

Teachers as Self-Regulated Learners

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This article describes how preservice teachers are afforded opportunities for developing self-regulation as they learn to transition to “the other side of the desk” in their teacher education program. The article focuses on self-regulated learning as it applies to teachers’ work in the classroom and distinguishes volitional work styles and student study habits from learning-oriented volitional strategies teachers engage to learn from teaching. To illustrate teachers’ strategy use and to reify volitional constructs as they are embodied in practice, this article presents practical examples from one teacher education program. Finally, the article considers ways that teacher preparation programs might structure learning environments, affording teachers opportunities to learn self-regulation and then apply those strategies to learn from their own teaching.

Work entails becoming engaged in a purposeful activity that has been prescribed for us by someone else; an activity in which we would not at that moment be engaged if it were not for some system of authority relationships. . . . The worker, almost by definition, is a person who is tempted, from time to time, to abandon his role. Presumably there are no other things he would rather be doing, but his boss’s eye, or his need for money, or the voice of his inner conscience keep him at the job. (Jackson, 1990, p. 31)

In his classic study, *Life in Classrooms*, Jackson (1968) described students as workers whose motivation for staying on task comes from the teacher, as the student’s first boss. Jackson’s analogy of the teacher as boss characterizes the teacher as an authority figure, but research on self-regulation redefined the teacher’s role in encouraging students to persist at work, even when distractions and competing priorities threaten to divert students from purposeful learning tasks (Corno, 2001). Teachers who encourage self-regulated learning emphasize “autonomy and control by the individual who monitors, directs, and regulates actions toward goals of information acquisition, expanding expertise, and self-improvement” (Paris & Paris, 2001, p. 89). In essence, to promote self-regulation in students is to teach students to be their own “boss.”

Since Jackson’s study, the classroom has increasingly been the focus of research, not only as the context for student learning but for teacher

learning as well. Teachers have been encouraged to examine their own classroom instructional practices as a form of job-embedded staff development (Wilson & Berne, 1999). Contemporary teacher professional development views teachers as learners drawing on resources in their teaching environments to inform their work and professional growth (Little, 2003). This form of teacher professional learning requires teachers to take charge of their own learning (Renyi, 1996). If self-regulation assists students in taking charge of their own learning, then self-regulated learning strategies ought to be valuable for teachers as well.

Moreover, the classroom work environment makes similar demands on both teachers and students. Jackson's characterization of the classroom as a work environment for students might appropriately be applied to teachers as well. Unlike students, however, teachers have no boss supervising their daily work in the classroom or motivating them to stay focused on goals. Although principals and other administrators evaluate teachers' performance, teachers' daily work is typically observed more by students than by supervisors. As Lortie (1975) reminds us, students more often than not provide the motivation for teachers' work.

The focus of this article is self-regulated learning as it applies to teachers' work in the classroom. The first part of the article describes previous research on self-regulated learning, including research that investigated how classroom teachers promote self-regulated learning in students as well as research on teachers' own self-regulated learning and work styles. The second part of the article describes teachers' self-regulation strategy use in contexts affording opportunities to develop self-regulation. The examples presented to illustrate teachers' strategy use are from one teacher preparation program. Corno (this volume) challenged scholars to translate complex psychological research to assist educators in connecting ideas to their practice. Thus, the intent is not to present empirical data but to provide examples of volitional constructs as they are embodied in practice. Finally, along with Perry, Phillips, and Dowler (this volume), the present article considers ways that teacher preparation programs might structure learning environments affording teachers opportunities to learn self-regulation and then apply those strategies to learn from their own teaching.

SELF-REGULATED LEARNING: THEORY, RESEARCH, AND PRACTICE

As Corno (this volume) illustrates, theoretical research on volition identifies academic work styles that are more or less productive and explains how effective work styles can be developed. This is an especially powerful line of research with implications for the classroom and beyond. Historically, teachers have been concerned with motivating students to do their best.

Motivation alone, however, is not sufficient for accomplishing tasks in school or in work environments (Corno, 1993). Most individuals want to be successful and may be said to be motivated to succeed. The ancient proverb *nihil sine labore* (nothing without work) is an appropriate reminder that although the road to success may be paved with good intentions, success requires persistent effort. Summoning the resources to persist at accomplishing tasks that are typically challenging, often routine, and at times ill-defined requires volition or a process of action control, in which individuals purposively and steadfastly direct their actions toward goal achievement (Heckhausen & Kuhl, 1985).

Theoretical research on volition prompted a line of research that investigated how individuals might be taught to develop effective work habits to accomplish learning in school situations. Researchers define self-regulated learning as the efforts put forth by students to control and monitor their motivation, concentration, and affect to protect their goals (Corno, 2001). Students who are self-regulated internalize learning and task-management strategies and draw on these strategies to accomplish goals as situations demand. Both teachers and students are expected to learn and work within classroom environments that typically demand volitional control. That is, both teachers and students are expected to learn and work in social situations where they may be distracted by others in the work environment. Both teachers and students are typically asked to learn by performing tasks that are cognitively challenging, and unfortunately they may have few available resources, including sufficient mentoring or guidance.

Research on self-regulated learning during the last decade demonstrated useful applications of theory. For example, descriptive data collected in classrooms demonstrated that both teachers and students draw on self-regulated learning strategies to cope with situational demands in the classroom (see, e.g., Corno & Kanfer, 1993). The research reviewed here is intended to draw comparisons and distinctions between teachers, students, and other workers with respect to self-regulation strategy use in particular situations. First, I describe several recent studies investigating how teachers structure classroom environments to afford opportunities for students to learn self-regulation. Then, I describe research that has investigated teachers' own self-regulation, as students and as teachers. Finally, I briefly describe investigations of self-regulated learning among professionals and other workers to facilitate comparisons between classroom and out-of-classroom learning environments.

PROMOTING SELF-REGULATION IN CLASSROOMS

Summarizing the research on classroom applications of self-regulated learning, Paris and Paris (2001) described two ways to promote self-reg-

ulation in students. The first emphasized the acquisition of self-regulated learning strategies in a transmission model. In this model, students are encouraged to emulate self-regulated learning strategies. Examples of interventions in this category include explicit instruction in strategy use in specific content domains (eg., Baumann & Ivey, 1997; Collins-Block, 1993, in reading; Blumenfeld et al., 1991, in science). Typically, these interventions provide students with direct instruction in strategy use so that they can learn specific academic content.

