

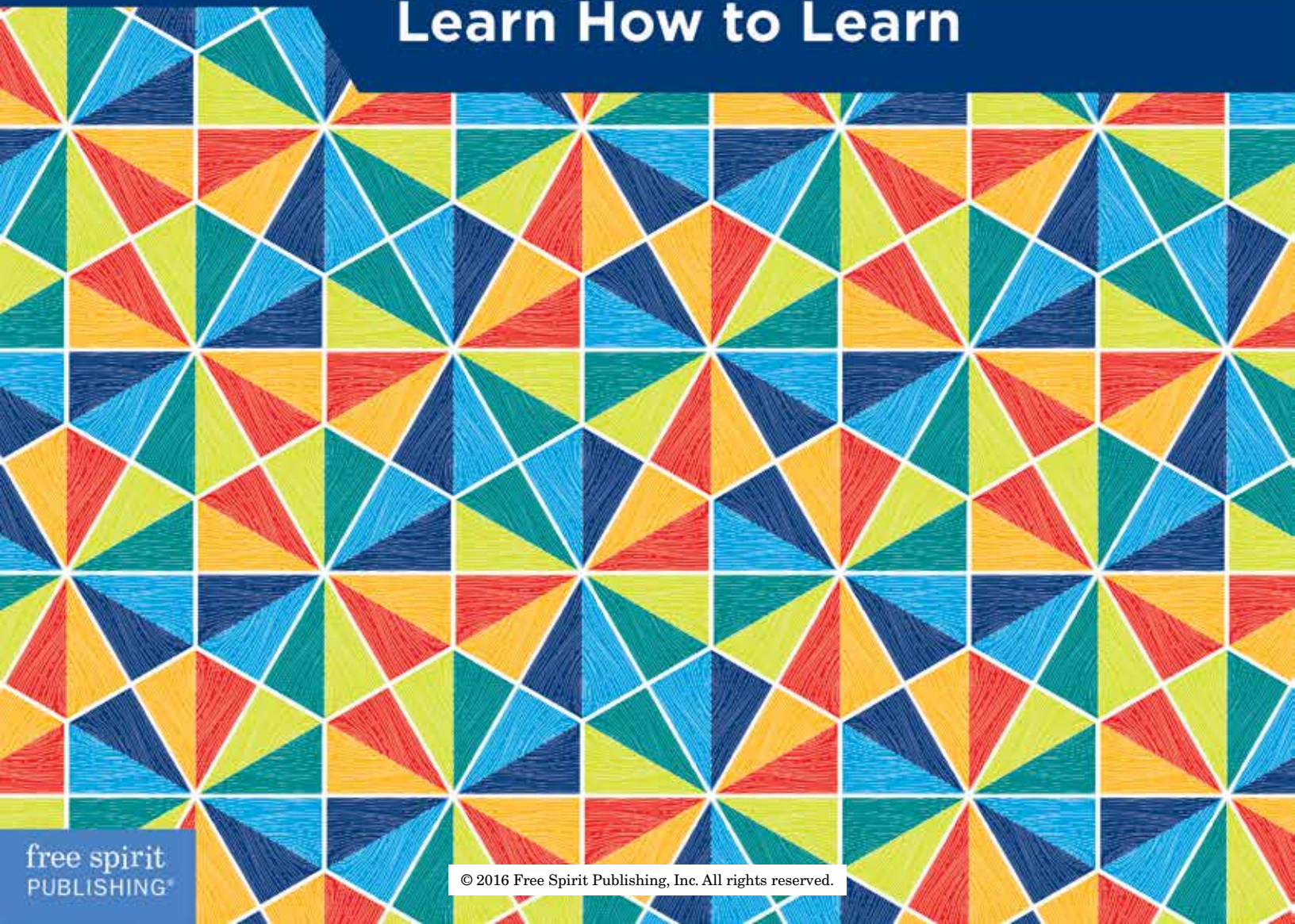
RICHARD M. CASH, Ed.D.

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Self-Regulation in the Classroom

Helping Students
Learn How to Learn



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Praise for **Self-Regulation in the Classroom**

“This action-ready, comprehensive, beautifully organized resource full of power tools for student self-regulation is all a teacher needs to bring daily success to students.”

—LeAnn Nickelsen, M.Ed., coauthor of *Deeper Learning* and *Bringing the Common Core to Life*

“Richard Cash brings his high energy, positive approach to education, providing a road map of how to develop 21st century learners through an empathic understanding of the role of affect, behavior, and cognition. Excellent resource for teachers, psychologists, parents, and administrators.”

—Teresa Argo Boatman, Ph.D., psychologist and gifted specialist

“As a teacher for nearly thirty years, it is exciting to find a strategy that energizes me as an educator. *Self-Regulation in the Classroom* is grounded in research, user friendly, and chock full of strategies and activities to guide all students toward finding their own ‘sweet spot’ for learning. Dr. Cash has a superb understanding of how the mind works and how to tap into its fullest potential.”

—Monica Fitzgerald, teacher, grade 3

“Dr. Cash’s in-depth, well-researched, and insightful book addresses both the socio-economic and the academic-intellectual needs of all students. It is filled with sound theory, interesting concepts, and practical strategies. Throughout the book, he emphasizes the world of 21st century students with its information overload and constant distractions. He offers ways for kids to learn how to focus, build self-confidence, set goals, think deeply, manage their time and their stressors, and study effectively. I highly recommend this book not only for those new to the profession but also for veteran teachers who sometimes bemoan, ‘The kids today just aren’t like the ones I used to teach years ago.’”

