Many college students struggle with the literacy skills needed to be successful in higher education (Bettinger & Long, 2009; Snyder, Tan, & Hoffman, 2004). The difficulties emerge within students’ capabilities in reading and writing. Students must be taught the skills needed to be successful to complete the tasks assigned in college classes and in their future jobs (Hammond, 2008; Jobs for the Future, 2005). Students must think critically, connect ideas, and complete research projects (O’Sullivan & Dallas, 2010). Poor metacomprehension while reading results in difficulties comprehending text or writing efficiently (Thiede, Griffin, Wiley, & Anderson, 2010; Wood, Motz, & Willoughby, 1998; Yang, 2010). Interventions are essential to enhance comprehension and improve writing skills.

The Reciprocal Teaching (RT) technique involves a group effort between instructors and students, and among students with their peers, focused on bringing meaning to text. The RT approach incorporates a variety of strategies to increase comprehension (Palincsar & Brown, 1984; Vacca, Vacca, & Mraz, 2011), which include predicting, clarifying, questioning, and summarizing. Within the RT approach, teacher and student take turns leading discussions about the reading. Teachers encourage student interaction and monitor the learning through modeling appropriate strategies and asking questions.
to scaffold the learning (Gruenbaum, 2010). Interactions and teachings in RT online forums, as well as the teaching of research skills, may further assist with improving writing, including grammar and mechanics (Yang, 2010). This article will describe the literacy skills needed for students to be successful in college and will explain strategies that may be used to assist students in developing these essential literacy skills.

**Background**

Businesses expect today's 21st century students to have the capability to analyze and evaluate information that may then be used to solve everyday problems (Jobs for the Future, 2005). Studies on college students have shown that students in increasing numbers may not find high school preparation sufficient for success in college or in the job market (Dreyer & Nel, 2003; Greene & Forster, 2003; Jobs for the Future, 2005). Wineburg (2006) cited the National Center for Education Statistics in reporting that many 12th grade students in the United States are reading and writing at a fifth grade level.

Many college students take transitional coursework to improve their literacy skills in their first year of college. The National Center for Education Statistics reported that about one third of first-year college students take transitional courses (Snyder, Tan, & Hoffman, 2004). At some post-secondary institutions, the percentage of first-year students who enroll in transitional classes is as high as 60% (Bettinger & Long, 2009). Wineburg (2006) noted that the difficulty lies in reading comprehension, which affects students' reading and writing abilities as well as their ability to perform well on college-level research assignments. High school and college students must be taught the skills to locate and analyze complicated information, to solve problems they encounter while reading, and to connect ideas and concepts (Hammond, 2008; Jobs for the Future, 2005).

**Literacy Skills Necessary for Success in College**

Students' reading comprehension difficulties need to be specifically addressed (Wineburg, 2006). When college students read, they oftentimes choose ineffective or inefficient strategies (Wood, Motz, & Willoughby, 1998). Thiede, Griffen, Wiley, and Anderson (2010) found that students with poor metacomprehension were unable to use corrective strategies to improve their comprehension. Metacomprehension refers to the ability to monitor understanding of information communicated or to recognize a lack of comprehension, and then to apply corrective strategies to clarify comprehension. Interventions are necessary to direct students on ways to enhance comprehension.
Prior research on assisting students with developmental reading has suggested strategies that include activating prior knowledge (Dole, Valencia, Greer, & Wardrop, 1991), summarizing text (Armbruster, Anderson, & Ostertag, 1987), crafting questions to establish the main idea of the reading (Rosenshine, Meister, & Chapman, 1996), and using concept maps to connect ideas to other related ideas within the reading (Hammond, 2008; Thiede et al., 2010). The RT approach incorporates these strategies through the study of summarizing, questioning, clarifying, and predicting (Palincsar & Brown, 1984; Vacca et al., 2011). Yang’s (2010) study involved an online transitional reading program for college students based on the RT approach in which students’ reading processes and interactions with peers could be observed in verbal and written forms. Yang (2010) found that students did not know how to apply comprehension strategies needed to understand the readings or to monitor their own learning. The strategies employed in the RT process—prediction, questioning, clarifying, and summarization—can be helpful in improving reading comprehension (Fung, Wilkinson, & Moore, 2003; Palincsar & Brown, 1984; Vacca et al., 2011).

Prediction
Prediction refers to the hypothesis generated or the assumptions made about what is expressed within the text. During prediction, students activate prior knowledge about a topic in the text. To be able to practice this strategy, they should be able to reevaluate predictions to revise them if needed. This practice assists students in self-monitoring their comprehension. However, the prediction skill is found to be lacking in transitional college readers (Palincsar, 1986; Teele, 2004).

Questioning
The questioning strategy necessitates that students generate questions about the main idea and supporting information. Questions sometimes rely on the reader drawing inferences from the reading. The questioning strategy may improve student comprehension within the subject area. This concept is another skill in which students may be lacking (King, 1993; Millis & Cottell, 1998; Palincsar & Brown, 1984).

