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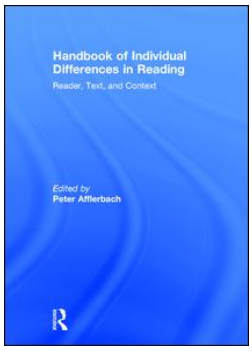

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Peter Afflerbach

Self-Efficacy, Agency, and Volition

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5

Self-Efficacy, Agency, and Volition

Student Beliefs and Reading Motivation

Dale H. Schunk and William D. Bursuck

Reading is a fundamental human skill. As children develop their reading skills, they increase their likelihood of succeeding in multiple areas of the school's curriculum. Reading extends beyond schooling; it is critical for success in careers and brings much knowledge and pleasure for persons across their life spans (Bruning, Schraw, & Norby, 2011).

Reading often is viewed as a coordinated series of cognitive-linguistic skills, such as decoding and comprehending. In recent years, however, researchers have begun to examine the role of motivation in reading because focusing only on cognitive and linguistic skills fails to account for the wide individual differences found in children's success in acquiring and applying reading skills (Guthrie & McRae, 2011).

In this chapter we review theory and research on three types of student motivational beliefs that can affect reading: self-efficacy, agency, and volition. As used in this chapter, *self-efficacy* refers to one's perceived capabilities for learning or performing actions at designated levels; *agency* is the belief that one can exert a large degree of control over important events in one's life; and *volition* refers to the belief that one can successfully implement strategies to attain important goals. As applied to reading, students' motivation is apt to be higher when they believe that they are capable of performing well, can control their success in reading, and can implement strategies that help keep them engaged.

We provide a theoretical overview of self-efficacy, agency, and volition, describing how they differ and complement one another to enhance student motivation. Next, we briefly review several theories of reading, providing the situational milieu for self-efficacy, agency, and volition. Key research studies on the roles of these three variables in reading motivation are then reviewed. The chapter concludes with a discussion of the implications of the theory and research for ongoing theory development, future research, and classroom practice related to individual differences in reading.

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Theoretical Background

Self-Efficacy

Self-efficacy is grounded in Bandura's (1986) social cognitive theory, which postulates reciprocal interactions among three sets of influences: personal (e.g., cognitions, beliefs, skills, affects), behavioral (i.e., one's actions), and social/environmental (e.g., peers, teachers, sounds, objects). The nature of these reciprocal interactions can be illustrated using self-efficacy, a personal factor. Research shows that self-efficacy influences achievement behaviors, such as task choice, effort, persistence, and use of effective learning strategies (Schunk & Pajares, 2009). In turn, these behaviors affect self-efficacy. When learners work on tasks and observe their progress, their self-efficacy for continued learning is enhanced.

The link between personal and social/environmental factors can be illustrated with students with learning disabilities, many of whom hold low self-efficacy for learning (Licht & Kistner, 1986). Those who work with such students may react to the students based on perceived common attributes, such as low skills, rather than based on their actual capabilities. Social/environmental feedback can affect self-efficacy. When teachers tell students, "I know you can do this," students may experience heightened self-efficacy due to the expressed confidence.

The link between behavioral and social/environmental factors often is seen in instructional sequences. Social/environmental factors can direct behaviors. For example, when teachers call students' attention to a display (e.g., "Look at this"), students may attend with varied deliberation. The influence of behavior on the social environment occurs when teachers ask questions and particular students' answers convey a lack of understanding. Teachers are likely to reteach the material rather than continue with the lesson.

Self-efficacy is hypothesized to influence behaviors and environments and in turn be affected by them (Bandura, 1986, 1997; Schunk, 2012). Students with high self-efficacy for learning are apt to be motivated to learn and engage in self-regulated learning by setting goals, using effective learning strategies, monitoring their comprehension, and evaluating their goal progress. Such students also are likely to create effective environments for learning, such as by eliminating or minimizing distractions and by finding effective study partners. In turn, self-efficacy can be influenced by the outcomes of behaviors such as goal progress and achievement, as well as by inputs from the environment such as feedback from teachers and social comparisons with peers.