—Carolyn Coil, Ed.D., educational consultant and author

“*Self-Regulation in the Classroom* is a comprehensive and practical guide for the classroom teacher, school administrator, and school support staff. Cash addresses the need for innovative educational strategies when teaching our 21st century, technology-driven students. Grounded in theory and up-to-date research, this book serves to educate the reader and provide tools that will promote student engagement and autonomy in learning. *Self-Regulation in the Classroom* has my highest recommendation and will become an essential text to be used when developing career and college readiness skills in my students.”

—Sandra Mortensen, licensed school counselor, Bloomington Public Schools, Minnesota

“Rich in research and theory but practical enough for Monday morning classroom activities, this book is for anyone looking to increase student engagement and help students regulate their thinking and behavior. Dr. Cash draws from his expertise to provide research-based strategies and ideas to help the highest achieving student or most reluctant learner. Whether you are a classroom teacher addressing diverse learning needs, a principal wanting to provide some key strategies for your teachers, or a district administrator searching for a professional development resource, *Self-Regulation in the Classroom* will be an invaluable resource you can return to again and again.”

—Nathan Warner, M.Ed., assistant principal

“Dr. Cash provides frustrated teachers and parents with research-based strategies and answers to their questions. We know that students have a lot of information coming at them. They need our help and support to sort it, make sense of it, and use it to love learning. This book is exactly what we need.”

—Patricia F. Willems, reading specialist, Bloomington Public Schools, Minnesota

“Dr. Cash has an uncanny ability to get right to the heart of the matter on how to become a self-regulated learner in any environment. He gives user-friendly strategies on how to create a personal desire within an individual to persevere in becoming a lifelong learner in our ever-changing society. *Self-Regulation in the Classroom* is a must read for any person who wants to assist others in becoming the best they can be.”

—Barbara Morrison, M.Ed., multi-categorical instructor,
Wittenberg-Birnamwood High School, Wisconsin

“*Self-Regulation in the Classroom* is full of practical, specific ideas backed by current research for supporting all learners in today’s classroom. Teachers now have *the* preeminent tool at their disposal for supporting self-regulation for learning.”

—Tim Robinson, elementary GATE program coordinator, Washoe County School District, Nevada

“A gem for all 21st century teachers, this book will help educators guide their students toward self-discovery, effective production, and improved self-esteem. Used frequently as a guide to classroom environment, the end result of *Self-Regulation in the Classroom* should be a student-centered classroom culture, enhanced self-esteem, and improved outcomes for ALL!”

—Joy Lawson Davis, Ed.D., associate professor and chair, Department of
Teacher Education, Virginia Union University

Self-Regulation in the Classroom

Helping Students
Learn How to Learn

RICHARD M. CASH, Ed.D.



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Library of Congress Cataloging-in-Publication Data

Names: Cash, Richard M.

Title: Self-regulation in the classroom : helping students learn how to learn / Richard M. Cash.

Description: Minneapolis, MN : Free Spirit Publishing, 2016. | Includes bibliographical references and index.

Identifiers: LCCN 2015043605 | ISBN 9781631980329 (paperback) | ISBN 1631980327 (soft cover) | ISBN 978-1-63198-083-1 (Web PDF) | ISBN 978-1-63198-084-8 (epub)

Subjects: LCSH: Learning. | Self-culture. | Classroom environment. | BISAC: EDUCATION / Teaching Methods & Materials / General. | EDUCATION / Elementary. | EDUCATION / Secondary.

Classification: LCC LB1060 .C375 2016 | DDC 371.5—dc23

LC record available at <http://lcn.loc.gov/2015043605>

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Cover and interior design by Colleen Rollins

Edited by Meg Bratsch and Carla Weiland

10 9 8 7 6 5 4 3 2 1

Printed in the United States of America

Free Spirit Publishing Inc.

6325 Sandburg Road, Suite 100

Golden Valley, MN 55427-3674

(612) 338-2068

help4kids@freespirit.com

www.freespirit.com

Free Spirit offers competitive pricing.

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Dedication

To Craig Feltmann, for all your love and support in the development of this book.

Acknowledgments

Much appreciation goes out to Margie Lisovskis and Judy Galbraith for making sure this book got from my head onto paper.

To my editors, Meg Bratsch and Carla Weiland, thanks for your diligence in helping me finesse my thinking and fine-tune my writing.

To Susan Swinick and John Cash, thanks for your contributions and continued support of what I love doing.

Thank you to my friend, colleague, and collaborator, Dr. Katie McKnight, for fanning the flame of self-regulation and assisting me in putting it into practice in the many places we go.

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Foreword

by Jonathan Plucker, Ph.D., Julian C. Stanley Professor
of Talent Development, Johns Hopkins University

Countries around the world are starting to refocus their education systems on the skills and attitudes that will contribute to success in our rapidly changing world. I rarely visit a country where people aren't talking about "21st century skills" and attempting to find ways to help students prosper in a world that's constantly changing. Our current situation would have been inconceivable to our great-grandparents.

