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Nurturing Self-Regulated Learners: Teacher, Peer, and Parental Support of Strategy Instruction

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Abstract
Current educational needs call for learners who are self-directed and able to engage in problem solving and higher order thinking. However, most students are not getting explicit and systematic instruction to promote development of learning strategies that can advance these goals. Educators need to cultivate strategy instruction techniques that facilitate students’ acquisition of learning strategies and consider how structured opportunities for teacher scaffolding, peer collaboration, and parental involvement can further this effort.

Key words: contexts of learning, elementary education, instruction, learning strategies, parent involvement, peer-mediated learning, self-regulated learning, strategy instruction, teacher education/certification.

Current calls for educational reform and teacher accountability are examining how we can best prepare students to be effective learners and to be successful in both their academic experiences and professional careers. The recent development of the Common Core State Standards was motivated by the desire for schools to strive to prepare students who are college- and career-ready by the end of high school, and the effort included a broader goal of developing students who are independent and self-regulated learners who can effectively seek out resources and individuals to assist their learning (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). “Our complex and rapidly changing world creates a need for self-initiated and self-managed learning,” and “knowing how to manage one’s own learning activities has become, in short, an important
survival tool” (Bjork, Dunlosky, & Kornell, 2013, p. 418). The endeavor to promote such skills is seen as a collective effort that includes educators and parents contributing to support students’ learning needs. Following this line of thinking, educators might adopt goals for the school community that expect every student to become a self-directed learner, and educational programs as a whole can provide students with opportunities to develop and use critical-thinking and problem-solving skills (Redding, 2011; Sadi & Uyar, 2013).

The Case for Learning Strategy Instruction

The use of student-mediated learning strategies has been identified as an important evidence-based practice that contributes to students’ engagement and motivation (Gettinger & Walter, 2012). Students who have acquired effective study skills see themselves as being in control of their academic performance and are motivated to devote effort and attention to studying (Gettinger & Seibert, 2002). Students’ abilities and skills do not fully explain academic achievement; self-regulated learning is seen as a variable to help account for achievement differences and as a means to enhance student academic performance (Schunk & Zimmerman, 2008). Self-regulated learning is defined as self-generated thoughts, feelings, and actions for attaining academic goals (Zimmerman, 2002). Self-regulated learners are aware of their strengths and limitations, set realistic task goals for their learning, use effective task-related strategies, self-monitor, adjust strategy usage as necessary, feel a sense of self-efficacy about using strategies, have control over debilitating thoughts and anxiety, and are more likely to succeed academically (Martinez-Pons, 2002; Metallidou, 2012; Sadi & Uyar, 2013; Schunk, 2012; Zimmerman, 2002). Self-regulated learning skills are also consistent with the 21st-century competencies that have emerged out of efforts for educational reform to better prepare students for the workplace and life in general (Wolters, 2010). Students of all ages, even as young as elementary school, can acquire strategic competence and self-regulation strategies and show the expected gains to academic performance and motivation (Dignath, Buettner, & Langfeldt, 2008; Fuchs & Fuchs, 2005; Paris & Paris, 2001; Perry, VandeKamp, Mercer, & Nordby, 2002; Sadi & Uyar, 2013; Zimmerman, 1998).

Unfortunately, “many educators and most students remain relatively unfamiliar with the content of effective study and learning” (Howell & Schumann, 2010, p. 246). This places even capable students in situations where at best they are not maximizing learning outcomes, or at worst they risk academic failure. Despite a wealth of research revealing the achievement and motivational benefits of helping students to become self-regulated learners (including the development of motivational, metacognitive, and cognitive strategies such as repetition and elaboration, or organizational strategies), the application of this knowledge into systematic programs of strategy instruction by teachers is curiously infrequent (Dignath et al., 2008; Zimmerman, 2002). Teachers may be relying on more implicit strategy instruction (e.g., modeling strategies but leaving students to draw inferences regarding the usefulness to their own learning), rather than explicit instruction that results in maintenance and transfer to appropriate settings (Kistner et al., 2010).

