

The Contexts for IRT Instruction

Instruction encompasses several distinct Internet reading contexts. Lessons move progressively from easier to more complex reading contexts in IRT.

A. *Reading between two web pages (a homepage and one linked webpage)*
This series of lessons introduces website structures. Lessons demonstrate how the reading context changes as various navigational paths are taken. Through demonstration, discussion and guided navigation, students learn to follow only those hyperlinks that would best suit their purpose for reading.

B. *Reading within multiple web pages bound to one website*
This series of lessons introduces the process of navigation within multiple layers of hypertext. Through demonstration, discussion and guided navigation, students learn how to read linked information. Students are taught how to infer the kinds of information that may be linked to various sites and how to use a set of criteria for evaluating what constitutes a quality website.

C. *Reading within a search engine*
This series of lessons introduces the use of a search engine. Lesson objectives include how to query search engines, how to read search results, and how to search within a site to locate specific information. Students will learn to make informed choices about what to read and how to navigate to the sites that contain the information students' suited to the intended reading purpose. .

D. *Reading the entire Web*
This series of lessons teaches students to how to choose a topic of interest, query electronic sources, locate information relevant to their interests, and synthesize the information from multiple sources to come to new understandings. It provides students with the broadest possible reading tasks and contexts where they are able to use all of the strategies they have been practicing in earlier stages.

E. *Reading (and writing) Online Messages*
This series of lessons explores the many different comprehension strategies required to infer information presented in a variety of communication contexts: Instant Messages, email, blogs, etc. Each of these communication contexts requires unique inferential reasoning skills as compared to traditional texts. Discussion will also focus on how to construct clear messages appropriate for each context.

In all of these contexts, particular emphasis is placed on three elements that have been found to play an important role in online reading comprehension (Coiro & Dobler, 2003). These include:

(1) *inferential reasoning* - Traditional inferential reasoning skills become more complex and multidimensional within Internet reading contexts (Coiro & Dobler, 2003). Readers are continually required to make predictions about where each hyperlink they follow may lead. The reader must become skilled in evaluating whether its utility suits their purpose.

(2) *strategic knowledge* - Three types of strategic knowledge (Paris, Lipson, & Wixson, 1983; Paris, Wasik, & Turner, 1991) become important during reading comprehension: declarative knowledge (knowing what), procedural knowledge (knowing how), and conditional knowledge (knowing when). Proficient Internet readers rely on new sources of each type of knowledge unique to particular web-based reading contexts (e.g., search engines, blogs and websites).

(3) *critical evaluation* - Critical evaluation of information on the Internet is one of the greatest challenges to online reading comprehension since anyone may publish anything. Students will use a set of evaluation criteria related to the utility, validity, accuracy, currency and potential bias of information (Leu, Leu & Coiro, 2004) to guide them through this challenging process.

An Example

Reading Context: Reading between two web pages on a website

Using a LCD projector, the site will be viewed by all students simultaneously in a large print format. The teacher introduces the information displayed on the homepage (see example screen shot below), linking this information to the current unit of study. Reciprocal Teaching Cue Cards will function as prompts for the RT strategies within an Internet reading context.

Reciprocal Teaching Cue Cards

Predict

Explain what kinds of information will be contained on this webpage.

Use cues from the website (illustrations, icons, graphics, or subtitles) to support your prediction.

Identify which hyperlinks will help you navigate through the text to gather information.

Describe the types of information you predict will be hyperlinked.

Clarify

Look for words, phrases, hyperlinks, or electronic features that are not clear.

Discuss the words, images, animations, or concepts you find confusing or misleading.

Suggested strategies are: examine the context, substitute a synonym, locate the root word, prefix or suffix and use these pieces as supports, ask others, mark the word to look it up later, if it is a hyperlinked word, examine the link to identify supports that may help you (glossary or other online information source).

Question

Ask questions that begin with who, what, when, where, why or how.

Ask main idea questions that aid in identifying key ideas.

Ask questions that have under the surface answers.

Ask questions about the navigational path as it relates to constructing a clear summary.

Summarize

Include the main ideas, not all the details.

Keep the summary concise and focused.

Stick to the point.

Teaching Sequence for Guided Modeling of IRT:

1) As demonstrated in the modeling phase, leadership rotates. Each student guides the group through the four target strategies for a section of text.