Clarification
The strategy of clarification requires that students identify information that may hinder or obstruct comprehension. Examples of information that can hinder comprehension include new concepts, vocabulary, and reference words. If students can identify such information, they
are able to take actions to correct their learning, such as rereading or asking for clarification from others (Palincsar & Brown, 1984). College students who struggle with college-level texts may initially not know how to utilize this strategy (Yang, 2010).

**Summarization**

The summarization technique entails students identifying the main idea and important details within the reading. A summary involves the retelling of the text in a concise way that includes important details only (Duffy, 2003; Irwin, 1991). This strategy proves challenging for students in transitional reading classes because it can be difficult to determine what information is important to keep in a summary. When students do not effectively identify and categorize important information, it can adversely affect their writing (Duffy, 2003; Jones, 1999). Concept maps may assist students in connecting ideas and relationships of concepts within the reading. Students may use this tool as an aid to create a summary, verbal or written (Hammond, 2008; Thiede et al., 2010).

When writing, students who struggle with college-level textbooks do not use key words, headings, and databases in the most effective way. Skills to address these concerns may be learned by students. They need skills such as summarization to be able to narrow down and identify key words and use headings. This ability may help students improve research skills and writing in college classes. Students may use the identification of main ideas and supporting details to create an outline for writing so that they may accurately develop a topic they are asked to write about (O’Sullivan & Dallas, 2010).

Student interaction—being able to read, write, speak, and listen to others—is especially important for transitional college readers and writers (Tatum, 2000; Vacca et al., 2011; Yang, 2010). Reciprocal teaching, as mentioned by Yang (2010), may improve comprehension by encouraging student interaction in a guided way. Using an online forum for the interactions may also assist students with correcting mechanics and grammar. Mechanics and grammar misuse is common and goes hand-in-hand with other reading and writing issues (Benjamin, Brewer, & Hebl, 2000). Mechanics and grammar issues may be pointed out by peers or the instructor, discussed, and then corrected. The instructor may scaffold the learning with regard to mechanics and grammar by asking questions or assigning tasks that may help clarify identified issues and assist students with proper usage (Benjamin et al., 2000; Gruenbaum, 2010; Palincsar & Brown, 1984).
Recommendations

The skills mentioned in this article encourage comprehension monitoring, or self-monitoring, by students (Gruenbaum, 2010; Thiede et al., 2010), as well as enhance their writing ability (O’Sullivan & Dallas, 2010). Corrective actions in reading and writing may be helpful to transitional college students as long as interventions are considered and chosen based on student needs (Boatman & Long, 2010). Activities should be crafted that allow modeling, instruction, and peer interaction based on the challenges that students encounter with text. Strategies that may assist students include those that relate to prediction, questioning, clarification, and summarization (Palincsar & Brown, 1984; Vacca et al., 2011).

It is important that instructors scaffold learning by providing clarifying questions and engaging students in activities that emphasize appropriate learning skills (Gruenbaum, 2010). By utilizing the RT method, instructors can actively model these skills and strategies by giving specific, concrete examples of good reading behaviors, research strategies, and providing examples of stellar writing (O’Sullivan & Dallas, 2010; Yang, 2010). For example, in modeling reading instructors can express their thinking aloud when reading text (Vacca et al., 2011). When modeling research strategies, they can give examples of how to generate key words or search for headings on a research topic (O’Sullivan & Dallas, 2010). When showing students examples of writing, they can create a summary from assigned readings that shows the main idea and important details of the work (Thiede et al., 2010).

Additionally, RT encourages student interaction by allowing students to lead discussions and facilitates their learning through peer feedback or peer tutoring. For example, after modeling the RT strategies, the instructor can ask a student to lead a forum using the strategies of prediction, questioning, clarification, and summarization. The instructor assigns a reading. The leading student makes a prediction after reading the title and shares this with peers. The student reads the first paragraph and confirms or disproves the prediction. The student utilizes clarification by answering a peer's question about a vocabulary word, or confirming or asking for consensus about a topic sentence within a paragraph. The student uses questioning when generating a question about the reading for peers to discuss. Finally, the leading student may create a summary by relying on topic sentences. The student then asks peers to review the draft, ask questions about the summary, and make suggestions for improvement. Meanwhile, the instructor can provide additional instruction as areas of difficulty arise in student learning during this process (Yang, 2010). Instructional interventions in reading and writing may have to target multiple strategies or processes to be effective and must be carefully considered (Johnston & Kirby, 2006).
Conclusions

Many of today's college students struggle with the skills that will help them to experience success within college and society (Bettinger & Long, 2009; Snyder, et al., 2004). To combat these issues, activities may be crafted by college instructors to improve skills that relate to reading comprehension, research, and writing (O'Sullivan & Dallas, 2010; Thiede et al., 2010; Wood et al., 1998). A technique such as Reciprocal Teaching (RT) may be utilized to enhance student comprehension and metacomprehension (Thiede et al., 2010; Yang, 2010). Furthermore, research skills and writing skills may be addressed by using the summarizing technique suggested within RT to assist students in using headings and key words, and in writing summaries (O'Sullivan & Dallas, 2010; Yang, 2010). Within the writing, grammar and mechanics may be specifically targeted by the instructor to facilitate standard use (Benjamin et al., 2000). Overall, interventions and activities must be chosen carefully based on student needs (Johnston & Kirby, 2006).

References


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