The second class of studies identified by Paris and Paris (2001) involved investigations seeking to understand how students develop self-regulation strategies as they strive to attain goals they have chosen for themselves. As Turner and Patrick (this volume) point out, some students are motivated to earn high grades relative to peers, while others are sustained by their interest in a task to attain mastery and develop self-regulation skills. The developmental view of self-regulation requires teachers to assess how students regulate their own behaviors and to direct their efforts toward academic learning. This view of self-regulation suggests that teachers, like students, may benefit from membership in a reflective community in which individuals examine their own self-regulation and strive to become full members of the community. Similarly, preservice teachers may be afforded opportunities to develop self-regulation when they envision themselves as teachers and strive to emulate their mentor teachers.

In addition to the types of studies identified by Paris and Paris (2001), some studies focused on describing how students acquire self-regulated learning skills in certain classroom situations, serving to illustrate how classroom environments can be deliberately structured to afford opportunities for self-regulation to occur—both in students and teachers. That is, rather than provide direct instruction in strategy use, teachers may structure classroom environments and learning experiences that afford students opportunities to learn self-regulation.

One program of research focused on studying young children in naturalistic settings to describe the contexts that promote self-regulation. Perry (1998; see also Perry, Phillips, & Dowler, this volume) conducted a study of primary grade students engaged in writing activities in five different classrooms. In the three classrooms judged to be supportive of self-regulated learning (high SRL), the researcher found that students displayed attitudes and work styles characteristic of self-regulated learners. Students in the two low SRL classrooms, however, adopted defensive or handicapping approaches to learning.

Perry and Drummond (2002) provide a rich description of one of the high-SRL classrooms described by Perry (1998). This classroom was structured to promote individual responsibility coupled with varying degrees of support as appropriate. Students shared their expertise in morning meet-

ings and engaged in classroom discourse, including reflection and self-evaluation. In addition, students were involved in complex, meaningful writing tasks, such as researching topics of interest. During these writing tasks, students were provided choices about what to research, how to organize their research, and so forth. Thus the children were also able to adjust the task, making it more or less challenging (e.g., selecting sources at appropriate reading levels). Other characteristics of high SRL classrooms include choice, self-evaluation, engagement in complex tasks, and opportunities to control challenge (see also Perry, Vandekamp, Mercer, & Nordby, 2002). Thus, teachers can promote or discourage self-regulation by the classroom structures they establish.

Extending this research, Perry and her colleagues (this volume) investigated how mentor teachers can model the design of learning environments that afford self-regulation. Unfortunately, much of the knowledge even expert teachers have developed about self-regulated learning is tacit, so, like students who develop an implicit understanding of self-regulated learning (Paris & Cunningham, 1996), these teachers may not be able to explain their own strategic behavior to apprentice teachers. Just as students differ in their ability to learn self-regulation through social learning, not all beginning teachers may benefit from apprenticing without explicit instruction. Perhaps more important, without an intellectual understanding of self-regulated learning, teachers may not be attuned to perceive opportunities for self-regulated learning when they are provided and so may be unable to draw on such strategies to support their own learning.

The program of research to be discussed in this article combines modeling with explicit instruction to guide students toward an understanding of self-regulation theory at the same time that it encourages teachers to invent ways to teach their students self-regulation (Corno & Randi, 1999; Randi & Corno, 2000). Unlike other interventions in self-regulated learning that identify specific strategies and guide teachers to teach them in particular ways, this approach encourages teachers to design their own ways of promoting self-regulation in their students, including designing curriculum that provides explicit instruction as well as modeling. In doing so, teachers must understand the principles of self-regulated learning.

The outcome of this researcher-teacher collaboration was the development of a model for teaching self-regulation through an analysis of literary characters exemplifying traits of self-regulated learners (Corno & Randi, 1999; Randi & Corno, 2000). In this approach, students are guided to identify self-regulated learning strategies exemplified by quest characters and then to apply those strategies to their own lives. Our preliminary investigation using this model found that more important than the intervention itself was the collaborative innovation process, which afforded the classroom teacher (in this case, Randi) an opportunity to work with a

researcher (Corno) to translate self-regulation constructs into instructional applications. Together we designed instructional interventions, analyzed student work for examples of self-regulation and reflected on ways that the theory was embodied in particular classroom applications. Unlike in traditional forms of staff development, collaborative innovation affords teachers opportunities for engaging in complex tasks, including the design of research-based interventions. In essence, the classroom became an environment affording opportunities for learning self-regulation for the teacher as well as for the students.

The use of collaborative innovation to generate context-specific research-based instructional strategies is based on the assumption that teachers may learn to invent new instructional practices by abstracting theoretical principles from curriculum materials and other models provided to them and adapting them for their own particular students. Like the students in high SRL classrooms (Perry et al., 2002), teachers who invent and implement new practices in this manner create for themselves opportunities for choice and control over challenge, choosing which innovations to adopt and which to adapt, when to imitate and when to invent.

RESEARCH ON SELF-REGULATED LEARNERS IN TEACHER EDUCATION

The previously described research investigated classroom situations affording teachers and students opportunities to develop self-regulation. Other research focused on teachers' own learning in student and teacher roles in different aspects of their teacher education program. As a whole, this category of research illustrates some of the differences between students and teachers and how individuals perceive self-regulated learning from "different sides of the desk."

As one example of research focusing on teachers as students, Hwang and Vrongistinos (2002) investigated elementary teacher education students' self-regulation strategies related to their academic achievement. Results of the study indicated a strong relationship between frequent use of self-regulated learning strategies as reported by the student teachers and high academic performance. Consistent with research on students' self-regulation strategy use (see, e.g., Pintrich & Garcia, 1991), this study found that future teachers varied in their use of strategies and that strategy use distinguished high and low performing students. This research suggests that teacher education students might profit from explicit instruction in self-regulated learning strategies early, rather than later on in their teacher preparation program experience so that the program affords them sufficient opportunities to become self-regulated learners before they fly solo in their own classrooms.

Other research has investigated teachers' self-regulated learning beyond the context of formal coursework. Manning and Payne (1993) proposed a theoretical framework for studying teachers' self-regulated learning within the context of teaching. Based on Vygotsky's (1978) theory of verbal self-regulation, in which cognition and social learning experiences are thought to regulate behavior, Manning and Payne linked five tenets of Vygotsky's theory to goals in teacher education. To incorporate the first tenet, namely that higher mental processes are subject to self-regulation, teacher educators encouraged teachers to be proactive in their approaches to classroom management and instruction. Simply put, this approach encourages teachers to think before they react to classroom situations. The second tenet focuses on teachers' awareness of the instructional strategies they use, or metacognitive strategy knowledge. The third recommendation for teacher educators derives from Vygotsky's idea that there is a zone of proximal development or an appropriate time in the preservice experience for teacher educators to gradually shift preservice teachers toward independent teaching. Fourth, teacher education programs should emphasize dialogue so that teachers will ultimately internalize conversations about principles of teaching and learning into self-thoughts that direct their teaching practices. Finally, Manning and Payne suggest that self-talk might serve as a verbal mediator of action. For example, a teacher might remind herself to count to 10 to calm down before confronting student misbehavior.