Compounding the problem is the fact that many students simply do not learn strategies automatically or seem able to “pick up their correct use” (Howell & Schumann, 2010, p. 247). Or, while they may pick up basic learning strategies, they do not become versed in higher order strategies.
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Powerful and sophisticated learning strategies and study skills are seldom taught directly until high school or even college, so students have little practice with these powerful strategies. In contrast, early on students usually discover repetition and rote learning on their own, so they have extensive practice with these strategies. And, unfortunately, some teachers think that memorizing is learning (Beghetto, 2008; Woolfolk Hoy & Murphy, 2001). This may explain why many students cling to flash cards and memorizing—they don’t know what else to do to learn (Willoughby, Porter, Belsito, & Yearsley, 1999). (Woolfolk, 2013, p. 321)

While some students may learn to study effectively on their own, most students will not become proficient at studying without organized instruction and guided opportunities for practice (Gettinger & Seibert, 2002). Even incoming college freshmen struggle with metacognition skills and the ability to modify their learning strategies to be successful, and students are rarely tested on whether they have the learning skills and practices in place to effectively learn in higher education (Bjork et al., 2013; Nordell, 2009). College students may not view self-testing (rehearsal or retrieval strategies) as an important practice that will promote learning when studying; instead, students rely on rereading notes or their textbooks (Karpicke, Butler, & Roediger, 2009). Therefore, students may become vulnerable to the illusion of competence and the belief that they have grasped the material better than they actually have (Bjork et al., 2013; Karpicke et al., 2009).

This apparent gap in translating research on the benefits of strategy instruction into classroom practice should lead us to reflect on how we are preparing children to become effective learners. One of the areas of early development and learning that contributes to school readiness, as identified by the National Education Goal One Technical Planning Group, is that of students’ approaches to learning (i.e., their dispositions and styles that influence how they engage in learning activity). A corollary is that when it comes to preparing children for school, how children learn is therefore as important as what they are learning (Chen, Masur, & McNamee, 2011). However, this contrasts with the overwhelming assumption in our educational system that what is important is delivering content rather than teaching students how to study it (Bjork et al., 2013). As educators, we need to look beyond a mere focus on basic skills and cultivate higher cognitive processes that include learning strategies and metacognitive behavior (Creemers, Kyriakides, & Antoniou, 2013).

One of the recommendations in a recent study on the use of learning strategies in the classroom was that teachers be educated in the effective use of learning strategies prior to delivering strategy instruction to students in the classroom (Sadi & Uyar, 2013). Teachers must learn to teach in ways that develop the higher order thinking and performance necessary for students’ success, and school districts must find more effective professional development opportunities that will enhance teaching and learning (Casale & Jasparro, 2011). Now more than ever, it is important that educators create learning opportunities aligned with what we know about effective strategy instruction. In this article we draw upon diverse contexts of learning to present teaching suggestions that will encourage students’ mastery of learning strategies and their capacity for self-regulated learning.
Contexts for Effective Strategy Instruction

Effective teacher-led instruction is undoubtedly a critical component to helping students master learning strategy usage. Yet some research findings indicate that students’ self-regulated learning is evolving through more informal channels that take into account students’ network of social support, including peer-assisted learning, peer discussions outside of class, and parental guidance and support (Jones, Estell, & Alexander, 2008; Martin, 2005; Zimmerman, 1998). Martin (2005) found that by high school, students turned to modeling of their teachers, parents, or peers to acquire learning strategies (and tended to turn to family or friends when they did ask for help concerning strategies), or they developed strategies on their own via trial and error. Martin found that students rarely reported witnessing teachers’ direct instruction in the use of learning strategies.

This article seeks to elaborate on this notion that students’ academic learning strategies can be bolstered across diverse learning contexts. Learning strategies (such as classifying, organizing, and summarizing learning) and self-regulation skills (such as goal setting and self-evaluation) can be learned via teacher, peer, and parental modeling; verbal tuition; corrective feedback; peer teaching; and cooperative learning (Brown, 1997; Paris & Paris, 2001; Zimmerman, 1998, 2002).