For example, who could have imagined even a decade ago that we would have handheld devices that let us access the vast majority of the world's information, cars that can brake for us or run on alternative energy sources, or machines that allow doctors and researchers to scan our brains to see how we think? We take such developments for granted now, yet these advances were hardly obvious before they happened. We are living in an era of unprecedented development and progress, and it's easy to be optimistic about where we will go next.

However, preparing students for a world 20 years into the future leads to one big obstacle: It is almost impossible to predict what the world will look like in 10 years, let alone 20 or more. We can't predict the jobs of tomorrow (for example, not even a decade ago, working in the smartphone industry would have been nonsensical), we can't predict the technology of the future, we can't predict much of anything.

To complicate things further, today's students are expected to be less industry-driven and more flexible about the types of jobs they seek. Some estimates suggest they will switch jobs—and often careers—every few years throughout their lifetimes. How do we ready them for life and workplace success in a world where the only constant is change?

Regardless of the field in which today's students will one day work, research suggests that cognitive skills and creativity will be increasingly necessary for workplace and life success. A crucial

piece of these skills is the ability to regulate one's own thinking and behaviors. Students who take responsibility for their own learning, who use study strategies based on how they learn best, who challenge themselves and seek out problems to solve, are not only likely to be lifelong learners, they are likely to be productive, happy adults—regardless of when, where, or in what field they choose to work.

In this way, self-regulation is a foundational 21st century skill—if not *the* foundational skill for future success and well-being.

This book is an excellent introduction to helping students improve their self-regulation skills. The overarching model is straightforward but comprehensive (as opposed to simplistic) and provides a helpful affective-behavioral-cognitive framework for thinking about self-regulation and how to help students develop it. But the extensive strategies for teachers to use with their students are strength of the book. While reading, I found myself taking notes on strategies that I could adapt for use with my college students, with the children that I coach on the weekends, and even with my own children. I can't remember the last time I came away from a book with both a better conceptual understanding of a topic *and* pages of notes on practical strategies that I could use immediately.

Best of all, Richard is never pedantic. He knows firsthand the challenges teachers face, and his vast experience, both in the classroom and as a teacher educator, comes through in every chapter as he provides advice on how educators can help their students learn self-regulation skills. He is a serious scholar and among the world's most effective teacher educators. Richard's work is thoughtful and insightful, and I often find myself asking him for advice on a wide range of educational topics. Do yourself (and your students) a favor and read his book.

Jonathan Plucker, Ph.D.

Introduction

It's fine to celebrate success, but it's more important to heed the lessons of failure.

—Bill Gates

Over the nearly three decades I've been a teacher, district administrator, and consultant, I've witnessed a steady change in how children prefer to learn. In my early years as a teacher, I could entice my students through stories, novelty, and interesting demonstrations. In those days, we competed with television and the first video games. Today, through my work with hundreds of teachers and thousands of students, I find the challenges of engaging children in learning have risen exponentially.

Not only are our students contending with hundreds of broadcast television channels, continuous on-demand media, hyper-sophisticated computer games, and “get-it-quick” information, but also they are in constant contact through social media and texting. These changes to our world have demanded changes in the way we teach. Teaching and learning in the second and third decade of the 21st century is no longer about stand-and-deliver methodology. We must realize that educators today are in a tough competition with the attention-grabbing forces our children encounter on a daily, moment-to-moment basis.

The most significant changes I've observed in the neo-millennials (children born post-2000) is their relentless need for stimulation and their shortened attention span. Advances in technology allow students to rapidly access information and contact others through virtual realities, resulting in their spending little time digging into text. Skimming and quickly picking out topics and ideas of interest to gain “just enough” knowledge from the Internet, they randomly overview text rather than following the linear

fashion of reading from upper left to lower right. This “in time” learning mode has had a significant effect on the way teachers must engage, educate, motivate, and support children of the 21st century.

Self-Regulation for Learning: Not a New Idea

For over four decades, the topic of self-regulation has been studied in the field of psychology. Never before has this topic taken on greater significance than today in our classrooms. Popular media has propelled the topic through the use of words such as: grit, determination, stick-to-it-ness, mindset, drive, and self-control. Books such as *How Children Succeed* (Tough, 2012), *Mindset: The New Psychology of Success* (Dweck, 2006), *Drive: The Surprising Truth About What Motivates Us* (Pink, 2009), and *Talent Is Overrated* (Colvin, 2010) all make the point that what matters most in succeeding is the ability to avoid distractions, stay focused on tasks through completion, and develop a sense of autonomy in learning.

In his revealing book, *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement* (2009), John Hattie states that achievement increases when students can focus on learning rather than performing, set goals that stretch them, monitor their own learning, accept feedback as a guide to success, and calculate their accomplishments based on criteria rather than on comparison to others. Students who “possess high rather than low efficacy in learning, and effect self-regulation and personal control rather than learned helplessness” are far more likely to be successful in school and beyond.¹

1. Hattie, J., 2009, p. 47

Using both popular texts as well as research tomes, such as *Motivation and Self-Regulated Learning: Theory, Research and Application* (Schunk & Zimmerman, 2012); *Handbook of Competence and Motivation* (Elliot & Dweck, 2005); and *Handbook of Self-Regulation: Research, Theory, and Applications* (Baumeister & Vohs, 2004), I've compiled a comprehensive look at self-regulation and its implications in the classroom.