2) The teacher directs students to look at the homepage's title bar, labels, navigational hyperlinks,, any annotations following these hyperlinks, icons, animations, and the main text on the homepage (see image below).
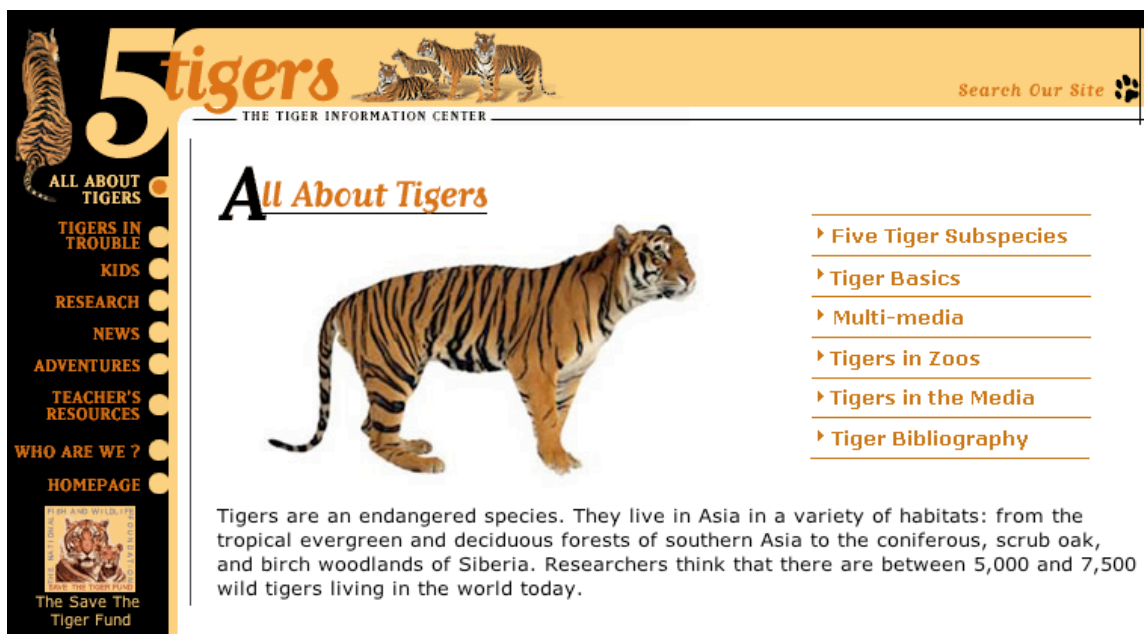
Screenshot of 5Tigers Information Center website
(http://www.5tigers.org/Directory/allabouttigers.htm)

3) Students **predict** what types of information will be found on this page and where hyperlinks (selected by the teacher) may lead. Discussions focus on how predicting the main structure of a website leads to a more successful and efficient process of reading for information. Through discussion and modeling, students come to better understand the types of informational resources that are hyperlinked between web pages.

4) The RT groups read the textual information revealed upon selecting a particular hyperlink. Students are encouraged to consider the meaning communicated in animations, images, video or audio clips on the webpage. The leader points out words, images, animations, or electronic features that cause confusion. This information will be discussed and **clarified** by the group. Group members help discuss misunderstandings of text or electronic media by consulting resources or using context clues. The teacher provides support as needed or to asks others in the classroom to assist.

5) The strategy leader within each group generates a **question** relating to the information on the website. Students within the group answer these questions referring back to what they have read. The teacher models questioning strategies while thinking aloud to scaffold students' questioning processes.

6) The leader in each RT group **summarizes** the section they read. Students will describe how their choice of navigational path and access of hyperlinks helped to build the summary they constructed After sufficient time has passed for the RT groups to

summarize, the teacher can provide further models so that summaries remain focused on important points.

7) The process detailed above repeats as group leadership rotates. Groups will **predict** where the embedded hyperlinks from a homepage leads. Guided navigation in a group context and setting a clear purpose for reading will help students determine which links are purposeful and which led them astray.

The same procedure is followed for each new series of hyperlinks on the target website. Instruction focuses on predicting the path of several hyperlinks deeper down the website's structure (away from the homepage). The teacher will model how to return to the site's homepage to select alternative navigational paths, following different hyperlinks to repeat the process. After five links have been followed, students share their summaries, generate an overall strategy for the entire text, and clarify any lingering misunderstandings.