Based on Vygotsky's theory as it applies to teachers, Manning and Payne described three characteristics of self-regulated teaching: high levels of cognitive and affective functioning, proactive teaching based on metacognitive thought processes, and continuing construction of knowledge both during the teacher preparation phase and classroom teaching phase. This characterization of teachers as self-regulated learners casts teachers as decision makers, reflective practitioners, and independent learners who are capable of learning from teaching.

This theoretical conception of self-regulated teaching has led to studies focusing on how teacher educators promote a self-regulation approach to teacher learning. Kremer-Hayon and Tillema (1999) investigated differences in perceptions about self-regulated learning among Israeli and Dutch teacher educators and their students. Researchers interviewed teacher educators and their students about the meaning of self-regulated learning, activities for developing self-regulated learning in the teacher education program, and expected role behaviors of teacher educators and student teachers. Researchers found that teacher educators and students shared several common perceptions of self-regulated learning, including a cognitive orientation toward self-regulation. Both groups agreed that self-regulation would lead to more autonomy, reflection on teaching, and internalization of knowledge.

In a second study, researchers (Tillema & Kremer-Hayon, 2002) investigated how teacher educators conceptualized and promoted self-regulation in preservice students. Researchers interviewed 17 Dutch and 12 Israeli teacher educators about the perceptions, experiences, dilemmas and problems teacher educators typically have in supporting student teachers' self-regulated learning. Researchers found that teacher educators in the two countries approached the teaching of self-regulation quite differently. For example, in Holland, teacher educators promoted independent learning, self-development, self-study, critical inquiry, and learning from work. In Israel, teacher educators focused on planning, goal selection, time management, metacognition, and motivation to promote self-regulation in student teachers. Despite the differences in teacher educators' approaches, student teachers in both countries held similar views about self-regulated teaching. Student teachers in both countries stressed reflective inquiry, knowledge analysis, and practical application of knowledge as important teacher work habits. What is significant here is that these preservice teachers identified work habits that are particularly useful for teachers as learners, including skills that would enable teachers to learn from teaching. Taken together, the research on students and teachers as self-regulated learners suggests that teachers may draw on different self-regulatory skills as teachers than they do as students.

SELF-REGULATED LEARNING IN THE WORKPLACE

Research on self-regulated learning in other professions and in work environments serves to highlight similarities and differences between teachers and workers. Recently characterized as "the learning profession," teaching may be unique in its demand for learning-in-practice as well as from practice (Darling-Hammond & Sykes, 1999). Ball and Cohen (1999) argue that teachers cannot accomplish the work of teaching unless they know how to learn in the contexts of their work. They further contend that this knowledge cannot be acquired in advance or outside of practice.

Thus, as professionals, teachers must continually recognize opportunities for learning within the context of their work. Given that self-regulated learning varies with the learning context (Pintrich, 2000), teachers may need to develop new self-regulatory strategies each time they approach a novel situation. Research conducted among other learning professions provides insights into the ongoing development of self-regulated learning strategies. Evensen, Salisbury-Glennon, and Glenn (2001) investigated how six medical students developed different styles of self-regulation as they progressed through a problem-based curriculum, a form of learning thought to promote but not necessarily guarantee the development of self-regulated learning. The six students in the problem-based study group

each developed a different stance or style of self-regulation to cope with the demands of the learning environment. Some students had to learn new strategies to negotiate and learn within the context of the problem-based learning study group. For example, one student initially depended on textbooks, his usual style of learning, but later learned that it was profitable to work within a group, sharing and discussing various library resources the group had researched. Drawing on social cognitive theory, these researchers described how the six medical students learned to develop new self-regulation strategies attuned to the constraints and affordances of the particular learning situation. This research on problem-based learning among medical students is significant for teachers because the research focuses on learning in a professional learning context, in which the learner is immersed in practice, as teachers are when they participate in contemporary forms of teacher professional development.

Traditional staff development, on the other hand, has typically focused teachers' attention on the accomplishment of a specific task, such as implementing particular instructional programs. In this model, teachers are similar to workers whose motivation for job performance typically derives from an optimized psychological workplace climate (Brown & Leigh, 1996). In work environments, in contrast to learning environments, self-regulated learning is defined differently. According to Vancouver (2000), in work environments, self-regulation includes the creation of goals, the creation of a means to attain goals, or changing ways to assess current states. This definition characterizes self-regulation in terms of accomplishing specific tasks, such as meeting a sales goal, or staying within a budget. In organizations focused on productivity, work is valued over learning and learning is developed for work's sake.

In learning-centered classrooms, learning is valued over work and work is accomplished for the learning's sake. Just as student-centered learning has changed student roles from passive learners to active constructors of knowledge (Randi & Corno, 2000), so too contemporary professional development has changed teachers' roles from workers to learners, placing new and different demands on teachers as learners. The transition of teachers from workers to learners requires teachers to develop volitional learning strategies, not simply volitional work styles.

OPPORTUNITIES FOR TEACHER SELF-REGULATED LEARNING

Ideally then, classrooms that promote self-regulated learning are more like learning environments than work environments. But, unfortunately, not all classrooms are ideally suited for developing self-regulation. Research describing volitional strategies used by teachers and students in classrooms makes it clear that learning requires strategic behavior, even in supportive

classroom environments. To begin to describe teachers' and students' strategic learning behaviors, Corno (see Corno, 2001; Corno & Kanfer, 1993) provided practical examples of Kuhl's (1985) taxonomy of volitional strategies collected from discussions with teachers and students about their work. These examples illustrated the different ways that teachers and students took charge of their own thoughts, emotions, and motivation, as well as the environment to accomplish goals. For example, images of possible selves, such as "teacher of the year" or "student of the month" reflected the strategy of motivation control. As another example, to control the environment, teachers reported rearranging the classroom layout to maximize student attention; students reported asking to move their seat away from peers who distracted them. These examples capture the social milieu and task demands of the classroom as they pose challenges for both teachers and students.

