

# Self-Regulated Learning and Academically Talented Students

By Dr. Sally M. Reis



## For some parents of high-ability and high-potential students, the following scenario is all too familiar:

*Peter is a fifth grader who seems bored and disinterested in all academics most of the time in school. He fidgets constantly, is in trouble often for being “off-task,” and has been referred for assessment as having attention deficit/hyperactivity disorder (ADHD) for the last three years. His teacher reports that he rarely finishes his schoolwork, daydreams often, and is rarely on task. He is in danger of*

*not learning basic information required by the district and state curriculum standards. His mother, a pediatrician, does not believe that he has ADHD, but rather, that he is not provided enough opportunities for challenge and movement in his traditional school environment. Peter and his father, who also has an extremely high energy level, frequently build intricate rockets together, and Peter can*

*sit quietly for hours when he is engaged in work of his own selection. Peter has tested at the 99th percentile in general aptitude but his work in school is often well below average. His lack of completion of schoolwork is becoming increasingly problematic, particularly when it appears that he does finish the work he wants to pursue at home. Peter is being labeled an under-achiever and his teacher believes he needs to gain some work strategies to achieve at higher levels. How can his parents or teachers help him in this process?*

Peter's underachieving behaviors may be emerging for various reasons. Peter may not be challenged in school and may have to learn how to discuss these issues with his parents and teachers and arrive at a solution. Many strategies, such as curriculum compacting and differentiation, can be used to address the lack of academic challenge experienced by high-potential students. However, if Peter has problems finishing work that is appropriately challenging in school, he may need to learn and apply skills that experts refer to as "self-regulation." According to Professor Barry Zimmerman and his colleagues, self-regulation enables students to develop a set of constructive behaviors that can positively affect their learning. In less technical terms, that means learning some skills that students need to have if they are going to be responsible for decisions about their own learning and performance. Students face different types of challenges in learning how to meet their parent's and teacher's expectations while they also learn to develop their own strengths and talents. Research suggests that they may benefit from learning to assume responsibility for their own learning. In particular, Peter may need to develop his own self-regulation to become more successful in school.

## Self-Regulation Strategies Used by Successful Students

Professor Zimmerman and his associates have demonstrated that there is a common set of self-regulation strategies, and an *individual* set of skills that each child can develop to be successful in school and life. These skills include methods of organization for the time and place in which academic work is completed, the types of regular patterns of homework and test preparation one learns to use, and the way self-control emerges. Research by Zimmerman and others strongly suggests that self-regulation skills can be taught, learned, and controlled.

In my experience over the last three decades, the absence of self-regulation in learning can be one of the most negative experiences encountered by high-potential students.

Self-regulation strategies used by successful students usually fall into three categories: *personal*, *behavioral*, and *environmental*. Parents can help children learn and apply these strategies, with the goal that, eventually, the children will be able to apply them independently.

### Personal Strategies

Personal strategies involve how a child organizes and interprets information and include:

#### Organizing and transforming information.

These strategies enable children to become much more efficient at learning—but even some of our brightest students do not always understand how to study well or efficiently. These skills include strategies such as outlining, summarizing, highlighting, using flashcards or index cards, and drawing pictures, diagrams, or charts.

#### Planning and setting goals.

This includes identifying goals or standards, with strategies such as sequencing, timing, time management, pacing, and thinking about how you can accomplish your best work. For example, parents can help their children learn to complete homework at night, before they watch television or play video games, or to limit the time they spend on entertainment to a certain number of hours each night.

#### Keeping records and monitoring.

The goal of this strategy is to help children learn to be in charge of understanding their strengths and the areas in need of improvement and to take the time to assess why they do well on some kinds of assignments and tasks and less well on others. These skills include strategies such as note-taking, listing their own errors, keeping drafts

of assignments, considering their own improvements, and maintaining a portfolio of their most special work.

### Written and/or verbal rehearsing and memorizing.

These strategies help children learn to memorize more efficiently and learn how to be better at written and verbal language. Examples of skills in this category include using mnemonics to memorize important materials by remembering the first initials of each word, using imagery to remember diagrams or visualize concepts, teaching someone else the material, or making sample questions.

### Behavioral Strategies

Behavioral strategies involve students checking their own progress or quality of work by examining the actions they take during the learning process. Children must learn to evaluate their actions and to understand the consequences of these actions. In self-evaluation, children analyze the learning task to determine what their teacher expects and whether they want to put the time and effort necessary into the task. They also learn to reflect on their self-instructions, feedback, and attentiveness. When they think about the consequences of their actions, they may ask themselves important questions (e.g., "What will happen if I do not study my 25 spelling words instead of playing this video game?"), and come to understand that if they fail to study, they may very well fail the spelling test tomorrow.