Bandura (1997) postulated that people acquire information to gauge their self-efficacy from their performance accomplishments, vicarious experiences (i.e., verbalizations and actions by others), forms of social persuasion, and physiological indexes. One's performances provide the most reliable information for assessing self-efficacy because they are tangible indicators of one's capabilities. Successful performances raise self-efficacy whereas failures can lower it, although an occasional failure or success after many successes or failures may not have much impact.

Individuals acquire much information about their capabilities through knowledge of how others perform (Bandura, 1997). Similarity to others is a cue for gauging self-efficacy (Schunk, 2012). Observing similar others succeed can raise observers' self-efficacy and motivate them to engage in the task because they may believe that if others can succeed they can as well; however, a vicarious increase in self-efficacy can be negated by subsequent performance failure. Students who observe similar peers fail or have difficulty with a task, such as comprehending a written passage, may believe they lack the competence to succeed, which may not motivate them to attempt the task.

Individuals also develop self-efficacy from social persuasions they receive from others (Bandura, 1997), such as when a teacher tells a student, "I know you can do this."

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Social persuasions must be credible to cultivate people's beliefs in their capabilities for successfully attaining outcomes. Although positive feedback can raise self-efficacy, the increase will not endure if students subsequently perform poorly (Schunk, 2012). Conversely, negative persuasions can lower self-efficacy.

Individuals acquire self-efficacy information from physiological and emotional states such as anxiety and stress (Bandura, 1997). Strong emotional reactions to a task provide cues about anticipated success or failure. When students experience negative thoughts and fears about their capabilities such as feeling nervous thinking about reading aloud, those reactions can lower self-efficacy and trigger additional stress that contributes to the feared inadequate performance. Learners should be more efficacious when they feel less anxious about academic outcomes.

Self-efficacy can influence the choices people make and the actions they pursue (Schunk & Pajares, 2009). Individuals tend to select tasks and activities in which they feel competent and avoid those in which they do not. Unless people believe that their actions will produce the desired consequences, they have little incentive to engage in those actions.

Self-efficacy also helps determine how much effort students expend, how long they persist when confronting obstacles, and how resilient they are in the face of adversity (Schunk & Pajares, 2009). With respect to reading, students with a strong sense of self-efficacy approach reading tasks as challenges to be addressed rather than as threats to be avoided. They set challenging goals and maintain strong commitment to them, heighten and sustain their efforts in the face of difficulties, and quickly recover their sense of self-efficacy after setbacks.

Agency

The concept of agency is grounded in social cognitive theory and in self-determination theory. Social cognitive theory reflects the idea of agency because it contends that individuals seek to exert a large degree of control over the outcomes of their actions (Bandura, 1997). They hold beliefs that allow them to influence their thoughts, feelings, actions, social interactions, and aspects of their environments. Thus, students who want to improve their reading comprehension strategies may seek teachers' assistance to do so. At the same time, individuals are influenced by their actions and aspects of their social environments. Students are apt to change their behaviors in response to feedback from their teachers and coaches.

According to social cognitive theory, strategies for increasing agency can be aimed at promoting emotional, cognitive, or motivational processes, increasing behavioral competencies, or improving aspects of one's environments. Teachers are responsible for their students' learning. Using social cognitive theory as a framework, teachers can seek to improve their students' emotional states and correct their faulty beliefs and habits of thinking (personal factors) by providing feedback conveying that students have made progress in learning. Teachers also can help raise students' reading skills, strategies, and self-regulation (behaviors) through their teaching and by giving students opportunities for self-regulated practice. And teachers can alter classroom features and social interactions (social/environmental factors) by creating a positive classroom climate conducive to enhancing students' reading motivation and competencies.

Self-determination theory also stresses the concept of agency. This theory assumes that people are inherently motivated to learn and postulates that individuals have three fundamental needs: competence, autonomy, and relatedness (Ryan & Deci, 2009). The need for competence refers to people's desire to feel capable of learning and developing their talents. The need for autonomy reflects the idea of agency in that it involves the belief that one has control over one's actions and that these actions reflect one's desires. The need for relatedness denotes wanting to feel attached or connected with others.

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In this perspective, autonomy is represented as a continuum ranging from low to high. At the lower end, behavior is externally regulated; for example, doing something to earn a reward or avoid a punishment. Students at this level believe that their behaviors are externally controlled. Slightly farther along the continuum, learners still feel externally controlled although they are more active in controlling or regulating themselves to behave in a certain fashion. Subsequently they may fully accept the target behavior as their own and thus feel a sense of autonomy for acting in accordance with their values. At the next level, students accept the behavior, value it as their own, and seek to make it consistent with other aspects of their sense of self. Finally at the highest level of autonomy, learners feel intrinsically motivated and engage in actions because they find them interesting and engaging.