Self-Regulation in the Classroom is written for educators to gain a deeper understanding of the theories behind self-regulation, to learn what it looks like in the classroom, and to discover how to foster students' development of autonomy in learning. The ideas, strategies, and processes in this book provide a framework for schools, administrators, and teachers to guide students toward greater levels of success and narrow achievement gaps.

The book addresses the learning needs of *all* students, from those who need more supports to the most advanced learners. The book includes ideas for assisting students who live in poverty to those who come from strong economic backgrounds. I truly believe that when students can self-regulate, they can and will achieve great things.

Self-regulation for students who may not be reaching their potential. Students living in chronic poverty or in difficult home situations often lack role models of effective self-regulation, which causes them to struggle in school or fail to reach their potential. This book provides ways to assist the neediest students by focusing on the modeling/observing level and then the purposeful practice level, which prepares them for future learning opportunities. Directly teaching and modeling the strategies of self-regulation can be highly beneficial for students who may not have had prior positive learning experiences.

Self-regulation for advanced students. My 25 years' experience of working with advanced students showed me the importance of teaching self-regulation for learning to students who easily met academic requirements. Many of these students find elementary school a breeze, with nothing too challenging to stretch their affect or cognition. By the time they reach middle school, classes may become more challenging and

complex, requiring them to call upon internal strengths to maintain high levels of achievement. This is the period in school when underachievement by advanced-level learners becomes a critical issue. Many of these underachieving students haven't learned when and how to use the skills of self-regulation to manage complex tasks. Some find their way to high school, prepared for even more complex study.

However, some advanced-level learners languish in their underachievement, mistakenly believing themselves to "not be gifted after all." My contention is these students have not learned how to use or rely upon their self-regulatory capacity when the going gets tough. Therefore, reinforcing the strategies of self-regulation with advanced-level students on a regular basis is critical to their success in secondary school, post-secondary opportunities, and beyond.

Self-regulation for all students. All students can value from learning and using self-regulatory strategies. As Bill Gates states at the beginning of the introduction, we learn best from learning how to deal with our failures. Many students fear failure, as if it defines them completely. Being able to reflect on failure as a learning opportunity, being resilient both emotionally as well as cognitively is a powerful tool in this ever-changing and complex world. Having an awareness of the concept of self-regulation and the ability to regulate affect, behavior, and cognition toward success is critical for all students.

About This Book

The opening chapters of the book clarify the definition of self-regulation and how it applies in the learning context. For students to reach their potential they must possess traits that allow them to focus, avoid meaningless distractions, use the proper thinking tools, and maintain a confident attitude. Before we can guide students to success, they must achieve "self-regulation FOR learning" (SRL). SRL happens in four stages over a lifetime, sometimes moving forward and sometimes moving back, all in approach of learning autonomy.

Getting students to engage in tasks helps facilitate the development of self-regulation, so the book then presents four phases of engaging

in learning and a review of how we learn best. Based on neurological studies and learning research, there are specific requirements all students need and want when learning.

In the remaining chapters of the book, the four stages of developing self-regulation merge with the four phases of engaging in learning to provide practical, evidence-based practices that will support you in guiding your students to greater levels of autonomy in learning. The main goal of this book is to provide teachers with up-to-date research, solid theory, and doable practices to increase student achievement, thus narrowing the achievement gap. Additional goals include:

- › To clarify the theories that are foundational to SRL
- › To define how students engage in learning
- › To demonstrate ways to foster learner confidence
- › To offer ideas for developing greater capacities for thinking
- › To assist in goal formation
- › To keep students focused and on task
- › To develop lifelong scholars
- › To teach learners how to learn from learning
- › To put it all together as a doable district, school, or classroom plan

Chapter 1 is an overview of the theories about SRL presented through the lenses of various experts in the field. For educators to implement effective practices, they need a solid foundation of the theories and the supportive research. The chapter defines self-regulation as a three-dimensional, learned process through which the teacher guides the learner to balance affect, behavior, and cognition (the ABCs of learning).

Chapter 2 takes the reader through the process of developing SRL and spells out the four stages: originate, intervene, support, and release. Knowing how these stages are developed offers teachers a way to view students in a progressive manner, one in which the student's maturity, academic exoskeletons, early parent/family modeling, and sustained growth are taken into account. Having a tone of progressiveness in the

classroom assures students they can achieve when they have had the models, supports, practice, and autonomy to reach their highest potential. Also included in this chapter are biographical sketches of students and analyses of how the development of self-regulation applies to their individual experiences.

Chapter 3 offers assistance for learners in developing greater SRL through the context of engaging in a task. Research suggests that there is a cyclical pattern for engaging in learning (EiL). This chapter defines the four phases of EiL and broadly identifies actions within each phase. Additional comprehensive strategies are broken down into doable actions and activities in subsequent chapters (4–9). The chapter guides readers through the use of a cross matrix of the phases of EiL and the stages of developing SRL; it shows the actions teachers and students perform. The Cross Matrix is useful for teachers in planning lessons, differentiating learning tasks, and assessing student growth. Students can use it to monitor their development and to focus on the process toward success.

Chapter 4 is a guide through the early stages of learning by building student confidence. Before learning can happen, students must feel confident in taking actions toward learning. This chapter identifies and provides supports in shaping students' confidence and emotional strength. A critical component in learning is knowing how a learner feels about the learning situation. Neuroscience research suggests that a learner's emotional state, or how one feels, has a significant effect on what he or she pays attention to in the learning space. This chapter also shares ideas for igniting students' interests and building value in learning. Useful ideas for moving students from pessimism to optimism, necessary for achieving SRL, are provided. Also included in this chapter are ideas for motivating students by developing their self-efficacy through a supportive learning environment.