Children can also learn how to provide their own rewards to motivate themselves to meet their own goals. They can also learn to use reinforcement or reward of their own positive actions and to delay gratification until they have achieved a goal. For example, Jonna can learn to say to herself, "I really want to watch that DVD. If I finish 25 minutes of studying for that spelling test, I will watch a half hour of the movie and then go back to studying until I know all of the words!" Profes-



sor Zimmerman has learned that the most successful students and adults often use these strategies.

### Environmental Strategies

Environmental strategies for self-regulated learning involve the use of external resources and the adaptation of a student's environment, such as:

- seeking information from the library and Internet; seeking social assistance from peers, teachers, other adults
- emulating exemplary models
- reviewing records
- re-reading notes, tests, and textbooks.

Structuring the study environment for optimal results can also help children to become more self-regulated. These strategies include:

- selecting or arranging the physical setting; isolating, eliminating, or minimizing distractions
- breaking up study periods and spreading them over time (also known as chunking assignments into reasonable parts over time).

### How Parents Can Help Children Develop Self-Regulation

Parents can guide children in becoming more self-regulated by helping them to acquire specific strategies that enable them to increase their control over their own behavior and environment. They can also help by modeling those behaviors at home and discussing how they learned to pay bills on time, handle responsibilities, and set goals for personal choices or work decisions.

Researchers believe that self-regulation is enhanced when someone carefully observes and considers his or her own behavior and acts upon what has been learned, enabling children to learn to *decrease* negative behaviors and *increase* positive behaviors. Self-regulated students learn to ask themselves, "Does this strategy work for me in this situation?" For example, students who struggle with reading or writing must learn to allocate much more time to complete their written work and lengthy read-

ing assignments. In order to help their children learn better self-regulation skills, parents can encourage children to avoid comparing their performance to peers and to consider carefully their own goals and the work patterns they use to achieve their goals.

Children should learn that there are different ways to attain goals and then learn how to select the best way to complete a specific task, both at home and in school. In many classrooms, teachers assume most of the responsibility for the learning process and students may begin to depend on a teacher-directed approach. It is critical that, at home, parents encourage and support students to take control of their learning. You can accomplish this goal by modeling good learning strategies at home as well as by providing time and a supportive environment for quiet learning and homework completion.

Professor Harold Stevenson is a developmental psychologist whose current research includes several cross-cultural studies of school achievement. Steven-

son directs a large project investigating and comparing the achievement of American, Chinese, and Japanese children. His work focuses on achievement in mathematics and reading. He has worked for many years to identify characteristics associated with the high performance of Japanese and Chinese students, who consistently exceed other students in achievement. One fascinating part of Stevenson's research explores how parents in these cultures support the high achievement of their children by having a quiet time every evening when everyone in the family works and reads together. During this quiet study time, parents read and do their own work while their children are in the same room with them so parents are available to help or guide them if necessary. The parental monitoring of homework and study skills that Stevenson has found in other cultures might be increasingly necessary for some students. When I speak to many parents of high-ability students who underachieve, they tell me that their children "do hours of homework each night." When I ask them where they do this homework, they respond that they do their homework in their own bedroom. When I ask whether detractors might be present in their children's bedrooms, they explain that their children have access to computers, instant messenger, telephones, music, and perhaps even television. Children who have many temptations and distractions may not learn to develop fully their own unique set of self-regulation skills.

Some academically talented students possess better self-regulated learning strategies than their peers, while other talented students may have done very well in school without using good self-regulation strategies because of a combination of their high abilities and



an unchallenging curriculum. If learning is relatively easy for someone, less effort, organization, and other self-regulated activities are expended. Some social conditions or personal issues may prevent students from developing self-regulated learning strategies or from using them regularly. They may need to be helped and encouraged to do so. Some gifted and talented students display perfectionism and need to learn to strive for their personal best effort rather than perfection. Some talented students with high potential may find it difficult to learn self-regulation when it is not taught, modeled, or rewarded by the adults in their home and family. Even if students interact regularly with adults who demonstrate self-regulation, they may fail to use these skills themselves due to peer pressure, or refuse to use the strategies their parents or teachers regularly employ at home or school.