Thus, autonomy develops as people increasingly internalize external motivators into their value systems and believe that they are engaging in behaviors relatively free of external constraints. With respect to reading motivation, students are apt to feel more autonomous when they enjoy reading and want to read to improve their skills and learn more about the world in which they live.

Volition

The study of volition has a long history. Nineteenth-century psychologists such as William James and Wilhelm Wundt defined it as the act of using one's will (Hunt, 1993). Interest in volition was revived by contemporary psychologists who redefined it as the capability to maintain focus and effort directed toward goals, especially in the face of distractions (Corno, 1994).

Psychologists who study volition differentiate it from motivation. From a volitional perspective, motivation comprises the cognitive processes involved in planning and setting goals whereas volition comes into play once people begin their efforts toward goal implementation (Heckhausen, 1991; Kuhl, 1984, 2000). In this chapter, volition beliefs refer to learners' perceived capabilities to sustain their motivation directed toward goal attainment.

There are wide individual differences in learners' volitional efforts (Corno, 1994). Some students set goals, plan and implement strategies for accomplishing them, and make goal progress in spite of competing goals, distractions, and interruptions. Other students may be good planners but often become sidetracked from their goal plans.

The conceptual basis of volition is found in action control theory (Heckhausen & Gollwitzer, 1987; Kuhl, 1984), which construes volition as the capability to use available resources to manage one's maintenance of intentions (Corno, 1994). Volition involves self-regulation since it helps to protect goals and keep persons on track, even when it may be in individuals' best interests to change or adapt goals.

In reading, volition helps keep students engaged in tasks to accomplish their reading goals in the face of competing goals and distractions including social and emotional factors. Volition may be enhanced when learners' perceive certain conditions, such as tasks that are difficult or tedious, or the potential distractions are numerous. In these cases, students may implement strategies that they believe will help them, such as finding a conducive environment (e.g., quiet place) in which to read, setting goals for when and how long to read, and building in study breaks.

Although self-efficacy, agency, and volition have distinct meanings, they share points of overlap. In general, students who believe they are capable of reading well also are likely to believe that they can control their reading outcomes and use strategies that will help them accomplish their reading goals. In turn, successful reading should strengthen students' self-efficacy, agency, and volition beliefs. Collectively these three types of student beliefs should help students remain productively engaged in reading and continue to develop their reading skills.

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Reading

Hoover and Gough (1990) describe what they call the *simple view of reading*. In this model, reading comprehension is seen as the product of word reading and language comprehension. Word reading involves decoding, or the ability to translate written letters into spoken words. Language comprehension refers to the ability to understand linguistic information, be it oral (listening) or written (reading). According to this model, good readers have both adequate word reading and language comprehension skills. Problem readers, or those who cannot understand what they read, are of three types: adequate linguistic comprehension but inadequate decoding; adequate decoding but inadequate linguistic comprehension; and both inadequate decoding and limited linguistic comprehension (Adloff, Perfetti, & Catts, 2011).

While most reading instruction includes both decoding and comprehension instruction (Bruning et al., 2011), approaches differ in how skills within these reading areas are stressed and taught. Bottom-up processing models stress explicit, systematic instruction, in which both decoding and comprehension skills are analyzed, sequenced, and taught directly (Bursuck & Damer, 2014; Carnine, Silbert, Kameenui, & Tarver, 2010). Top-down approaches emphasize students learning by doing; students are guided (more than directly taught) as they construct rules for decoding and linguistic understandings (Fountas & Pinnell, 1996).

Both types of reading models have their strengths and drawbacks. What is clear is that skilled reading requires that learners be able to decode and comprehend. It is also clear that successful comprehension requires language/conceptual understanding and automated basic skills. Nonetheless, studies on the simple model of reading have revealed that reading is not quite that simple. Indeed, evidence suggests that a large amount of the variance in reading comprehension scores is due to factors other than decoding or language comprehension (Adloff et al., 2011). Two such factors are cognitive strategies (e.g., information processing, metacognition) and motivation (Byrnes, 1996; Guthrie & McRae, 2011; Mayer, 1999).