Teachers as well as students may benefit from learning environments that support their strategic learning. Elsewhere (Corno & Randi, 1999), we identified 10 features of learning-rich environments affording teachers opportunities to develop as self-regulated learners. To develop as self-regulated learners, teachers should profit from participation in learning environments that do the following:

- Encourage teachers to invent, rather than imitate instructional practices
- Afford teachers choices about instruction
- Focus teachers' attention on the evaluation of instructional practices
- Facilitate a curriculum design process that cycles through planning, enacting, and reflecting on lessons
- Includes opportunities for problem solving
- Affords opportunities for learning within the context of teaching
- Places students at the center of teacher learning
- Assists teachers in articulating their knowledge
- Scaffolds teachers to higher levels of performance, through the strategic use of resources, including mentors
- Includes both challenge and support

The following section explores teacher preparation as a learning-rich environment affording opportunities to develop self-regulated learning for teaching.

PREPARING TEACHERS AS SELF-REGULATED LEARNERS

Teacher preparation programs encourage teachers to transition to the other side of the desk, to begin thinking like a teacher. Yet teaching often demands student skills. Feiman-Nemser (2001) emphasized the role that teacher education serves in preparing teachers as learners, including assisting preservice teachers in developing habits and skills necessary for the ongoing study of teaching. Contemporary teacher professional development blurs the distinction between teacher and learner and encourages teachers to find opportunities for learning within the context of teaching. In student-centered classrooms, teachers facilitate learning by setting up tasks and providing resources and guidance that afford students opportunities to learn by participating in instructional tasks. Similarly, the task of teaching ought to afford teachers opportunities to learn, especially if self-regulated teachers seek guidance from mentors, look for feedback on their teaching reflected in student work and achievement, search out new teaching ideas in professional journals, and so forth. If teaching is to be viewed as a learning opportunity, self-regulated learning strategies seem critical skills for teachers to acquire.

In addition to equipping teachers with pedagogical skills, teacher preparation programs ought to prepare teachers to acquire strategic learning behaviors considered critical for learning from teaching (Feiman-Nemser, 2001). One way that teacher education programs might provide such opportunities is through the design of learning experiences structured to afford opportunities for developing self-regulated learning. In this article, I describe three situations within the context of one teacher education program and provide examples of self-regulated learning strategies preservice teachers demonstrated in these situations. In particular, these situations afforded opportunities for developing an intellectual understanding of self-regulated learning through participation in coursework in educational psychology, designing instructional applications for self-regulated learning as part of coursework in subject specific pedagogy, and becoming self-regulated teacher-learners in the student teaching field experience.

DESCRIPTION OF THE PROGRAM

The teacher preparation program described here is an 18-month graduate program that includes 3 trimesters of intensive coursework in general and subject-specific pedagogy, educational psychology, and educational technology. In addition to evening coursework, most students intern in schools as full-time substitutes assigned to one school for the duration of their program. In exchange for their work, school districts subsidize students'

tuition. Upon completion of coursework, students participate in a 13-week student teaching field experience, in a different school, under the guidance of a classroom teacher and university supervisor.

Learning to Think Like a Teacher

Our educational psychology course served as an appropriate context for developing an intellectual understanding of self-regulated learning strategies (see Dembo, 2001, for another example of educational psychology coursework as a framework for teaching self-regulation). Our 13-week course included two sessions focused on motivation and volition theory and classroom applications of self-regulated learning. In these sessions, students were introduced to the distinction between motivation and volition, they read and discussed selected literature (e.g., Corno, 1993), and they analyzed teaching cases. For example, in one case study activity, students were asked to analyze the degree to which the teacher encouraged students' motivation and volition by considering particular strategies the teacher used (see *A Reference Guide for Addressing Motivational and Volitional Goals in Educational Settings* in Corno & Randi, 1997).

At the completion of these sessions, students were asked, first, to identify factors that motivated their decision to pursue a teaching career and, in particular their reasons for selecting this particular program. Second, students were asked to identify self-regulated learning strategies they themselves used to follow through on their commitment to complete the program and become teachers. Consistent with other research (see, e.g., Johnson, 1990), students' stated reasons for entering teaching ranged from a desire to work with children to quests for more convenient work schedules and increased job satisfaction. Their reasons for choosing this particular program included location and an opportunity for an internship that provided both practical experience and tuition credit. Consistent with previous research (Corno & Kanfer, 1993), some students were able to provide more examples of volitional strategies than others. Covert (internal, mental) strategies offered included metacognitive, emotional control, and motivational control strategies. Overt (observable, behavioral) strategies included control of the task or setting and control of others in the task setting (see Table 1 and Corno & Kanfer, 1993).

In addition to the class exercise, students wrote weekly journal entries in which they were asked to reflect on teaching practices they observed during their internship, envision themselves as teachers, and reflect on which of those strategies they might use in their own classrooms. The journal writing exercise afforded these preservice teachers an opportunity to develop an action orientation (Corno & Kanfer, 1993; Kuhl, 1985) by envisioning the

Table 1. Examples of Volitional Control Strategies Provided by Preservice Teachers

	Task Strategies: Focused on Accomplishing Work	Learning Strategies: Focused on Learning to Teach
Metacognitive	<ul style="list-style-type: none"> • Do the easy tasks first. • Think short-term: What can I do right now? • Get my mind off other things and get right to work 	<ul style="list-style-type: none"> • I need to think about ways to find the time to help different students. • I'll evaluate the books and only use the ones that are effective. • When grading writing, I never knew what to mark off for. Now I will think about evaluating content, description, or structure, etc. • I will probably not use this technique because it requires more classroom management skills that I might not have as a new teacher.
Motivation Control	<ul style="list-style-type: none"> • Remind myself the program is only a year and I can get through this. • In a year, I'll have my master's degree. 	<ul style="list-style-type: none"> • I saw how well the students responded (to trade books), so I will be sure to use them across the disciplines. • I have to follow the curriculum but that doesn't mean I can't use supplemental material to make it more fun. • I have learned that the content [curriculum] is usually given to you. The creativity does not go into content; it goes into instruction.
Emotion Control	<ul style="list-style-type: none"> • Think about how miserable I was in my other job. • Clear my mind; then refocus. • Relax, take a walk, meditate. 	<ul style="list-style-type: none"> • I realize it is difficult to help a poor reader succeed but it must be done for [students] to succeed. • As a student, having a rubric makes me feel confident and optimistic, knowing what is expected of me. I want my students

Table 1. (Continued)

	Task Strategies: Focused on Accomplishing Work	Learning Strategies: Focused on Learning to Teach
Control of Task/Setting	<ul style="list-style-type: none"> • Use free periods to get things done. • Use the computers at the school. 	<p>to feel the same way so I will make rubrics.</p> <ul style="list-style-type: none"> • I became more confident when I realized the students respect and trust me so I know that trust is important. • If I set up centers, students could work at them, while I help others. • I would rearrange the order of the textbook to integrate the reading and writing parts.
Control of Others	<ul style="list-style-type: none"> • Talk it through with others. • Work in study groups. 	<ul style="list-style-type: none"> • I would try to get parents involved so they could work with students outside of school. • I would try to get the students to practice on their own.

actions they might take to accomplish their goal (i.e., becoming an effective classroom teacher).