Chapter 5 provides ways to develop students' habits of thinking. It explains cognition—the multiple levels of thinking—and metacognition—the thinking about our own thinking, which includes how we view ourselves as learners

and how to approach dealing with problems. Additional ideas about the metacognitive process are given in Chapter 9. In this new century, it is more important that we teach students how to think rather than what to think. Stand-alone and content-infused strategies provide support for the development of thinking in your classroom.

Chapter 6 is about setting goals. Goals are set within a hierarchy, moving from who we want to be (the ideal self) to those goals that balance the ABCs of learning, to learning and performance goals. Expanding on the SMART goal framework, the SMARTS/S goal framework includes self-regulatory aspects. Strategies for providing feedback to students about their development are included along with suggestions of apps to help incorporate technology in goal setting.

Chapter 7 provides ways for students to manage the goals they have set. Today's students are perhaps more distractible than ever before. Teachers and parents need tools to assist students in "paying attention" and avoiding distraction. This chapter will provide numerous ideas, strategies, and techniques for assisting students in managing goals both inside and outside the classroom. Other topics in this chapter cover how to manage time, keep organized, manage stress, and overcome the self-imposed feelings of boredom through creativity.

Chapter 8 offers ideas for shifting from the practice of homework to the essential tool of home study. Few topics in education cause as much consternation as homework. Although little research or evidence supports homework, children must learn how to study outside of the classroom. This chapter shows how teachers can maintain a productive learning environment that nurtures study habits and study skills. It provides useful ideas and tips for parents and others to encourage study outside the classroom.

Chapter 9 focuses on the critical nature of reflection and relaxation in learning. People learn more from reflecting on an experience than from the experience itself. This chapter provides various formats for the reflection process. Students who are over-scheduled have high stress levels, so I have included ideas for teachers and parents

to help children de-stress through relaxation techniques.

Chapter 10 puts it all together! This chapter offers a framework for classroom practice that can be expanded upon for school-wide implementation. Included are ways to assess the development of self-regulation and a way for students to identify how they like to learn and stretch themselves to become autonomous learners.

Lastly, all of the reproducible forms (and some of the Figures) in the book exist in digital form as customizable PDFs for your personal use and sharing. See page xi for the website link to download these forms.

How to Use This Book

Using this book as a foundation of self-regulation and engagement in learning can assist you in developing autonomous self-directed learners. Read Chapters 1–3 to familiarize yourself with the theory and research on self-regulation and engaging in learning. From there, depending on the level of your students' self-regulation development, you may choose individual chapters to address critical needs. For example, if you are working with students who chronically underperform, you could read Chapter 4 on fostering student confidence. If you are working with more advanced students, you could head to Chapter 6 on goal setting.

Whether you are a classroom teacher or a building- or district-level administrator, this book will be a valuable resource. What's more, *Self-Regulation in the Classroom* can also be used by your professional learning team or as a book study with your staff. To that end, I've created a guide with questions and activities for each of the chapters for PLC or book study teams. You can download this free guide at freespirit.com/PLC.

Finally, I'd love to hear how this book has helped you in your classroom. If you have stories or questions for me, you can reach me through my publisher at help4kids@freespirit.com or visit my website nrnichconsulting.com.

Richard M. Cash, Ed.D.

CHAPTER 1

Self-Regulated Learning for 21st Century Students

*If we give our children sound self-love, they will be able
to deal with whatever life puts before them.*

—bell hooks

However direct or convoluted the route you took to reach your present role as an educator, imagine how different that journey would have been with endless streams of texts, emails, and captivating YouTube videos vying for your attention. Not to mention having the option to stop along the way to take smartphone photos, post updates to your Facebook page, and check your friends' Twitter feeds. The sheer amount of information and the easy access to it that our children have present educators with a problem previous generations didn't have. Although teachers always have had to work to get students' attention and engage them in lessons, the competition for their mental energy has never been greater.

Responding to a continuous overload of information keeps learners distracted, and gathering information in random ways may not be the most effective way to foster deep thinking. When students focus their attention, they can move information from working memory to long-term memory, which assists in the development of conceptual thinking, creativity, and critical reasoning. To use the full potential of their minds, students must learn to filter distractions and interruptions and to think deeply and critically.

Likewise, some children live with the ready availability of such things as money and food whenever the impulse strikes for short-term satisfaction. A large number of our students are

caught in the clutches of “instant gratification.” The famous Marshmallow Study conducted at Stanford in 1972 by Walter Mischel showed how important self-regulation is to achieving success in life. *Self-regulation* (also known as self-control or self-discipline) is the control of conduct based on goals an individual has set for himself or herself.¹ Mischel offered four-year-olds a marshmallow but told them that if they waited for him to return from running an errand, he would give them two. The children had a range of success in delaying gratification. After about 13 years, Mischel found that children who are able to wait for a marshmallow reward (delay gratification) through various affective, behavioral, and cognitive methods perform better in life. Those who waited for the marshmallows were more self-reliant and confident, more motivated when working on projects, more academically successful, better at concentration and planning, more eager to learn, and still able to delay gratification. These are the characteristics of self-regulation. Those who ate the one marshmallow were more easily upset by frustrations, were more likely to negatively respond to stress, scored 210 points lower on their SATs, and were still unable to delay gratification.²