Information processing strategies involve top-down and bottom-up processing on the part of the learner. For example, the construction-integration model (Kintsch, 1988, 1998) postulates that readers build a text microstructure from its propositions (i.e., the smallest pieces of information that can be judged true or false). Readers link these propositions with the prior knowledge in their memories, a type of bottom-up processing. For example, with a passage about baseball readers activate their "playing baseball" schema and link new information with knowledge in the schema. At the same time, readers build a macrostructure, or the overall meaning of the text. The macrostructure is hierarchical and comprises main ideas, or higher-level propositions developed from the microstructure. Kintsch's model is highly interactive, where processes of constructing and integrating information can occur rather automatically while being integrated into a schema-driven overall text structure.

Effective metacognitive reading strategies involve the deliberate conscious control of one's mental activities (Paris, Wixson, & Palincsar, 1986). Metacognition is involved when learners set goals, evaluate goal progress, and make necessary adaptations in their strategies to ensure success. Thus, as learners develop skills they become more adept at determining their goal in reading (e.g., find main ideas, read for details), selecting a strategy that they believe will help them accomplish the goal, checking their progress while reading, and adapting their strategy if they are not being as successful as they should be.

Most traditional and current models of reading, including the simple view of reading and the construction-integration model described herein, do not emphasize motivational aspects such as self-efficacy, agency, and volition. A model of reading comprehension that does include motivational variables was proposed by the RAND Reading Study Group (2002).

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In this model, comprehension entails three elements—the reader, text, and activity—that occur within a larger sociocultural context that affects and is affected by the reader and that interacts with each element.

Readers bring individual competencies to reading, which include differences in cognitive competencies (e.g., attention, memory), knowledge (e.g., vocabulary, topic knowledge), and motivational beliefs (e.g., self-efficacy, goals). While engaged in reading, readers' competencies may change and especially as a result of instruction. Motivational factors can change in a positive or negative way, depending on readers' successes and perceived progress in reading.

Features of the text affect comprehension. These features include the surface code (exact wording), text base (idea units denoting meaning), and a cognitive representation of the mental models in the text. The difficulty of the text also can affect the relationship between text and reader as more difficult texts will be tougher to comprehend. Students may or may not be motivated to read difficult text, depending on their skills and reading experience.

The activity refers to the purpose for reading such as learning material for a test or reading for enjoyment. The purpose can be affected by motivational variables such as interest and self-efficacy. Readers also may have more than one purpose in reading, such as learning material for a test and advancing one's understanding of a topic. Consequences of reading are part of the activity and may include increased knowledge, applications, or enjoyment, all of which may motivate readers to read more.

Reader, text, and activity are dynamically related across the phases of reading: pre-reading, reading, and post-reading. They also occur within a larger sociocultural context. In schooling, contexts include classrooms and schools, but children's capacities are influenced by factors outside of schools such as their experiences in homes and communities. There are wide individual differences in the experiences children have outside and inside schools. For example, those from higher socioeconomic families will have greater access to resources that can influence reading, as will those who attend better-funded schools. A host of contextual and sociocultural factors can influence how reading is taught, the resources available, and the content of reading materials, all of which affect the development of children's reading skills and motivation.

Motivationally Relevant Reading Research

This section discusses some representative reading research studies in which the motivation constructs of self-efficacy, agency, and volition were explored. Although separate sub-headings are used, the studies show some overlap in the constructs, given their close relationship.

Self-Efficacy

Schunk and Rice (1985, 1987, 1992, 1993) conducted a series of studies that investigated how teaching children to use reading comprehension strategies influenced their self-efficacy, comprehension skill, and other achievement outcomes. The participants in these studies were elementary schoolchildren with reading disabilities. In one study (Schunk & Rice, 1985), children in grades 4 to 5 were pretested on self-efficacy and comprehension. They then received instruction and practice in reading comprehension strategies over 20 sessions. For the instruction, an adult verbalized and applied a six-step comprehension strategy to sample stories: What do I have to do? (1) Read the question, (2) Read the story, and (3) Look for key words. (4) Reread each question, and (5) Answer that question. (6) Reread the story if I don't know the answer. After the teacher modeled and demonstrated the strategy, children in the strategy verbalization condition verbalized aloud the strategies prior to applying them to stories, whereas children in the no

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strategy verbalization condition did not verbalize the strategies aloud prior to applying them. Children received a post-test following the last instructional session.