Teacher Modeling and Scaffolding

For young children to progress to higher degrees of strategic skill, they will frequently need feedback and guidance in the form of verbal tuition or encouragement to replicate the behavior of a model (Martinez-Pons, 2002). Without such guidance, students that are either struggling or are newly introduced to an academic subject area would be at a loss when it comes to school tasks and homework assignments. As early as kindergarten, educators can begin teaching students strategies that assist them in becoming self-regulated learners and scaffolding students’ attempts until they are ready to independently handle a task in reading, writing, or mathematics (Brabham & Lynch-Brown, 2002; Glaser & Brunstein, 2007). With such instruction, children will be more likely to generalize school learning to other situations. The following sections focus on research that uses elements of both strategy and self-regulated learning instruction to help students in each of these three subject area domains.

Reading. It has long been known that strategy instruction can improve student outcomes in the areas of reading (Berkeley, Mastropieri, & Scruggs, 2011; Brabham & Lynch-Brown, 2002; Mason, 2004; Ness, 2011; Souvignier & Mokhlesgerami, 2006; Spörer, Brunstein, & Kieschke, 2009). Reciprocal teaching is a metacognitive strategy designed to encourage active participation in lessons and improve student text comprehension (Palincsar & Brown, 1987). In small groups, a dialogue leader holds a discussion about what the group has just read and scaffolds the students in the group via four teaching strategies: summarizing, questioning, clarifying, and predicting. Students who have been taught these reading strategies attain higher scores in reading comprehension than those students who did not receive the instruction, particularly when they have the opportunity to practice reciprocal teaching in small groups (Spörer et al., 2009). In fact, self-regulated learning can be a powerful framework for enhancing students’ reading comprehension, especially when strategy instruction is combined with both cognitive and motivational aspects of self-regulation that help them...
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direct their own learning and develop the motivational and emotional control to initiate and sustain learning tasks (Souvignier & Mokhlesgerami, 2006).

Research supports combining reading strategy instruction with self-regulated strategy development, particularly for students who have been identified as struggling readers and who are behind their peers in reading ability. Teachers can help struggling readers to significantly improve on reading comprehension measures by combining self-regulation strategies (e.g., self-instructions, goal setting, self-monitoring, and self-reinforcement) with an additional reading comprehension strategy such as TWA: think before reading, think while reading, and think after reading (Mason, 2004). “Thinking before reading” reminds students to think about the author’s purpose, what they know, and what students hope to learn. “Thinking while reading” reminds students to think about their reading speed, linking knowledge, and the importance of rereading. “Thinking after reading” reminds students to stop and reflect on the main idea, summarize information, and reflect on what they have learned. Teachers use cognitive modeling by talking out the thought processes of strategy implementation throughout instruction.

According to Ness (2011), teachers’ strategy instruction in Grades 1–5 varies depending on the type of comprehension strategy, with some types of strategies being taught more than others. For example, asking questions as a way to improve comprehension was favored by teachers, although when it came to instructing on a strategy, predicting or activating prior knowledge was the strategy that was taught the most, followed by summarization, vocabulary, text structure, visual representation, comprehension monitoring, and question generating. Because teachers use a variety of comprehension strategies, it is important that teachers practice instructing students in a variety of learning strategies.

Writing. Glaser and Brunstein (2007) demonstrated that fourth graders who were taught self-regulation strategies (self-monitoring, self-assessment, and goal setting) for planning and writing stories in addition to cognitive modeling and guided practice were able to plan, write, and revise a story better than the students who had not received the self-regulation and cognitive modeling strategies. This study shows the importance of not only teaching students a strategy for writing but also teaching it in conjunction with a self-regulation approach to allow students to gain the most benefit from their strategy instruction.