As illustrated in Table 1, the classroom exercise generated examples from students who seemed to “think like workers” to get the task accomplished. Examples from the journal, on the other hand, illustrate how teachers “think like learners” to get the most from the resources that afford opportunities to learn from teaching. These examples suggest that some volitional strategies may be used for task completion and others for learning from the task. For example, teachers who tell themselves, “If I can just grade five more papers, I can take a break,” are employing a volitional strategy that controls motivation to complete the task. On the other hand, teachers who tell themselves, “If I take the time to create a handout, my lesson might go more smoothly and students will be able to follow my lecture,” also demonstrate a motivational control strategy to accomplish a task, but the task is likely to lead to learning for both the teachers and their students. In one, the goal is task completion, and in the other, learning.

The distinction between work-oriented and learning-oriented volitional styles is similar to that of performance goals and mastery goals in motivation research (Dweck & Leggett, 1988; Turner & Patrick, this volume). Pintrich

(2000) also discusses the role of mastery and performance goals in self-regulated learning. Again, a mastery orientation means that the person focuses on learning and adopts more of an intrinsic motivation, whereas a performance orientation means focusing on demonstrating competence, especially relevant to others, and thus more of an extrinsic motivation. Orientations imply a stylistic tendency triggered, for example, by academic situations. Particular tasks can encourage these orientations more or less by emphasis on mastery or performance outcomes. Both mastery and performance orientations may lead to learning, of course, and in real situations people tend to circle back and forth around both sorts of goals. Work-oriented versus learning-oriented volitional styles also support different types of goals. For example, a strategy employed to “get the job done” is not focused on learning but on task completion. Work-oriented strategies resonate with characteristics of self-regulated learning as it is defined in industrial applications where task completion and production—the bottom line—reflect important goals (Vancouver, 2000).

As with performance and mastery goals, it seems useful for teachers to engage both work- and learning-oriented volitional styles when they are called for. Clearly, however, a work orientation alone seems insufficient for learning from teaching. Contemporary forms of teacher professional development encourage teachers to be responsible for their own learning and learn from teaching. Social cognitive theory has contributed to our understanding of how learning occurs in natural settings in which workers are apprenticed into communities of practice (Lave & Wegner, 1991). In such communities, apprentices avail themselves of tools, resources, and learning opportunities afforded by participation in the community. Drawing on this theory, Little (2003) described teachers voluntarily engaged in learning from teaching, drawing on the artifacts of teaching as learning resources. Instructional tasks, student work samples, and other curriculum materials as well as collegial discourse afforded learning opportunities for these teachers. As another example of learning from teaching, teacher networks encourage teachers to examine their own teaching practices supported by a community of learners with a common interest, such as writing (Lieberman & Wood, 2001). In these examples, learning is the goal, not the accomplishment of a particular task. Moreover, participation in such networks and study groups is typically voluntary and the agenda, teacher-initiated. In contrast, the traditional workshop model of staff development focuses teachers’ attention on the accomplishment of specific tasks, such as implementing particular instructional strategies in certain ways, managing student behavior, or developing a product, such as a curriculum unit.

Thus, participation in a teacher learning community calls for self-regulated learning strategies that can be drawn upon to learn from teaching, not simply to accomplish a task. As schools allocate fewer resources to

traditional forms of staff development, and teachers increasingly take charge of their own learning, the quality of teacher professional learning will depend on teachers' aptitudes to learn from teaching (Zeichner & Randi, 2004). If teacher growth depends on learning from teaching in a community of practice, then teacher educators, policy makers, and others may need to redefine teachers' work as learning. For preservice teachers, the transition to the other side of the desk may require learning different student skills than even "good" students typically draw on to accomplish school tasks.

Learning for Teaching

The second situation discussed in this article afforded opportunities for self-regulated learning in the context of one subject-specific pedagogy course (Strategies for Teaching Language Arts for Elementary Teachers). In this course, students were required to develop a literature based instructional unit integrating the teaching of reading and writing. Class discussion prepared students for developing a coherent curriculum unit. Discussion included how to select a broad, overarching and unifying concept (i.e., not discrete skills) as the focus of the unit and how to integrate reading and writing within the unit. Students were offered one example of a secondary humanities curriculum focusing on character traits of self-regulated learners in literature (see Randi & Corno, 2000, for an example) as well as a variety of literature-based units on other topics. As in learning environments structured to support self-regulation, students were allowed to choose the topic for their unit. Three students chose to design a unit that included instruction in self-regulated learning through literary models.

These three self-regulated learning units are presented here briefly to provide context. The intent is not to analyze or evaluate the units but rather to describe how the instructional design process itself afforded these teachers opportunities for self-regulated learning. One fifth grade unit focused on the theme of survival in Gary Paulsen's *Hatchet*. In this unit, students were led to identify the survival traits in the main character and apply those traits to their own lives, explaining how they survived tough school situations. In the second unit, developed for third grade students, biography provided opportunities for students to identify how Helen Keller overcame challenges, such as learning how to read and write. Through role playing and simulation, students were led to make text-to-self connections and articulate how persistence led to accomplishing tasks. In the third unit, intended for middle school students, the film *Stand and Deliver* provided opportunities for students to articulate what "good" students do to accomplish school goals. To provide authentic writing opportunities, one task required students to write "Dear Abby" letters asking for advice about

school-related problems they were experiencing and then to exchange letters with peers, who would solve the problems.