The results showed that children who had verbalized the strategies aloud demonstrated higher comprehension self-efficacy and achievement compared with children who had not verbalized aloud. These results suggest that verbalizing aloud the strategies may have created in children a sense of personal agency that they could control their reading outcomes, which can raise self-efficacy and performance. Such strategy verbalization also can help focus and maintain children's attention on important task aspects, and verbalization, as a form of rehearsal, can promote strategy encoding and retention and thus facilitate subsequent use.

A similar procedure was employed by Schunk and Rice (1992). In the first study, children were assigned to one of three conditions: strategy verbalization, strategy verbalization plus strategy value feedback, instructional control. The strategy value feedback consisted of the teacher periodically attributing individual children's success in comprehension to their use of the strategy's steps (e.g., "You got it right because you followed the steps in the right order"). Children in the instructional control condition received reading comprehension instruction and practice but were not taught the strategy. A post-test followed the instructional sessions, and a maintenance test was given six weeks later.

The results showed that on the post-test and maintenance test, strategy value feedback children demonstrated higher self-efficacy and achievement than did children in the other two conditions. Providing strategy value feedback is likely to boost children's perception of control over their reading outcomes. The feedback linked children's success to use of the strategy, which should help build their self-efficacy and maintain use of the strategy, as suggested by the maintenance test results.

In the second study, children received ten instructional sessions on finding main ideas followed by ten sessions on locating details. The five-step strategy taught for finding main ideas had as one of the steps, "Think about what the details have in common and what would make a good title." It was modified for use with details by replacing this step with, "Look for key words." Children in the strategy modification condition were taught to modify the strategy for use with details by making this step substitution. Children assigned to the strategy instruction and the instructional control conditions received instruction on locating details during the second half of the training program but they were not taught to modify the strategy.

The results showed that strategy modification students judged self-efficacy higher and demonstrated higher achievement than did students in the other two conditions on the post-test and maintenance test. During the skill post-test and maintenance assessment, children verbalized aloud as they read and answered questions. Strategy modification students verbalized more strategic steps than did children in the other two conditions.

The superiority of the strategy modification condition suggests that it gave children a sense of greater control over their reading outcomes. Children who understand how to use a strategy and modify it for use on different tasks are apt to feel in control of outcomes, which can raise their self-efficacy and motivate them to perform better. Instructing them how to modify it is helpful, because they may not automatically maintain its use or modify it to fit other tasks.

Agency

The Concept-Oriented Reading Instruction (CORI) program is designed to enhance students' sense of agency involving their reading success (Guthrie, Wigfield, & Perencevich, 2004). The CORI program combines multiple cognitive strategies with motivational practices, and is

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grounded in research showing that: (1) strategy training can increase students' reading comprehension (National Reading Panel, 2000), and (2) motivational components help raise students' engagement in reading (Guthrie & Wigfield, 2000).

CORI includes instruction in the following cognitive strategies designed to improve reading comprehension: activating background knowledge, questioning, searching for information, summarizing, organizing graphically, and identifying story structure. The motivational components emphasized are: using content goals, providing hands-on activities, affording students choices, using interesting texts, and promoting collaboration. The cognitive strategy and motivational components collectively can raise students' sense of agency because these components help students learn ways to read successfully while actively engaged in contexts that allow them choices and interactions (Guthrie, Wigfield, & VonSecker, 2000).

Guthrie, Wigfield, Barbosa et al. (2004) implemented the CORI program with third graders who were assigned to either a CORI or strategy instruction condition. The program ran for 12 weeks, 90 minutes per day. The reading comprehension context was science (ecology in life science). Within CORI, each of the six strategy instruction components was taught for one week and then for the next six weeks strategies were systematically integrated with one another. Strategy instruction included teacher modeling with scaffolding provided according to students' needs, along with student practice, practices consistent with those described by the National Reading Panel (2000).