Compared with low-achieving students, high achievers set more specific learning goals, use a variety of learning strategies, self-monitor more often, and adapt their efforts more systematically. The quality and quantity of self-regulation processes is crucial. We must recognize that one self-regulation strategy will not work for all students, and that the use of only a few strategies will not work optimally for a person on every task or on every assignment. It is important that students learn to use multiple self-regulatory learning skills rather than single strategies. They must also learn that their goals and their choice of self-regulation strategies have to be continually adjusted. Parents should help students focus on understanding the material and on persisting when they are challenged. This is especially critical for talented students who have seldom experienced high levels of challenge, as illustrated in the following scenario:

*Jamie is an eighth-grade student who was identified in first grade as academically talented. She read at the seventh grade level by the time she finished second grade and consistently scored at the 99 percentile on all areas on standardized achievement tests. Jamie did not like math and coasted through her school district's math curriculum from first through seventh grade, doing minimal homework and getting top grades. Because of these high scores on achievement tests and previous grades, she was recommended for an advanced algebra class in eighth grade and encountered, for her first time in school, some challenge in mathematics. She struggled with a few concepts and began to tell her parents that they had erred in their assessment that she was smart. Jamie gave up almost immediately whenever she encountered a homework problem she could not solve while doing homework and told her parents she would ask the teacher the next day for help. She continued to do her homework each evening, completing only the problems that she could easily master. On the harder problems, she either sought help from her friends and teachers if she could not quickly and correctly solve a problem. The answers to problems were in the back of the book so that after a few minutes of work, if she could not solve the problem, she often looked it up in the back of the book but failed to learn how to solve the problem. She failed a couple of tests, became convinced she was terrible at math, and considered dropping out of the algebra class. How could Jamie gain the self-regulation skills she needs to succeed in a more challenging class?*

*Jamie's parents worked with her to help her develop self-regulation. With patience, they encouraged her to do her math homework on the dining room table each evening. Using humor, they encouraged her to increase the time she spent trying to*

*solve more challenging algebra problems. They also suggested she think about how she could control her temper if she could not easily solve a hard problem. They discussed their own challenges with hard work and the role of effort in their own work. They encouraged her to think about what strategies worked for her and to consider how she could modify her study strategies by thinking about her own successes. Over the course of a few months, Jamie learned to spend more time on algebra, to carefully consider how she could become more successful, to discuss problems with her friends, and to try different approaches. By the end of eighth grade, she had become a very successful student in algebra and had mastered a number of the self-regulation strategies. She was much better prepared for the challenging honors and Advanced Placement classes that she would encounter the next year.*

Self-regulation enables children to develop and learn constructive behaviors that affect one's learning. These behaviors are planned and adapted to support the pursuit of personal goals in changing learning environments. Learners with high levels of self-regulation have good control over how they attain their goals. Conscious self-regulation requires a student to focus on the process of how to acquire these skills. Many researchers agree with the importance of self-regulated learning for students at all academic levels, and the principle that, self-regulation can be taught, learned, and controlled. In fact, in Zimmerman's studies, successful students reported that the use of self-regulated learning strategies was directly tied to their success in school!

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on the board. A player to represent any one letter or a string of contiguous letters to form a word can use the wild tiles and squares. Opponents can build on the wild tile by using it in the same way to represent any one letter or a string of contiguous letters of their choice to form a crossword. In addition, there are squares that cause you to lose points. Finally, challenges are handled in a way that introduces the bluff element to the game. Helpful suggestions and examples are provided at <http://www.wildwords.us>.

**Rumis.** Educational Insights (<http://www.educationalinsights.com>), \$29.95. Ages 8+ for two or four players.

Rumis is a game of geometric strategy based on the amazing architecture of the Inca. They used blocks of stone to build monuments that have withstood the test of time. It is an exciting game of three-dimensional strategy in which players try to outbuild and outsmart their opponents. Players alternate turns while constructing an ancient Inca monument one block at a time. They are awarded points based on the number of faces of their stones visible from above at the end of each round. One point is deducted for each stone not played.

**Get-Up: The Wearable Sound-FX Fantasy Toy.** Big Boing Toys, LLC (<http://www.bigboing.com>), \$24.99. Ages 3-8 for one player. Three different versions of this wearable toy are available:

- *Roaring Dinosaur* includes a soft T-rex head and 2 plush dinosaur feet. The wearer tilts his or her head back to roar, forward to growl, keeps head still to breathe and rumble, and walks to trigger stomping feet sounds.
- *Clippity Clop Horse* comes with a soft, plush horse head and 2 plush horse hooves. The wearer tilts his or head back to whinny, forward to snort, holds head still to breathe, and walks to make clippity-clop sounds.
- *Fancy Fairy* includes fairy wings, wand, jeweled tiara, and a set of matching anklets. The wearer walks to make fluttering sounds, runs for flying sounds, and holds a button on the wand to make musical spells.