In his 2011 book *The Shallows: What the Internet Is Doing to Our Brains*, Nicholas Carr writes that early peoples were more likely to survive and carry on the gene pool if they were able to shift their attention quickly to

1. English and English, 1958.

2. Mischel et al., 1988.

understand their environment. Later, when print became a popular medium for the accumulation of knowledge, we learned to focus for longer periods of time. And today, we skim and scan the Internet, taking us back to quickly evaluating the environment and long periods of distraction. Historically, Americans have prided themselves on a national character comprised of independence, resourcefulness, persistence, inventiveness, determination, and dependability. No matter how high- or low-born, success was a viable goal for those willing to persist. Now, the United States leads the world in percentage of students who drop out of college. So, in light of the information overload and easy access to short-term gratification in today's world, how do we instill in our students the need for purposeful learning, persistence, self-control, and a healthy regard for failures as learning opportunities?

This chapter will show the importance of self-regulation for learning (SRL) in helping your students attain their academic goals. SRL will help learners develop resilience and autonomy, learn to reflect on experiences, and consider multiple ways to solve complex, ambiguous problems. Using the books' SRL strategies model, students learn to balance their feelings, behavior, and cognition. As they coordinate these three foundations of SRL, they find greater motivation and enjoyment in learning. Mastering the skills

of self-regulation involves the traits and dispositions shown in Figure 1.1.

A Model of Self-Regulation for Learning

A topic of interest to social scientists for several decades, "*Self-regulated learning (or self-regulation)* refers to the process by which learners personally activate and sustain affects, behaviors, and cognitions that are systematically oriented toward the attainment of learning goals."³ SRL is a process in which the learner manages and controls his or her capacities of affect (feelings), behavior, and cognition (thinking)—the ABCs—to engage in learning, and improve achievement and performance. Figure 1.2 shows how the three dimensions are interrelated.

In reality, the three dimensions of SRL are tightly interwoven and, in successful learners, work in tandem. One without the other two or two without the other one create an imbalance in the learning process. For example, if you feel estranged in a situation (perhaps at a party where no one else looks like you, speaks like you, or comes from a similar background), you might spend the majority of your time thinking about how different you are and might behave in a reserved manner, not meeting as many new people as possible. This is an example of how one dimension (feelings) can derail the other two

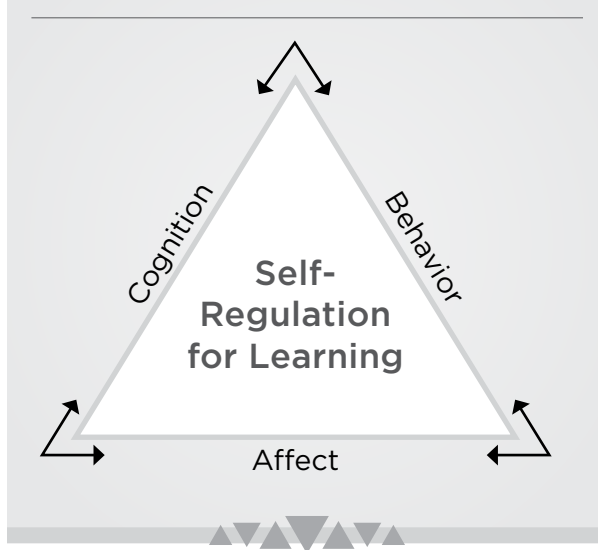
Figure 1.1 **Traits and Dispositions of Self-Regulated Learners**

Self-regulated learners . . .

- › Take responsibility for learning.
- › Maintain engagement in learning.
- › Welcome challenges.
- › Learn from intrinsic motivation.
- › Are performance-oriented.
- › Set challenging goals.
- › Monitor and assess the goal process.
- › Utilize a repertoire of learning strategies.
- › Modify or adapt learning strategies
- › Expend effort.
- › Establish a productive home learning environment.
- › Seek help when necessary.
- › Are persistent and determined.
- › Find personal value, relevance, and interest in learning.
- › Find satisfaction in learning.
- › Use failure as a learning tool.
- › Use effective study habits.
- › Make choices in learning based on personal interests or preferred ways of learning

3. Schunk and Zimmerman, 2012.

Figure 1.2 Self-Regulation for Learning Model



(cognition and behavior) to be less productive. Following, the three dimensions are defined as separate but intertwined entities.

A Is for Affect

How a learner feels about a situation determines the focus of his or her attention, drive, and motivations. Affect is defined as how we feel, or our conscious awareness of our emotions. Emotions are a chemical reaction within our limbic system (the primitive midbrain area that controls emotion and memory) triggered by internal and external stimuli.

Emotional responses (feelings) develop in this basic manner:

1. **Interaction** with an event, environment, object, sensation, or thought
2. **Attention** to the interaction either consciously or unconsciously
3. **Interpretation** of the attention given to the interaction based on prior experience or on another person's reaction
4. **Reaction** (instinctual or conditioned) to the interpretation

Example 1: A toddler learning to walk lets go of mom's hand and falls to the ground (interaction). The child's first reaction is of mild pain from the fall (attention). The toddler may not scream in

pain because the fall was not serious. However, if mom's reaction (interpretation) is one of fear and she screams, the child then interprets the fall to be more than a mild pain and begins to cry out in fear mirroring mom's response (reaction).

