

Self-Regulation for Learning: Balancing the ABC of Success

Learning is a complex process of interrelated dimensions. To be literate, students must not only possess academic tools and skills, they must also be confident in the learning environment, resilient to adversity, understand the effect of behavior, be self-reflective, value learning activities, and have motivation and interest to achieve. These interactive dimensions all collaborate to produce what is known as self-regulation.

Dr. Richard M. Cash, an educational consultant at nRich Consulting, made a presentation at the Minnesota Department of Education in which he shared important considerations and research-based recommendations that help students learn how to learn. Below, he summarizes some of his recommendations as well as addresses study habits that help to ensure that students are career and college ready.

The concept of self-regulation has been a focus of research for well over forty years. Educational psychologists seeking to understand the complexity of learning have found an array of ways teachers can improve achievement through this multi-dimensional approach called self-regulation. Many educators already know that learning isn't a simple act that can be controlled by increasing standards, finding the "right curriculum," or putting in place policies that punish students or teachers for the lack of achievement. Educators, curriculum developers and policy makers need to understand the holistic impact self-regulation has on student learning and achievement.

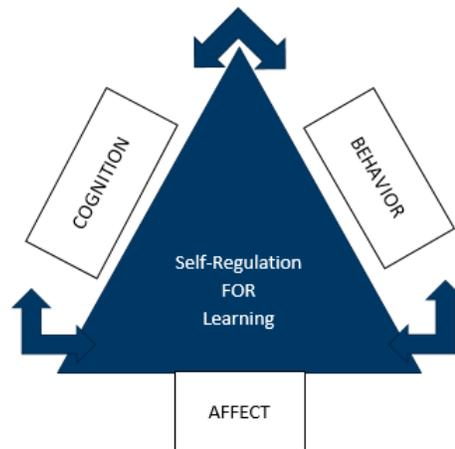
The Brief History of the Concept of Self-Regulation

Educational psychologist and university professor, Barry Zimmerman (2000), states that self-regulated learning (SRL) is the "self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals" (14). Research on SRL originated as an outgrowth of psychological studies in adult and child development often times stemming from addiction or the therapeutic context. Researchers often taught patients to alter dysfunctional behavior such as aggression or depression. Based on these studies, researchers soon found that changing behaviors required comprehensive approaches for reaching goals. Not all patients were equally impacted through the same methods. This led researchers to explain not only behavioral differences, but also achievement differences between students. They believed understanding the nature of SRL could be a way to improve academic performance of all students.

Early research on the impact of SRL focused on cognitive strategies and behavioral modification. Teaching students how to monitor their thinking (meta-cognition), rehearsing, goal setting, and time management, would set the stage for a productive learning environment. Most recently, studies indicate that the affective dimension of motivation, interest drive, and focus of emotional response, self-efficacy and self-confidence of the individual plays as important a role in learning as does cognition and behavior. The significance of SRL is the sustainability and interaction between the three critical dimensions I define as affect, behavior and cognition (ABC) (See figure

1). For a learning goal to be achieved, learners must have an understanding of the impact and learn to balance their ABCs.

Figure 1: The Balance within Self-Regulation for Learning (Cash, 2016)



Throughout my years of teaching, curriculum development, program direction and professional development, I have found that students who struggle in school or underperform are often lacking the awareness, attention toward, or understanding of SRL. I believe that prior to being successful in school students must possess the tools to build, manage and adapt their own self-regulation.

A is for Affect

Affect is either physical and mental states of emotions and feelings, generally understood ranging from pleasure to pain, sorrow to joy, and desire to need. Theories abound as to the differences between feelings and emotions (de Sousa, 2014).

As neuroscientist Antonio Damasio (1995) states, an emotion is an involuntary bodily response. Emotion, in this case, is the chemical reaction within the limbic system of the mid-brain. These chemical reactions are innate or instinctual to our being and in most cases are uncontrollable.

The term “feelings” is referenced as physical reactions to the emotion/chemical stimuli produced by the midbrain. When the prefrontal cortex becomes aware of the chemical stimuli produced by the midbrain it will signal the body to react creating a feeling. These physical reactions often appear as facial expressions, body movements, or modulation voice tones. Subjectively, these feelings can be the focusing of attention, desires or motivations. Therefore, feelings are the external “read-out” to emotion. How a learner feels about a situation has a direct effect on how the learner will approach, attend to, value, or accomplish a task or experience.