The lesson here is that these three preservice students were afforded opportunities for self-regulated learning that other students were not. By choosing to design units incorporating self-regulated learning, these students had to ensure their own understanding of the process. Students asked for research articles on self-regulated learning for their reference, met with the instructor outside of class time to discuss the articles and ideas for planning the unit, and asked for feedback as they designed the unit to ensure that they had an appropriate understanding of how to teach self-regulated learning. Note the strategic use of resources, including mentors as well as the planning and self-monitoring strategies. Rather than start with children's literature with which they were most familiar, these students explored a wide range of literature to select literature with appropriate content for teaching self-regulated learning, increasing their own learning opportunities. In contrast, students who chose other topics selected familiar literature, worked primarily on their own, asked for help on procedural aspects of the assignment (e.g., the format of the lesson plans), and typically sought models of literature-based units from the internet or textbooks, rather than ask for research articles to inform their work.

The development of the units was accomplished through deliberate scaffolding and guidance in a process of collaborative innovation. That is, in collaboration with a teacher educator/researcher, the preservice teachers developed original instructional materials based on theory and appropriate for the particular grade level or students they envisioned one day teaching. Unlike teachers who implement research-based instructional practices in their classrooms, often through imitation, these three preservice teachers who chose to design instruction based on self-regulation theory had to develop an intellectual understanding of the theory's underlying principles. Moreover, they had to make connections between research and practice. The situation required it. This is an eminently clear example of the implementation mindset described by Corno (this volume). Once these students chose to develop units teaching self-regulation, the situation directed their actions toward goal achievement. Thus, the collaborative innovation process not only afforded opportunities for designing instruction grounded in research yet attuned to individual classroom contexts but also afforded opportunities for developing teachers' self-regulated learning.

Learning From Teaching

The student teaching field experience afforded yet another opportunity for developing self-regulation. Prompted throughout their teacher education

program to envision themselves as teachers, preservice teachers may be said to move from a motivational to a volitional state when the student teaching experience affords an opportunity for goal enactment. Once in the classroom, these teachers' strategies and work styles became especially important for accomplishing goals (Corno, this volume). Like the medical students in the problem-based study group (Evensen et al., 2001), student teachers may be confronted with a different kind of learning situation in the field experience than in coursework. No longer in the student's chair, the student teacher learns from the other side of the desk. All the familiar learning resources—teachers, textbooks, curriculum materials, assessments, others in the learning environment, students—now afford learning opportunities in new and less familiar ways.

Thus, the student teaching field experience itself affords multiple opportunities for developing self-regulation, although not all student teachers will develop these skills to the same degree. Some novice teachers, like some students, may demonstrate more or less productive work styles in the same environment. Fortunately, the student teaching experience affords teachers opportunities for individual coaching and mentoring.

In our program, student teachers complete a 13-week field experience under the guidance of a classroom teacher or cooperating teacher and a university supervisor. Student teaching goals are agreed on by the student teacher, cooperating teacher, and university supervisor. Although goals may vary from student to student, goals typically focus on classroom management, instructional planning, and implementation. Student teachers are apprenticed into the classroom as they gradually assume the complete teaching responsibilities of their cooperating teacher. During their field experience, student teachers are expected to develop and implement lesson plans, which are reviewed by cooperating teachers and supervisors. After implementing their lessons, student teachers write reflective journal entries analyzing their lessons and student learning. Student teachers discuss their lessons and reflections with university supervisors who observe student teachers at least four times during the field experience. In addition, student teachers write a culminating reflective piece on their experience, including an analysis of their learning and teaching styles and a description of how they achieved their goals. Student teachers maintain a portfolio as documentation of their work during the field experience. Thus the student teaching portfolio requirement also contributes to the development of self-regulation, necessitating planning, action, and reflection-on-action.

Student teachers are responsible for implementing the grade level curriculum in place in the schools and classrooms where they have been assigned. Although they may have designed lessons and curriculum materials during their coursework, they may not have opportunities to implement

their own curriculum, depending on their assignment. But such constraints are no different for experienced classroom teachers required to work within the boundaries of common curriculum, district-adopted instructional materials, or particular school-wide or grade level instructional programs. As novices, however, student teachers may be especially challenged to work within the constraints of the situation and seek the learning opportunities the situation affords.

The student teaching experience of one student teacher is described here to illustrate how student teaching afforded her opportunities to develop self-regulated learning. One student teacher who had participated in the educational psychology course and had developed a fifth grade literature-based unit incorporating self-regulated learning, was assigned to a sixth grade science and mathematics classroom. In this school, upper grade level students received instruction from different content area teachers. Thus, at the beginning of the student teaching experience, it seemed unlikely that there would be an opportunity for implementing the literature-based unit.

Toward the end of her student teaching placement, however, the student teacher negotiated with the language arts teacher so that she had an opportunity to teach a language arts lesson to the same students she had taught in the mathematics and science classes. She negotiated this opportunity after she noted that her students, as sixth graders, had expressed anxiety about leaving their elementary school for seventh grade in the middle school. She explained that she wanted to develop in her students the self-regulated learning skills they would need to succeed in “tough” school situations they may encounter in their new school. The lesson she developed and implemented was an adaptation of one lesson in her fifth grade self-regulated learning unit on the theme of survival.

In the sixth grade lesson, students were first asked to brainstorm the character traits of a survivor. Character traits included optimistic, resourceful, self-monitoring, determined, self-evaluating, confident, and persistent. Familiar with the character traits of a self-regulated learner from the educational psychology course and her previous work in developing the literature-based unit, this novice teacher was able to relabel students’ naïve understandings with more formal terms. For example, “never giving up” was reworded as “persistent” and “watch what you are doing” was labeled as “self-monitoring.” At one point in the lesson, one student offered “lucky” as a trait of a survivor. The students were led by the teacher to reconsider the attributes and one student argued that “lucky” was not a positive trait because survivors do not wait for luck to get them through a “tough” situation. Other students agreed and “lucky” was eliminated from the list. Next, the teacher read aloud *Thank You Mr. Falker*, a picture book in which the main character, Trisha, faced school situations that re-

peatedly challenged her. The teacher engaged students in the story and guided students to see that Trisha unfortunately did not have the traits of a survivor. Finally, students were asked to work in small groups and brainstorm strategies Trisha might use to survive in school. To close the lesson, the teacher asked students to share the strategies and consider how they themselves might use similar strategies in new and challenging school situations.

Without an intellectual understanding of self-regulated learning, it seems unlikely that this student teacher would have so readily recognized and seized on the teachable moment for developing self-regulation in her students. Moreover, her intellectual understanding of self-regulation may have facilitated recognition of learning opportunities the student teaching experience afforded her to learn from teaching. For example, this student teacher recognized that an opportunity to teach language arts would afford different “learning from teaching” opportunities than the mathematics and science classes. Reflecting upon her lesson in a conversation with her supervisor, this student teacher noted that facilitating a discussion of literature in which students interpreted text seemed to require a different style of teaching than in mathematics or science lessons. She also noted how the same students she had taught in mathematics classes responded differently when offered opportunities to provide their opinions about literature.