The five CORI motivational components were addressed as follows. Content goals were incorporated in science instruction, which helped to motivate students because the goals for learning were directly linked with content they were to learn. Students were given choices about which birds or animals to study in depth and which books to read on the topic. The unit included many hands-on experiences such as experiments and in-depth investigations. Trade books were used to promote interest in the texts. Collaboration was evident in several activities including students' discussing issues and questions with others and sharing information and texts.

In the strategy instruction only condition, teachers taught the same content in the same fashion but without the preceding motivational components. However, some motivational aspects were present as teachers used a variety of instructional practices and addressed students' self-efficacy by helping them gain proficiency in using comprehension strategies.

Students were pretested and post-tested on various cognitive and motivational variables. The results showed that compared with the strategy instruction group, CORI led to higher comprehension, strategy use, and motivation. In a second study, a third group was included (traditional instruction), in which students received regular reading instruction differentiated to individual needs. The post-test results showed that CORI students demonstrated higher reading comprehension performance than students in the other two conditions and also surpassed the strategy instruction students in reading motivation.

Taken together, these results show that successful reading requires more than teaching children to use effective strategies. The motivational aspects are postulated to enhance children's reading engagement, which should promote better comprehension. The motivational components, as a group, are designed to facilitate children developing a sense of agency that they can control their reading outcomes.

Volition

Self-Regulated Strategy Development (SRSD) is an instructional approach that combines strategy instruction with motivational components (Harris, Graham, & Santangelo, 2013). The strategy

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instruction is designed to enhance students' self-regulation as they engage in reading comprehension. It also addresses volition because students learn a strategy that helps them stay focussed on the task and become increasingly independent readers. Students who believe they understand and can successfully apply a strategy that improves their comprehension are apt to feel a sense of agency that they can control their reading outcomes, as well as a heightened sense of self-efficacy, both of which help keep them motivated to engage in the task.

Although SRSD has been applied primarily to writing (Harris, Graham, & Mason, 2006), Mason (2004) adapted and applied the approach to reading comprehension with struggling readers. Students received instruction and practice in an SRSD instructional strategy, *TWA*: *T*hink before reading, think *W*hile reading, think *A*fter reading. Other students received a comparison instructional strategy known as reciprocal questioning (RQ), in which students learn how to develop and answer questions about text.

Students were tested before and after instruction, as well as three weeks following instruction to gauge maintenance. Measures assessed reading comprehension, motivation, self-efficacy, and perceived effectiveness of TWA and RQ. For both instructional conditions, students received collaborative and scaffolded instruction in six stages for strategy acquisition: pre-skill development, discuss the strategy, model the strategy, memorize the strategy, guided practice, independent practice. Initially students practiced the strategy collaboratively with the instructor who applied the strategy to science and social studies topics. Students then practiced in pairs until independent practice was achieved, and then received instruction as needed until they could individually produce main idea summaries, or retell or ask or answer questions suitably.

Each TWA phase included three steps: think before reading (think about the author's purpose, what you know, what you want to learn), think while reading (think about reading speed, linking knowledge, rereading parts), and think after reading (think about the main idea, summarizing information, what you learned). Students received between 11 and 15 instructional sessions. The instructor verbalized and modeled application of each of the nine steps in the TWA strategy. The instructor ensured that students learned the steps in the strategy and then read a passage to the students while modeling the strategy before, during, and after reading. Students and teachers worked collaboratively applying the strategy to passages, after which students worked in pairs. While working together students self-monitored their performance with a strategy checklist and self-recorded their performance. Lessons were continued until each student demonstrated independence in using the strategy.

TWA reflected the SRSD program goal of providing students with strategies for self-regulating their performances. This program enhances volition beliefs because the strategies help to prevent students from being distracted from their goal of successful comprehension before, during, and after reading. This program also can raise self-efficacy and agency; students who successfully apply the strategy feel more in control of their comprehension outcomes and efficacious about being successful.

The RQ treatment provided students with examples of good types of comprehension questions to ask. Although the teacher modeled the use of this treatment, the teacher did not model the self-instructions contained in TWA. The format of RQ instructional sessions was otherwise similar to that of TWA sessions.

The results showed that on measures of oral reading comprehension, TWA students outperformed RQ students. There were, however, no significant differences between groups on measures of written reading comprehension or motivation measures (self-efficacy, intrinsic motivation). On the post-test, there was evidence that about half of the TWA students used parts or all of the strategy, although fewer displayed maintenance on the follow-up test.