Harris, Graham, and Mason (2006) showed how a self-regulation strategy improved second graders’ writing development. Students who were taught a self-regulation strategy (SRSD, for self-regulated strategy development on setting goals, instructing, monitoring, and reinforcing themselves) in addition to a planning strategy (nicknamed POW, for picking ideas, organization, and writing) showed great improvement in their writing of stories. Teachers systematically taught strategies to students, used modeling while “talking out loud” about how to apply the strategies, and scaffolded instruction so that responsibility for strategy use gradually shifted from instructor to students. The authors also showed that placing students in peer-assisted groups, in which students were paired with a peer to act as partners in applying the strategies learned, and generalizing strategies to other class situations also improved students’ writing of stories.
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Mathematics. Self-regulation strategy instruction can also be useful when teaching mathematics (Stoeger & Ziegler, 2005). Gifted fourth-grade students who were identified as underachieving in math were instructed in the self-regulated strategy that was developed by Zimmerman, Bonner, and Kovach (1996, as cited in Stoeger & Ziegler, 2005), in which the students are directed to recount their own learning behaviors with regard to study time and study habits while at home, and then to predict their performance on both homework assignments and a math quiz. The students later compared their predictions with their results on these tasks. Teachers provided hints as to how their homework strategies could be improved and distributed reading material that contained tips on how students could organize their study environment, manage their study time, and handle any distractions to their learning. The treatment group demonstrated increases in time-management skills, self-reflection, and self-efficacy, while demonstrating a decrease in helplessness.

Keklik and Keklik (2013) conducted a study of how high school students’ use of learning strategies affected their achievement in their mathematics courses. The authors surveyed high school students using the Motivated Strategies for Learning Questionnaire (MSLQ), a self-report instrument designed to measure students’ use of different learning strategies. Results of this study showed that learning strategies (such as rehearsal, elaboration, organization, critical thinking, and metacognitive self-regulation) as well as resource management strategies (time, study environment, and peer learning) significantly predicted students’ mathematics achievement. However, findings also showed a difference according to grade level in how learning strategies predicted students’ math achievement levels, with motivation and learning strategies predicting math achievement for 10th- and 11th-grade students in particular.

Peer Collaboration

Positive relationships with peers can also lead to the development of academic competencies through the sharing of advice and modeling of relevant behavior (Wentzel, 2005). It may be that some students feel more comfortable turning to their peers for clarification and advice on helpful learning strategies. Even children in kindergarten and the early elementary grades can acquire academic learning strategies and self-regulated learning skills with respect to reading, writing, and math instruction supported in peer learning contexts (Fuchs & Fuchs, 2005; Fuchs, Fuchs, Yazdian, & Powell, 2002; Harris et al., 2006).

Fuchs, Fuchs, and colleagues (Fuchs & Fuchs, 2005; Fuchs et al., 2002; Rafdal, McMaster, McConnell, Fuchs, & Fuchs, 2011) have discussed how peer-mediated instruction allows teachers to meet the academic needs of a broad range of early elementary students in terms of enhancing reading fluency and comprehension as well as mathematical concepts and procedures. During activities that incorporate Peer-Assisted Learning Strategies (PALS), children work together in pairs to support one another’s use of effective reading (e.g., practicing decoding and phonological awareness) and math strategies (e.g., recognizing numerals, ordering numerals in sequence, and addition and subtraction strategies). While the stronger performing student coaches first, students do switch roles. PALS is highly effective in improving students’ academic outcomes because of the level of active task engagement and the opportunity for immediate feedback. During peer-mediated learning activities, children express opposing perspectives, explain and justify positions, seek new
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information, and adopt new frameworks. What is truly powerful about PALS is that teachers find this method to be effective, feasible, and beneficial to students across the achievement continuum (Fuchs et al., 2002).

Fostering Communities of Learners (FCL), another peer-mediated program, builds on young children’s emergent strategic competence and metacognitive awareness and helps them develop flexible learning strategies of wide applicability (Brown, 1997). Students engage in independent and group research on one aspect of a classroom topic of inquiry. Within a reflective learning environment, students can learn individual strategies like questioning, clarifying, and summarizing to monitor their learning. While an adult teacher or older student might initially lead during group activity, the group gradually assumes responsibility for their learning activity. Through their experiences with adult and peer models, students internalize thinking, planning, and reflective strategies to enhance their learning and understanding. The development of self-regulated learning strategies is supported by FCL learning environments where students are immersed in a culture of conducting research, collaboration, and scientific communication (Beishuizen, 2008). Important ingredients of FCL learning environments include opportunities for purposeful learning that incorporate agency and an awareness of one’s own strategies, collaboration, learning environments that speak to a range of potential in the classroom and that allow students to develop individual areas of expertise, and students’ reflection on their learning (Brown, 2004; McGrath, 2003). “The FCL programme, historically and intentionally, is a metacognitive environment” (Brown, 2004, p. 80). Over time, engaging students in constructive discussion, questioning, and criticism allows those processes to become internalized as self-reflective practices that enhance students’ expanding perspectives on learning.