Affect as Motivation

Motivation is our driving force. Whether extrinsically produced from outside of us, or intrinsically initiated from inside of us, motivation has an effect on the learning process. Our self-control or self-discipline are directly related to our motives toward goals and ideals (English & English, 1958). Our sources of motivation have a strong effect on goal orientation, self-efficacy beliefs, confidence, social interactions, values and interests. Sources of motivation come from our self-beliefs regarding our abilities, competence and impact on outcomes.

Motivation has four influential impacts on learning. First, as cited above, students who are motivated to learn focus their attention toward the process and the outcome. The trait of self-monitoring is important to understanding how well goals are set, actions are being implemented, and goals are being achieved.

Secondly, choice in learning options has a substantial effect on learner motivation. When students have the opportunity to select how they would like to learn material and present learning, they progress more fluidly toward achievement goals. Choices increase a sense of control over the learning environment and valuation toward the task at hand. Choices need not be extensive, simply providing students two or three options allows them the opportunity to develop direction and regulation for learning.

Carol Dweck (2006), a leading researcher in the field of motivation and professor of psychology at Stanford University, suggests that those who are more successful in life possess a growth mindset over a fixed mindset. The third factor in motivation is the growth mindset. Students who view learning as a challenge where effort is required are motivated to achieve. Putting effort forward and utilizing individual talent is what Dweck defines as a growth mindset. Students who believe their abilities are static and cannot be increase are considered to possess a fixed mindset.

Fourth, learners who are persistent, and learn to overcome obstacles have a greater level of motivation than do students who lack those attributes. Students who persevere learn through repeated consistent practice. This type of practice, known as deliberate practice is a framework of skill improvement to reach expertise. The process of deliberate practice requires the learner to break down the larger skill into discrete, conscious actions (or strategies) to define where they are proficient and where they need to focus.

These factors of motivation increase satisfaction, and have a positive effect on learning (Zimmerman & Kitsantas, 1999). Students who are deficient in motivation are less likely to set short and long-term goals, may not find meaningfulness in learning tasks, feel less accomplished, and do not achieve success as often as those who have higher degrees of motivation.

What can teachers to do help students develop long-term forms of motivation?

- Teach students how to monitor their learning. Focus in on successes and how mistakes can be viewed as an opportunity.
- Provide students with relevant and meaningful choices. Using interests, fun, and active learning options to engage students. Limit the number of choices so as to not overwhelm the students with making decisions.
- Help students build their growth mindset. Focus students on what they are good at—recognizing their strengths and persistence toward achievement.

- Demonstrate for students the qualities of persistence, and effort application. Show students how overcoming obstacles can lead them to being more successful.

B is for Behavior

In the context of self-regulation for learning, behaviors are the actions students take inside and outside the classroom to be successful in learning. Typically, the behaviors students employ during learning are considered the behaviors of self-regulation. Our learning behaviors are an array of actions we perform to initiate, sustain, change or develop based on internal and external factors. Behaviors can also be considered conscious and unconscious.

Behavior as Study Habits

A crucial behavioral aspect of self-regulation for learning is that of study habits. To ensure students are college and career ready, they must possess the abilities to study. Study can be considered preparation for what's to come. Below are 10 important study habits that every student should know and be able to use (Cash, 2016):

- **Set a regular study time each day**, whether it be right after school, before the evening meal or prior to bedtime.
- **Create a space** where distractions are few, lighting is ample and clutter is at a minimum.
- **Manage the time** devoted to studying by parceling out the total study time to each of the various tasks needed to be completed.
- **Organize** yourself and your materials prior to studying for efficient use of the time.
- **Be aware of the way you like to learn best**, whether you are an auditory, visual or kinesthetic type of learning.
- **Take a short break** of 2-3 minutes during your study time can help keep you motivated, refreshed and focused.
- **Know how to avoid distraction** by recognizing when you are wasting time or procrastination.
- Plan for asking for help by identifying those who can help you or where you can seek advice or information when you get stuck or are struggling.
- **Check yourself** when you have completed a task, to ensure you have done it correctly and have fulfilled the requirements.
- **Reflect on your study time** by asking yourself the ABCs:
 - How do I feel now that the study time is over?
 - Where my behaviors successful?
 - What will I do better next time?