Example 2: A new student enters the classroom (interaction). The teacher and other students warmly welcome her to the class (attention). The new student feels a sense of belonging (interpretation). She is more likely to open up, be willing to take intellectual risks, ask for help, and feel accomplished throughout her time in the class (reaction).

How we regulate or manage our emotional responses has a significant effect on our learning. Researchers have found that when people consciously use positive behaviors (such as going for a walk or bike ride) and positive cognition (such as reflecting on how to improve a situation) rather than focusing on negative effects, they are able to overcome negative feelings more rapidly.⁴

Additionally, studies suggest that there are physiological changes in our brains when we feel good, causing us to think more clearly and effectively.⁵ Negative feelings can actually have a negative effect on our thinking process. These research studies inform us that when we focus students' attention toward a consciousness of their feelings and provide them with specific behavioral and cognitive strategies to adjust those feelings, they are more likely to achieve success.

For example, Mateo, an average fourth grader, tried to learn to convert fractions to decimals. His group partners all learned the process quickly. The comments they made as they tried to help him ("Why can't you get this?" and "You're so slow") made him feel bad about his abilities. His teacher, Mr. Anderson, met with Mateo to help him and quickly perceived his feelings. Instead of focusing Mateo on practice drills, he sent him on a walk to the water fountain (physical behavior) and told him during the walk to think about something other than math, such as how his soccer game went or what he planned to do after school. When Mateo returned to class, he had overcome his negative feelings and, with encouragement from his teacher, set to work

4. Dillon and LaBar, 2005.

5. Hidi and Ainley in Schunk and Zimmerman, 2008.

again, understanding the process more quickly than before and ready to continue positively to learn new math processes.

B Is for Behavior

For purposes of this text, behavior is defined as the actions we perform that are initiated, sustained, changed, or developed based on both internal and external factors. Behaviors can be both conscious and unconscious. For students, having a solid grasp on what to do and a positive belief in their ability to do it can powerfully impact their attainment of goals. Learning certain behaviors that are more effective than others and then repeating those behaviors will create what is known as habits of learning.

Academic Behaviors

Academic behaviors typically are those that are useful in school and career success. The behaviors can be categorized into five interactive categories:

1. **Determination:** the level of commitment one puts toward initiating, sustaining, and achieving a desired outcome. Student behaviors include using self-talk, seeking help, attending to details, and overcoming obstacles.
2. **Interest:** the personal attention or curiosity one uses to engage in school, others, and goal attainment. Academic behaviors include driving to learn more about a topic, making connections to material or others, and redirecting one's attention when distractions occur.
3. **Work habits:** the strategies and techniques one uses to learn new information. Student behaviors related to work habits include setting time limits on studying, using organization strategies, and planning and monitoring goals.
4. **Communication and collaboration skills:** the effectiveness one has with others to achieve a common outcome. Student behaviors include speaking and listening strategies, cooperation and negotiation, as well as ethical use of technology.
5. **Goal focus:** the process one goes through to set, manage, and achieve a realistic goal. Student behaviors include knowing strengths/limitations, controlling impulses, and using reflective practices.

As students develop and practice the behaviors, eventually they become habitual. Chapters 4 and 6 will provide more specific strategies for the behavioral dimension of self-regulation. Meanwhile, the following figure details the four phases of behavioral change.