Thus, the student teaching experience afforded resources for learning from teaching, including mentoring, feedback, and opportunities for reflection. Her student teaching portfolio included examples of her own strategy use as well as evidence of awareness of her students’ strategy use. Table 2 provides examples of volitional control strategies that elaborate the volitional strategy taxonomy of Corno and Kanfer (1993).

As illustrated in Table 2, a teacher’s opportunities for learning from teaching are closely related to the tasks assigned to students as well as the actions and interactions promoted by the teacher’s control of the tasks and setting. That is, the artifacts of teaching, such as lesson plans and assessments, become tools for the teacher’s own learning. As one example, this student teacher identified opportunities for assessing her students’ prior knowledge in an introductory activity she had planned. Similarly, through analysis of student work and engagement in tasks, she identified students’ volitional control and modified tasks accordingly, guiding students to seek appropriate challenges. Moreover, her own learning was grounded in and prompted by student learning.

Consider how this student teacher connected her own actions to student learning, noting that her fondness for “being in the spotlight” took away opportunities for student learning. As another example, she noted that teacher-student relationships can affect learning opportunities for both

Table 2. Examples of Volitional Strategy Development in Reflections on Practice

	Reflections on Students' Strategy Use Covert Strategies	Reflections on Teacher's Own Learning
Metacognitive	<ul style="list-style-type: none"> • The beauty about this unit is that there is not one way to come to understanding and all students contributed different views. • I think this student may have failed to check her work. 	<ul style="list-style-type: none"> • Planning group instruction: This will give me the opportunity to become a member of the group requiring extra instruction and also to join a higher ability group to challenge them with difficult questions and ideas. • Evaluating: To be successful, a teacher must always adapt to the needs of students. • Setting contingencies: This made me realize it is important to always prepare ahead an enrichment activity, and if you don't you will have to think quickly. • Evaluating: I learned organization and strong planning are essential for a teacher. • Use of feedback: Receiving feedback from my supervisor helped me realize I am developing strong classroom management skills. • Monitoring: I know I reached this goal by communicating expectations and encouragement. • Making connections: I learned that "being in the spotlight" can also be a weakness. I have to let my students do more thinking on their own. • I want to be able to help children become the best possible individuals they can be. • I imagined the curiosity and drive for knowledge and I would be a piece of the puzzle for their [students'] knowledge. • I learned what I contribute to the classroom and it made me realize I have much to offer so I set high expectations for myself.
Motivation Control	<ul style="list-style-type: none"> • I was a role model for these children; I knew I could be part of their development and I could see how they dreamed they would be where I am some day. • The students worked hard and enjoyed succeeding. This was a great confidence booster leading into more difficult and complex lessons. 	

Table 2. (Continued)

	Reflections on Students' Strategy Use Covert Strategies	Reflections on Teacher's Own Learning
Emotion Control	<ul style="list-style-type: none"> • During the lesson, I knew students were engaged when I stepped back and observed the students in their groups. 	<ul style="list-style-type: none"> • I thought to myself, "Look at the learning taking place and I had a major impact on the process because I guided them." These are the types of feelings that contribute to the love of teaching. • I have the ability to remain positive in classroom situations.
Control of Task/Setting	<p>Reflections on Students' Strategy Use</p> <ul style="list-style-type: none"> • I think the student understood tessellations but instead of challenging himself, he decided to create a shape he knew. I'll encourage him to use more than one shape. • The students knew they would have a quiz so they had to take the opportunity to study the materials from the lesson. 	<p>Reflections on Teacher's Own Learning Overt Strategies</p> <ul style="list-style-type: none"> • Controlling challenge for students: I selected the production of a tessellation because it would challenge students to be creative. • Controlling challenge for self: Since I primarily taught math and science, teaching the language arts lesson gave me the opportunity to see my students' different learning styles. I saw some students who love math and science not enjoy language arts. Students who are usually passive in science and math showed extreme interest and ability in the language arts class. • I will continue to try to use lessons like this. It is important for students to find the "survivor" in themselves.
Control of Others/Resources	<ul style="list-style-type: none"> • The student used his text as a resource to check understanding. • I think this student failed to use outside resources. 	<ul style="list-style-type: none"> • I realize I do not always have all the answers and I will inform the class we will have to check it out together. • The introduction I gave was a great pre-assessment. I was able to become familiar with what the students already knew. • My cooperating teacher has an amazing rapport with all her students. This relationship helps both the teacher and the students be active participants.

teachers and students and she expressed the view that students and teachers need to be active participants in the teaching and learning process so that they might learn with and from each other. In affective areas as well, the teacher's volitional strategies were connected to student learning. She envisioned opportunities to motivate students through modeling and capitalizing on students' images of possible selves. She also found opportunities for emotional control in the satisfaction that she had contributed to students' success.

It may be that teachers instinctively attend to student affect as immediate feedback on teaching. After all, one often hears teachers cite student engagement as an indicator that a lesson is "going well." Not all teachers, however, may deliberately build on students' affect to promote effective work styles, noting when students' confidence is sufficient enough to undertake "more difficult and complex lessons," as this teacher noted. Similarly attuned to affordances in the learning environment, this teacher was able to identify a quiz as affording a situation for action control, promoting students' productive work habits.

These examples suggest that there may be a connection between teachers' own self-regulated learning and their ability to develop self-regulation in students. But this is an agenda for further research. The intent here is to provide examples of a range of learning-from-teaching strategies student teachers might use to make the most of teaching situations. Although Table 2 provides examples from one teacher's portfolio, other student teaching portfolios also illustrated how student teachers learned from their field experiences, finding feedback inherent in the tasks of teaching as well as mentors' advice. Another student teacher, for example, reflected in her portfolio, "I was so nervous at first I tried to do the activity out of order. My mentor teacher encouraged me to relax and have some confidence in myself. As I interacted more with the students and realized they did respect me, I became much more confident. My second lesson went much more smoothly."

Thus, it seems possible that certain learning situations in teacher preparation programs, including coursework and field experiences, might afford preservice teachers opportunities for developing self-regulation that might be useful in both teacher and student roles. Understanding how teachers develop self-regulation in such situations may assist teacher educators to structure more of such opportunities and develop in preservice teachers an intellectual understanding of volitional constructs so that, as teachers, they recognize such opportunities when they present themselves in the future. The remainder of this article suggests ways that such opportunities might be structured within the context of teacher education programs to develop self-regulated learning in preservice teachers.