Cooperative learning refers to an instructional method in which students work in small groups to help one another learn (Slavin, 1995) and accomplish shared learning goals (Johnson & Johnson, 1995). Research using cooperative or peer-mediated learning has shown this method can benefit students’ higher level reasoning, critical-thinking and problem-solving skills, and metacognitive and self-regulated learning strategies (Harris et al., 2006; Johnson, Johnson, & Smith, 1995; Kistner et al., 2010; Vermette, 1998). Collaboration within a community of learners provides an opportunity for students to implement strategies even as they observe how their peers approach the task. Essentially, this collaboration creates opportunities for peer scaffolding that afford students instrumental support in developing self-regulated strategies (Perry et al., 2002). Students compare their learning strategies against those of their peers, and they increase their metacognitive awareness of different ways of learning. Through peer support, students learn to identify how and when strategies should be employed, help one another apply appropriate strategies, and evaluate the effectiveness of their progress (Harris et al., 2006). When students in groups think aloud, model learning and problem-solving strategies, and challenge one another’s current ways of thinking, students develop better strategy use, self-regulated learning abilities, and metacognitive awareness (Paris & Paris, 2001; Paris & Winograd, 1990).

Unfortunately, higher level cognitive processing does not always happen on its own without teachers providing guidance and structure to peer learning activities (King, 2002). However, research has demonstrated that certain peer-mediated learning activities may
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demand higher level cognitive processing and self-regulated learning (King, 2002; Paris & Paris, 2001). For example, teachers can pose open-ended tasks to prompt students to solve problems with several possible solutions; encourage student engagement by incorporating student choice, challenging learning goals, and opportunities for peer collaboration; assign activities that call for students to go beyond material presented and build new knowledge; and cultivate peer tutoring experiences in which strategy use becomes observable as students exchange ideas and perspectives, generate thought-provoking questions, and share explanations and hypotheses.

What has also been emphasized is the importance of explicitly teaching and modeling learning strategies, including strategic cognitive and metacognitive questioning, so children can engage in high-level discourse during cooperative learning activities (Gillies & Boyle, 2006; Gillies & Haynes, 2011; King, 2002). Children can learn new ways of thinking by modeling their teachers, which will influence the types of strategies they employ during group discussions. By teaching students to ask a series of questions that are designed to promote higher level thinking—that is, questions that require them to review material, compare and contrast concepts, or to self-monitor understanding—educators scaffold students’ higher level thinking and ultimately help students make meaningful connections during learning. Probing students’ explanations when intervening with small groups may help students clarify ambiguous explanations, make steps explicit in their problem-solving procedures, correct misconceptions, and utilize more effective strategies (Webb et al., 2009). As students continually reflect on their thinking, it will promote metacognitive awareness and improve their learning (King, 2002).

High-achieving children also profit from peer-mediated instruction, perhaps because the activity requires students to elaborate upon material as they construct explanations for their peers (Fuchs et al., 2002). Explaining to others assists learning by encouraging students to reorganize and clarify material, strengthen metacognitive awareness as they fill in gaps to their understanding, acquire new strategies, and develop new perspectives (Webb et al., 2009). As the learning relationship develops during peer tutoring, both students become better able to monitor and regulate the effectiveness of their learning strategies across contexts (Topping, 2005).

Parental Involvement

Whether it is learning to tie their shoes or throw a ball, children learn through modeling and imitation of their parents. The same modeling process is at work when parents sit down to help their children complete homework and other academic projects. Children’s self-regulatory and study skills are strengthened when parents model, encourage, and support such behavior (Martinez-Pons, 2002; Patall, Cooper, & Robinson, 2008; Pino-Pasternak & Whitebread, 2010; Zimmerman, 1998), and parent involvement has been positively linked to students’ self-regulated learning strategies (Cheung & Pomerantz, 2011, 2012).