C is for Cognition

Cognition is commonly defined as the mental process from simple to very complex levels of awareness. Simple cognition is the recognition of sensory inputs, movement at will and recalling factual information. Complex cognition is the abstractions of thought from critical reasoning, interpretation, and creativity. Experience

increases our cognition from a repetition at the factual level to practice at the procedural level to discovery at the conceptual level. In the classroom cognition is the varied thinking processes students use in the classroom.

Meta-Cognition: Thinking about the self

The most often recognized level of cognition in the classroom is the act of meta-cognition: thinking about our own thinking. Reflective thinking is a process we all use every day as we think about what just occurred or what has happened in the past. Meta-cognition also includes the mental actions of planning, monitoring and evaluating progress toward achievement of a task (Livingston, 1997). Meta-cognition is also essential to our abilities to manage our executive functioning. Using meta-cognition as a tool in self-regulation for learning is oversight of control which includes:

- Personal knowledge: how a student learns best
- Task knowledge: what's expected
- Strategy knowledge: what to do and when.

Effective learners know their strengths and limitations, know how to approach and solve problems, and apply strategies to successfully complete tasks.

Infra-Cognition: Thinking as a process

Infra-cognition is the grand thinking processes used in school. As we progress through the 21st century, thinking at advanced levels is more imperative than ever before. Therefore, students need instruction in critical reasoning, creative thinking, problem-solving techniques and decision-making strategies.

Meta-Physical Thinking: Thinking beyond the self

The most advanced level of cognition is meta-physical thinking, thinking beyond the self. Metaphysics is a philosophical line of abstract or theoretical thinking. Dorothy M. Emmet (1949), British philosopher, defined metaphysical thinking as being analogical thinking. There are two types of analogical thinking:

- Coordinated analogies: a form of reasoning in which similarities between two or more objects or ideas are compared, such as "The structure of an atom is like a solar system."
- Existential analogies: ideas from experiences to explain or make judgments about reality or our being. Often, poets will use existential phrases to explain the human condition for the search for meaning, such as:

"Grave me, near death, who see with blinding sight

Blind eyes could blaze like meteors and be gay,

Rage, rage against the dying of the light."

Do Not Go Gentle Into That Good Night by Dylan Thomas

An important factor of self-regulation is the ability to move from the reflective process of meta-cognition to the structure thinking tools of infra-cognition to ultimately using knowledge to think beyond the self. To be productive in this new era, students must be able to reflect on experiences, consider the multiple ways to solve complex ambiguous problems and then be able to communicate ideas beyond themselves.

The Balance between the ABCs

Attainment of peak levels of academic and athletic performance requires more than talent and ability. For students to be successful they must possess and act upon the balances between affect, behavior and cognition. Discipline and determination along with a positive sense of self are instrumental in achieving proficiency and competence (Zimmerman and Kitsantas, 2005).

Students who are dependent and inflexible in their learning are less likely to seek out help, do not self-initiate, lack effective focus and may require more sustained support. Conversely, students who are more efficient in self-regulation may struggle, but seek out effective role models, teachers, or additional resources to become successful. Self-regulated learners can adjust the coordinating system of the ABCs to find greater enjoyment, motivation and autonomy in learning.

Using the idea of self-regulation as the balance across the three dimensions is a figurative way to help students in creating their own equilibrium. Without a strong affect (the motivational beliefs that one can achieve), behavior will not be focused and cognition will not be ignited. Without effective behaviors (study and learning skills) cognition is not refined and affect tumbles. Without the reflective, thoughtful cognitive aspects, affect (motivation) wanes, and behavior instigates helplessness. Keeping students strong in all three dimensions or learning how to adjust one dimension to support the others is an essential tool for learning and success.

Conclusion

It is critical for our students to learn, practice, and apply appropriate self-regulation strategies for them to attain success in the increasingly complex world of the 21st century. To solve all the problems and achieve all the wonders of their futures, our students will need to maintain focus in spite of increasing distractions of technology and learn to be both collaborative and independent. We must prepare to embed the direct instruction, practice, and application of managing affects, behavior, and cognition. See, *Self-Regulation in the Classroom: Helping Students Learn How to Learn* for strategies, tools and techniques to develop self-regulated and autonomous learners.

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