THE ROLE OF TEACHER EDUCATION IN TRANSLATING VOLITIONAL THEORY INTO PRACTICE

If teachers can serve an important role in structuring classroom environments to afford opportunities for self-regulation to occur, then it seems profitable for teacher education programs to explore ways of structuring similar opportunities for preservice students. As the examples presented in this article demonstrate, learning to teach and learning from teaching may at the same time both promote and necessitate the development of volitional strategies. Three principles have emerged from the examples collected from student teachers. To encourage teachers to get the most from teaching and learning situations, it seems important to provide explicit instruction in self-regulated learning strategies, create situations that set individuals on a course of action, and guide students to apply volitional strategies to get the most out of the situation created for them.

DEVELOPING AN INTELLECTUAL UNDERSTANDING OF VOLITIONAL THEORY

If individuals are to call up volitional strategies on demand, they must have more than a tacit understanding of self-regulation (Paris & Cunningham, 1996). Explicit instruction in self-regulation is therefore both desirable and necessary if teachers are to recognize opportunities for self-regulation across a variety of situations. In teacher education programs, coursework in educational psychology provides one opportunity for explicit instruction in both motivation and volition theory. Textbooks can be supplemented by scholarly reading assignments to develop a deeper understanding of the constructs. As more psychologists take up the challenge of elucidating complex constructs for teacher educators and practitioners, an increasing number of references and resources, such as this volume, should become available to both preservice and practicing teachers.

Another opportunity to develop an intellectual understanding of volitional theory was afforded through the creation of instructional materials for teaching self-regulated learning. Unless they are taking graduate coursework, or engaged in collaborative research, practicing teachers typically have few opportunities to work directly with university faculty or researchers. Preservice teachers, on the other hand, have an ongoing opportunity to work closely with university faculty and researchers to develop curriculum materials. In our program, some student teachers chose to develop curriculum materials focusing on self-regulated learning strategies, and, in so doing, they increased their own understanding of volitional theory. Not all preservice teachers may be prepared for or interested in such collaborative work, but for those who are, teacher education programs

might seek ways to routinely incorporate opportunities for collaborative curriculum development based on theory. In addition to volition theory, other instructional theories might also be used to encourage the direct application of theory to practice as well as provide teachers opportunities for developing an intellectual understanding of a variety of educational theories.

DEVELOPING AN IMPLEMENTATION MINDSET

Perhaps the most powerful lesson volition theory teaches is that once individuals are set firmly on a course of action, there is little inclination to turn back (Corno, 1993). For example, if aspiring teachers invest time and financial resources in their teacher education program, leave financially rewarding positions to pursue coursework leading to a new career in teaching, or focus undergraduate coursework in areas leading to teacher certification and narrowing possibilities for other careers, they set themselves on a course of action, committed to the pursuit of their goal. It becomes difficult not to continue. Teacher education programs might reinforce or redirect such commitments, guiding preservice teachers to envision themselves as the teachers they want to become, or suggesting images of other possible selves, if candidates are not ideally suited for the career toward which they aspire.

An implementation mindset might also be encouraged by the assignment of particular tasks that require the development of volitional strategies. For example, the assignment to teach a particular lesson or develop instructional materials on a particular topic necessitates certain actions, such as gathering more information about an unfamiliar topic or using existing resources and information on familiar topics. For example, preservice teachers might be given assignments and resources to develop curriculum materials on a particular science topic so that they can learn more about topics they have not formally studied. On the other hand, by choosing to develop lessons on familiar topics, preservice teachers limit their opportunities for learning.

Apart from formal coursework, the routines of teaching, for better or worse, may encourage an implementation mindset. For example, the need to provide students feedback on practice before administering an assessment may prompt teachers not to put off grading papers. In teacher education programs, the intensive schedule of student teaching and other field experiences cannot help but propel students into teaching mindsets, encouraging them to prepare for daily lessons, focus their attention on managing student behavior, keep up with grading and other tasks, so that they do not fall behind. Teacher education programs might profitably build

in more opportunities for authentic teaching experiences, such as tutoring or administering individual reading assessments.

CONNECTING THEORY AND PRACTICE

Once students have developed an intellectual understanding of volitional theory and embarked on a firm course of action, the stage is set for learning from teaching and making connections between theory and practice. Mentors serve an important role in guiding teachers to draw upon the volitional strategies they need to accomplish their teaching goals. In the student teaching experience, for example, cooperating teachers model strategy use and provide advice for getting the most from the student teaching experience. University supervisors serve an especially critical role in bridging theory and practice. For example, supervisors can profitably assist student teachers in using formal language for describing and reflecting upon their practice. Similarly, they might point out opportunities for self-regulated learning. Calling attention to the important role of the university supervisor, researchers have called for greater involvement of university faculty as supervisors of student teachers to help cooperating teachers become teacher educators and to assist student teachers in reflecting upon their practice (Borko & Mayfield, 1995). In our program, for example, the student teaching portfolios were read by faculty members, who encouraged students' use of formal language through written feedback in the portfolio process.

To encourage students to learn from teaching as teachers, case studies can provide further opportunities to connect theory and practice, as they do in other professional schools (see, e.g., Shulman, 1992). In our program, students analyzed teaching scenarios for motivational and volitional control strategies. Cases can provide opportunities for practice in assessing students' volitional work styles, structuring learning environments to develop self-regulation, and recognizing naturally occurring opportunities to draw upon volitional strategies for optimal learning.

CONCLUSION

This article began by taking up the challenge of translating volitional theory into practice so that educators might see the implications and relevance of this theory. Volition theory is complicated not only, as Corno (this volume) points out, for the complex psychological constructs inherent in the theory itself, but also for the complexities embodied in its practical applications. Self-regulated students, teachers, and others not only draw on sophisticated volitional strategies and recognize situations that require them; these

individuals are also highly attuned to recognize situations in which it is useful to develop new and different strategies. In short, becoming a self-regulated learner not only requires high road transfer from a given to a new situation (Perkins & Salomon, 1988); it likewise requires developing new strategies to learn in novel situations.

Considering the demands of teaching, it is difficult to imagine an effective teacher who has not developed self-regulated learning strategies. Teaching itself may have afforded teachers opportunities to develop critical volitional learning strategies. It seems unlikely that the work of teaching can be accomplished successfully without learning. Despite all the complexities of volition theory, if it can be put simply and relevantly for educators, by teaching, we set out on a firm course for learning.

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