Homework assignments are a perfect opportunity for students to practice self-regulated learning skills because they give students a chance to exercise personal control over their learning (Ramdass & Zimmerman, 2011; Van Voorhis, 2011; Zimmerman, 1998). In contrast to the more teacher-directed activity of the classroom, homework may assist students in
developing self-regulation, which is essential for students learning to manage their behaviors to reach academic goals. Parental autonomy support—or the extent to which parents value and use strategies that encourage students’ independent problem solving and self-determination—is associated with academic motivation and self-regulated learning (Sha, Looi, Chen, Sewo, & Wong, 2012). This finding is in line with other research that has shown that while homework activity encourages self-regulated learning, parental oversight that is overcontrolling may hinder students’ self-regulated learning (Bembenutty, 2011; Xu, Kushner Benson, Mudrey-Camino, & Steiner, 2010). It is very important that parental behaviors do not inhibit the very self-regulatory behaviors homework activity is designed to cultivate.

Instead, parents can encourage children’s self-reliance and problem solving. When a parent shares task-related skills with their children, children show improved performance, demonstrate sophisticated strategies and study activities, and evince better metacognitive understanding of tasks (Werdeneschlag, Hernandez, & Moely, 1993). Adaptive thinking dispositions are learned when children pay attention to how their parents display persistence, intellectual curiosity, and flexibility when solving problems (Jeffrey, 2007). In particular, parents can promote children’s metacognitive awareness by helping them to become reflective thinkers as they undertake academic tasks. For instance, parents can pose questions that ask children to reflect on the steps they need to undertake, what information is necessary to complete the task, and what resources are available.

Ultimately, parents will be more willing to be involved in encouraging students’ self-regulated learning if teachers communicate with parents the benefits of self-regulated learning skills for their children as well as share some proven learning strategies (Zimmerman et al., 1996). Parents can be encouraged to help develop and reinforce students’ self-regulated learning while they offer assistance with homework or long-term projects. “Parental support for their children’s academic self-regulatory development is essential for the youngster’s valuing and internalization of these skills” (Zimmerman et al., 1996, p. 135). By involving parents, teachers are setting the stage for another opportunity for social modeling and mediation of students’ self-regulatory strategies. Such parent involvement may be especially critical for younger children who are in the process of developing self-regulatory skills and study habits (Patall et al., 2008).

Moving Forward: Helping Students Become More Effective Learners

We are aware of the enormous time demands made upon educators and the ever-increasing teacher accountability to state assessment measures. Yet we also are cognizant of the fact that self-regulatory skills are important for developing a student’s path toward lifelong learning. Effective teaching includes instructing students on how to learn, solve problems, and self-motivate (Creemers et al., 2013; Weinstein & Mayer, 1986), and when teachers receive training in strategy instruction, they can learn to teach in ways that develop students’ higher order thinking skills (Casale & Jasparro, 2011; Sadi & Uyar, 2013). Therefore, educators must consider how effective learning strategy usage can be embedded within ongoing instruction, as well as how to communicate strategy usage in such a way that students understand how strategies can be transferred to other learning situations. Research suggests instruction of self-regulatory strategies is most effective when contextualized within regular instruction, and transfer of strategies is enhanced when instruction
addresses the issue of transfer directly (Dignath et al., 2008). Researchers, applying what is known about developing students’ self-regulated learning, have echoed the conclusions presented in this article and have reinforced the importance of the following strategies for cultivating self-regulated learning (Hadwin & Oshige, 2011; Paris & Paris, 2001; Perry et al., 2002; Pressley, 1995; Schunk & Zimmerman, 2013; Zimmerman et al., 1996):

- **Communicate the advantages of using self-regulated learning and allow for opportunities to model and discuss relevant strategies.** Make sure students understand that self-regulated learning increases the learner’s achievement, learning efficiency, and sense of self-efficacy. They are more likely to attempt and persist in developing these skills if they accept that there is a payoff to themselves for investing the time and effort in developing these strategies. Then teachers can include explanations of when to use learning strategies and complement these explanations with demonstrations of goal setting, planning, monitoring, self-assessment, and self-reinforcement. Ask students to reflect on the importance of self-regulatory techniques and the progress they experience as they begin to master various techniques. Self-regulation in classroom contexts can first occur as a social process with a more capable other (whether this be a teacher or a more knowledgeable peer), and given time and practice, it becomes part of a child’s understanding and repertoire of practices (Hadwin & Oshige, 2011).