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Implications for Theory Development, Research, and Practice

The preceding sections support the idea that self-efficacy, agency, and volition are key motivational variables that can affect students' reading engagement and skill development. Although we have distinguished these three variables, they are interlinked. Students who feel efficacious about learning and performing well in reading also are apt to believe that they can exert a large degree of control over their reading outcomes and that they can effectively deploy methods to keep themselves productively engaged and goal directed. In turn, successful reading can strengthen students' self-efficacy, agency, and volition beliefs and motivate them to stay engaged.

Theory and research suggest some implications for theory development, research, and educational practice. Given the importance of these student beliefs for reading, we recommend that theories of reading acquisition incorporate motivational beliefs and explain how they interact with cognitive variables to affect students' reading engagement and skill development. The RAND Reading Study Group (2002) paradigm for reading comprehension offers a model for theoretical development, because student motivational beliefs constitute a core aspect of variables associated with the reader. Information processing theories of learning have increasingly incorporated motivational variables (e.g., Winne & Hadwin, 2008), and we recommend that theories of reading follow suit.

With respect to research, we recommend that researchers investigate how students' motivational beliefs operate with learners at different age and developmental levels. All of the interventions described herein were done with elementary-age students. More research needs to be conducted with middle and high school students, who face reading demands much different from those of younger students and whose issues related to self-efficacy may be increasingly pronounced (Slavin, Cheung, Groff, & Lake, 2008).

There are also wide individual differences in students' acquisition of reading skills with corresponding variability in their motivational beliefs. Struggling readers have qualitatively and quantitatively different skill sets than do proficient readers, and the frequent difficulties they experience are apt to result in less-adaptive self-efficacy, agency, and volitional beliefs. For example, students who struggle mainly with decoding may display different motivational beliefs than students who can decode but have language deficiencies. Both of these groups may, in turn, differ from students experiencing problems in both areas. Regardless, to develop reading skills among struggling readers requires addressing both cognitive and motivational factors. Researchers might investigate how well changes in cognitive and motivational factors correspond with one another. For example, as struggling readers develop skills, their past difficulties may outweigh their present successes and lead to them continuing to hold less adaptive beliefs. Thus, motivational and cognitive influences can be tailored to individual differences among students as they gain competency.

A final recommendation is that practitioners ensure that reading instruction helps to build students' beliefs about their learning capabilities, control over reading, and capabilities to keep themselves productively engaged in reading. Successful reading instruction will serve to teach students skills and strategies and give them opportunities to practice and refine them. As students apply skills and strategies and observe their learning progress, their self-efficacy for continued learning is strengthened, along with their agency and volition beliefs.

Teachers may be tempted to assist students so that they can be successful. Assistance often is necessary in the early stages of learning as teachers provide corrective instruction, scaffolding, and feedback. But success gained with much help does not build strong self-efficacy, agency, or volition beliefs, because students are likely to attribute their success to the help they

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have received. Allowing students to succeed on their own exerts stronger effects on motivational outcomes. While teacher supports are necessary for initial skill acquisition, research on reciprocal teaching shows that the most robust increases in reading comprehension occur when teachers gradually reduce their level of support (Englert & Mariage, 1991; Palincsar & Brown, 1984).

In line with this suggestion we recommend that instruction be individualized as much as possible. Students do not learn in the same way or at the same rate. When assignments are not individualized, some students will succeed but others will have difficulty. When those in the latter group socially compare their performances to those of students who have done well, they are apt to doubt their capabilities for learning. Individualizing instruction minimizes opportunities for social comparisons. Teachers can point out to individual students the progress they have made in learning (e.g., "See how much better you're doing on these now?"), and the perception of progress by learners helps to strengthen their self-efficacy, agency, and volition beliefs.

Conclusion

Self-efficacy, agency, and volition beliefs contribute importantly to students' learning and academic success. Reading research has identified programs that successfully help build students' skills and motivational beliefs. Further theory development and research will clarify how individual differences in cognitive and motivational variables interact to produce successful reading. Educators should take into account the potential effects of instructional conditions not only on students' reading skills and strategies but also on their individual differences in self-efficacy, agency, and volition beliefs. Enhancing these beliefs among students should improve their motivation and learning and produce classrooms that are more enjoyable to learn in.

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