Moving towards applying RT independently

As students progress in their ability to apply these four strategies in whole-class and small-group settings, learning tasks are carefully designed to promote independent application. This occurs in two phases:

Phase 1: Students will complete a week-long activity following an Internet workshop model (Leu, Leu & Coiro, 2004). In RT groups, students develop questions, locate online resources, evaluate these sources, and synthesize information pertaining to the assignment. During this process, the group keeps notes in a journal reflecting on the content learned as well as their use of predicting, clarifying, questioning and summarizing strategies. At the end of the week, students meet back as a class to share their discoveries, questions, and journal entries orally. This discussion supports students use of RT strategies while also reinforcing procedures for locating information, analyzing information, synthesizing information, critically evaluating information, and communicating findings.

Phase 2: Students will participate with partner classes on a telecollaborative project (Harris & Jones, 1999). In RT groups, students develop questions, locate online resources, evaluate these sources, and synthesize information pertaining to the assignment. Students will communicate their findings to other classes through the use of a project weblog. The blog will facilitate the sharing of resources, questions, and reflections throughout the learning process. Students dialogue back and forth using the blog's chronological comment feature to share their thinking and document their unfolding insights. This online discussion supports students use of the strategies in while also reinforcing procedures for locating information, analyzing information, synthesizing information, critically evaluating information, and communicating findings.

Documenting Student Progress

Assessment is an ongoing process derived from keen observation of student performance and application of strategies across contexts. Throughout the guided and independent practice phases of the lesson, the teacher observes the students closely and collects anecdotal notes. During IRT,, each student has an opportunity to act as the group leader. While assuming the facilitator role, individual students initiate strategies before prompting and welcoming group participation. The collection of assessment data

helps document students' progress so that the teacher can support the application of strategies across contexts. Two instruments are used to organize these observations:

(1) The <u>Reciprocal Teaching Observation Record</u> is a formative assessment for note taking. It is used to record an individual's reading processes and strategy application. Observation notes are collected to provide guidance and feedback to students to promote growth and improvement.

Internet Reciprocal Teaching Observation Record

Strategy	Date	Consistently able to demonstrate	Frequently able to demonstrate	Sometimes able to demonstrate	Needs assistance
Questioning					
Clarifying					
Summarizing					
Predicting					

(2) The <u>Reciprocal Teaching Dialogue Rubric</u> is used in several ways. In the introductory phase of the group modeling process, it communicates expectations for the application of strategy use in the context of the group dialogue. The rubric is also used as a discussion tool to prompt reflection. Students are invited to suggest revisions to the rubric based on what they have understood to be important about implementing each strategy in an Internet context, The rubric documents students' progress over time during the course of a school year.

Internet Reciprocal Teaching Dialogue Rubric

RT strategy	Beginning 1	Developing 2	Accomplished 3	Exemplary 4	Score
Questioning	Generates simple recall questions that can be answered directly from facts or information found within the website's home page.	Generates main idea questions that can be answered based on information gathered by accessing one or more links to the website's content.	Generates questions requiring inference. Facts and information must be synthesized from one or more links to the website's content and combined with prior knowledge.	Generates questions flexibly that vary in type, based on the content read and the direction of the dialogue.	
Clarifying	Identifies clarification as a tool to enhance understanding and initiates clarification dialogue when appropriate.	Identifies appropriate words for clarification with the dialogue's context.	Assists group in clarifying identified words based on context clues.	Uses strategies for word clarification that can be applied generally across reading contexts.	
Summarizing	Summary consists of loosely related ideas.	Summary consists of several main ideas but also many details.	Summary synthesizes main ideas, is complete, accurate and concise.	Summary is accurate, complete, and concise incorporating content vocabulary contained in the text.	
Predicting	Demonstrates knowledge of predictions as an active reading strategy.	Directs group predictions to set a clear purpose for reading.	Articulates predictions that build logically from context.	Provides justification for prediction and initiates confirmation or redirection based on information located in the text.	

Facilitation Strategy	Beginning 1	Developing 2	Accomplished 3	Exemplary 4	Score
Group Leadership	Initiates one to two of the strategies in a loosely organized manner.	Provides some leadership in initiating three to four strategies	Leads effectively incorporating all four strategies into a dialogue.	Keeps group on task and skillfully and demonstrates strategies while balancing group participation.	
Group Participation	Stays on task mostly listening but contributes little to the dialogue	Stays on task and actively participates in the dialogue.	Actively listens and builds responses around what others have contributed to the dialogue.	Participates in dialogue and actively responds to other students in a strategic manner.	