- **Offer opportunities for self-regulated learning throughout the curriculum, and shape students’ emerging skills by offering scaffolded assistance.** This will convey the utility of these strategies across various contexts and subject matter. Plan activities that emphasize students’ responsibility for their learning. For instance, allow for student choice (within curriculum constraints) over such issues as reading or project topics and encourage students’ time management toward completion of long-term projects or studying for upcoming exams. Ask students to be involved in setting goals for their learning through a learning journal or project log. Invite them to monitor and evaluate their learning progress while you offer corrective feedback and scaffolding as they try out their self-regulated learning skills. When self-regulated learning skills are linked with academic subject matter, students have the chance to learn how to apply strategies within learning contexts.

- **Encourage peer-assisted learning opportunities during self-regulated learning opportunities.** After modeling cognitive and metacognitive questioning strategies, create peer support opportunities whereby youngsters more adept at self-regulation techniques might assist those who are still testing their wings. Peers can model, encourage, offer feedback, and reinforce self-regulatory skills.

- **Involve parents in promoting students’ self-regulated learning.** Parents can support students’ mastery of learning strategies and self-regulated learning skills, but some may be initially unaware of the benefits of investing in a toolkit of self-regulated learning strategies. Share with parents the effectiveness of these strategies in promoting students’ learning. This will help set the stage for opportunities whereby more knowledgeable others can model, encourage, offer feedback, and reinforce learning and monitoring strategies.

- **Have patience and be persistent in your instruction of self-regulated learning strategies.** It will take time for students to become proficient in their self-regulatory abilities. Therefore, teachers can offer diverse opportunities for students to practice these
techniques and see that their effort is rewarded with learning gains. A dedicated teacher will help them to understand that learning can be hard (even for those with a high record of achievement) and that mistakes are opportunities for growth. As students begin to achieve success with these strategies, they will experience the boost to self-efficacy that will bolster their future attempts at self-regulated learning.

Future Research and Teacher Professional Development

The apparent gap in translating research on the benefits of strategy instruction into classroom practice is an ongoing dilemma that needs to be resolved if we are to best prepare children to become effective learners. Our hope is that educational researchers and practitioners will turn their attention to the need for a broader understanding of the contexts for effective strategy instruction—an understanding that is more in tune with the support networks, such as friends and family, to which students naturally gravitate.

Applied educational research examining how teachers and schools can involve parents in supporting students’ self-regulated learning abilities is especially needed. Research should examine how strategy instruction that is embedded within ongoing instruction can best be supported through homework assignments and parental support. Investigation of the students’ perspective on strategy acquisition is certainly warranted as we seek to improve understanding of the best ways to encourage students’ learning strategy usage. By understanding students’ experiences, we can illuminate which contexts and instructional approaches make them the most receptive to acquiring learning strategies. Qualitative research, with its capacity for capturing people’s personal perspectives and experiences, may be particularly suited to research of this nature.

Schools of education undoubtedly play a key role in preparing future teachers in effective strategy instruction. This includes developing a curriculum that discusses the necessity for effective strategy instruction and its importance to the realization of educational goals, and exposing students to master teachers who have extensive experience in strategy instruction during structured field experiences. In addition, effective inservice professional development activities will help teachers see how strategy instruction ties into actual practice, engage them in thoughtful discussion that examines resources relevant to their particular teaching concerns, and be of sufficiently sustained duration so that teachers have the opportunity to apply their learning in their own classrooms while still coming back to gain feedback on their attempts (Garet, Porter, Desimone, Birman, & Yoon, 2001). Most importantly, professional development in strategy instruction should emphasize the importance of teachers involving multiple stakeholders, as it seems to be one way to maximize instructional exposure amidst limited instructional time while also using a learning context to which students are already receptive. Given students’ apparent comfort in seeking assistance from family and peers, teachers might consider how structured opportunities for peer modeling, cooperative learning, and parental involvement can be used to maximize students’ exposure to beneficial learning strategies.

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