With these new wearable toys, children's imagination is stimulated and movement is encouraged during fantasy play.

**Tub Tunes: Water Flutes.** Big Boing Toys, LLC (<http://www.bigboing.com>), \$9.99. Ages 4-8 for one player.

This set of five water flutes helps young children to explore the basic properties of music while playing with water. The flutes are tuned to play various notes by filling them with different levels of water. Easy to follow waterproof sheet music is included. After children learn the basics they can experiment on their own to create different notes and play their own tunes.



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### **Phases of Self-Regulation**

Acquiring self-regulation skills seems to proceed through three phases evolving over time.

#### **Phase 1. Forethought.**

This phase precedes the actual performance, sets the stage for action, maps out the tasks to minimize the unknown, and helps to develop a positive mindset. Realistic expectations can make the task more appealing. Goals must be considered as specific outcomes, arranged in order from short term (tomorrow and this week) to long term (next month and next year). As children begin to receive more homework assignments, parents can ask them to consider the following questions about their work:

- When will I start this work?
- Where will I do the work?
- How will I get started?

Students have to consider what conditions will help or hinder their learning activities as part of this phase. For example, Jamie's parents needed to help her to think about her algebra homework and reflect on what she could do to be more successful. They helped her



to consider whether there was a better time or place to do her homework, and whether it would help her to begin it in school with her friends who are successful in algebra. They helped her to try to spend at least five minutes on a problem before giving up and moving on. They suggested that she have a friend, either in person or on the phone, who would be available to talk about some of the steps they might use to solve the algebra problems.

### Phase 2. Performance control.

This phase involves processes during learning and the active attempt to use specific strategies to help a student become more successful. Parents can ask their children to consider the following questions:

- Am I accomplishing what I hoped to do?
- Am I being distracted?
- Is this taking more time than I thought?
- Under what conditions am I able to accomplish the most?
- What questions can I ask myself while I am working?
- How can I encourage myself to keep working (including self-talk, such as, “Come on, get your work done, so you can watch that television show or read your magazine!”)?

Jamie, for example, had to consider her performance in math as opposed to other content areas. When frustration increased, she had to consider whether she should stop and take a break. She had to think about whether she should do her math homework first in the afternoon, rather than putting it off until later in the evening. Should she have background music or work in silence? She also used and considered the success of some of the strategies she thought about in Phase 1.

### Phase 3. Self-reflection.

This phase involves reflection after the performance, a self-evaluation of outcomes compared to goals. Parents can ask their children to consider the following:

- Did I accomplish what I planned to do when I studied for my math test?
- Did I become distracted and if so, how did I get back to work?
- Did I plan enough time or did I need more time than I thought?
- Under what conditions did I accomplish the most work?

If I was successful in my homework or in tests or assessments, I might ask myself:

- What did I do differently to make it work this time?
- Did a change in time or in my work habits help me solve more algebra problems?

- Did calling a friend who was doing algebra homework at the same time make a difference?
- Did using self-talk to praise myself during this time have a positive impact (“All right, I did it!! I solved that problem!!”)?

## Summary

The development of good self-regulation usually involves self-observation; that is, monitoring one’s performance and keeping records. It also involves helping children to gain self-judgment; that is, comparing performance with a standard or goal that may involve re-examining answers and checking procedures. It also involves self-reaction with goal-setting, self-administered praise or criticism, rehearsing, memorizing, structuring the environment (e.g. changing the academic task’s difficulty, changing the academic setting or the environment or creating a study area), and asking for help.

Guiding your children in the acquiring these strategies can successfully increase their self-regulation and enhance academic achievement.

## Recommended Reading

Reis, S. M., & McCoach, D. B. (2000). The Underachievement Of Gifted Students: What Do We Know And Where Do We Go? *Gifted Child Quarterly*, 44 (3), 152-170.

Stevenson, H. W., & Newman, R. S. (1986). Long-term Prediction Of Achievement In Mathematics And Reading. *Child Development*, 57, 646-659.

Zimmerman, B. J. (1989). A Social Cognitive View Of Self-regulated Academic Learning. *Journal Of Educational Psychology*, 81, 329-339.

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