Four Phases of Behavior Change

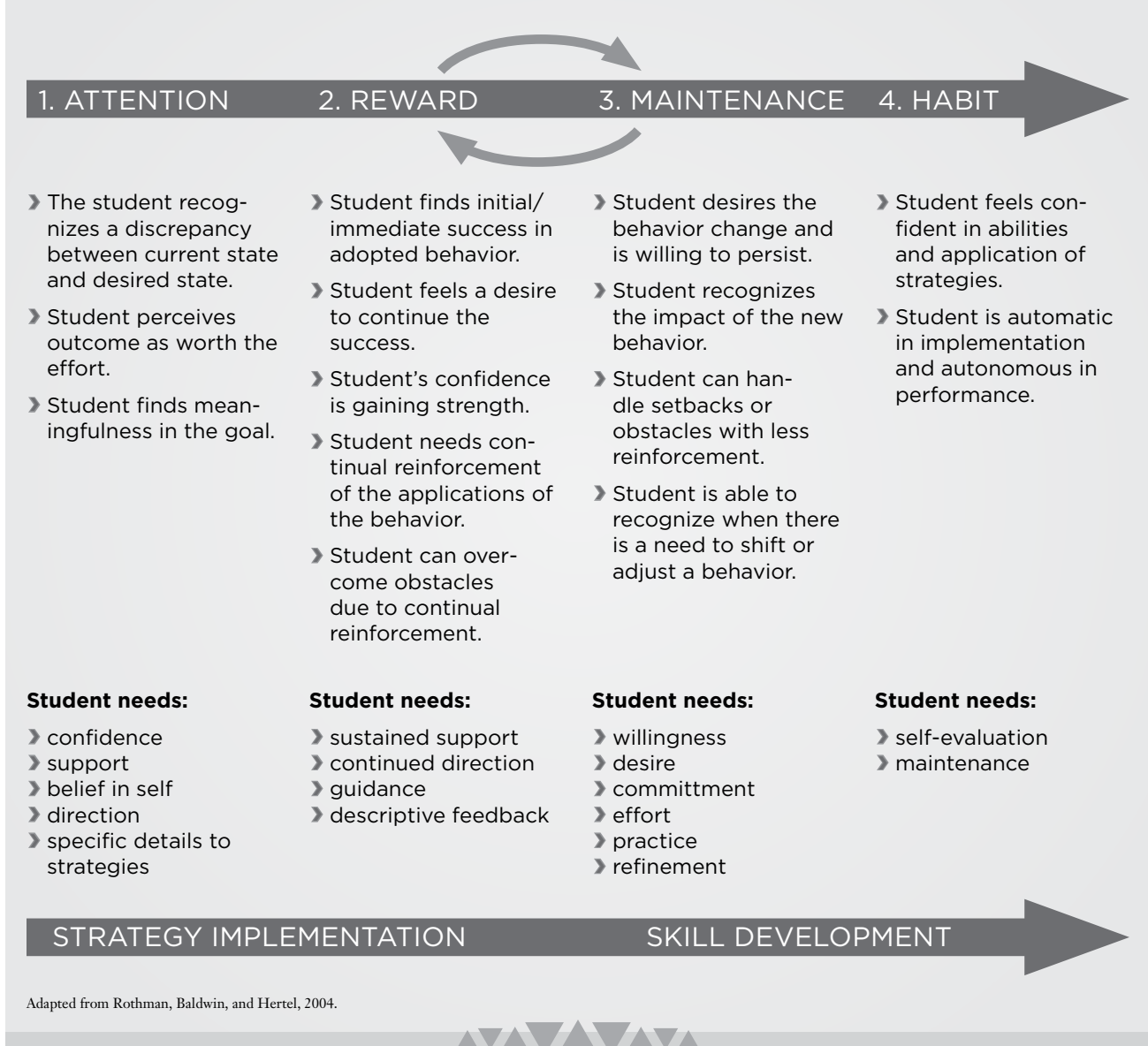
Based on research of how people modify their behaviors to become habitual, Figure 1.3 shows the process and how to apply it in the classroom. The arrows at the bottom of the graphic show that as learners progress through the strategies and phases and the behavior becomes habitual, they are developing skills.

PHASE 1: ATTENTION

When the student recognizes a need for a change in behavior, he or she starts the change process. In some cases, students are not aware that their behaviors are unproductive, inefficient, or unaligned with success. To help students become aware of the need for a behavior change, help them find value in their efforts to achieve the goal or find meaningfulness in the tasks. Meaningfulness is when the students recognize that the task or strategy has an immediate application and completing it can lead to a positive feeling. Help your students find relevance in the need for a change of behavior by encouraging and building their self-beliefs.

At this phase and the next, ensure students know the difference between a strategy implementation and skill development. A strategy is a discrete, conscious action, whereas a skill is automatically using a set of strategies to accomplish a specific task. In other words, strategies are small and skills are big. Strategies are effortful, while skills are effortless. Students who are aware of the strategies that develop into skills know that being able to face greater challenges requires expending much effort upfront. Being able to articulate specific steps in solving problems is most critical

Figure 1.3 Four Phases of Behavior Change



Adapted from Rothman, Baldwin, and Hertel, 2004.

as students enter middle school and high school when situations become more complex.

Strategy example: working backward

Skill being developed: problem solving

Strategy example: using pictures to understand the story

Skill being developed: comprehension

Students must build their confidence to perform the tasks required of them. Therefore, at this phase students will need support in building their self-beliefs and self-efficacy toward doing well. They will also need direct instruction on

the specifics of the strategies and how to apply them. Students who struggle or are less self-directed will need more hands-on experience with the strategies, concrete representations of the outcomes, and step-by-step implementation tools.

PHASE 2: REWARD

This phase of the change process offers immediate rewards for performing the behavior. When implementing a new behavior, it is critical for the student to see or feel instant gratification. Even though we are trying to change this need

for instant gratification, we must also recognize that our students are used to receiving rewards quickly. During this phase, slowly wean your students away from needing the continual extrinsic reward toward more intrinsic feelings of success. Move from “you are doing well” to “how does it feel to be making progress toward your goal?” Build your students’ self-confidence through descriptive feedback that focuses on their growth. You will begin to see your students overcoming obstacles and mistakes with more resilience as they become more intrinsically motivated.

As students move toward the third phase, they will need sustained attention toward detail and continued direction toward success. The most effective technique at this phase is the use of descriptive feedback, which is specific to the learning target, ongoing, and defines what the student is doing well and where the student needs to focus attention. One of the major outcomes of descriptive feedback is the student’s move from the desire for extrinsic reward to the impact of intrinsic feelings of accomplishment. Moving from extrinsic desires to intrinsic joy is what will move the student toward habit formation.

PHASE 3: MAINTENANCE

At this critical maintenance phase students have now seen the positive outcomes from their behavioral changes and wish to continue their drive toward success. Because they are consciously aware of the behaviors they are using and know when there is a need for adjustments or shifts, students are able to handle setbacks and errors. However, this phase can also lead to students’ moving backward toward wanting immediate rewards as is indicated by the circular arrows in Figure 1.3. If a student encounters more failures than successes in the maintenance stage and is unable to adjust or is unwilling to modify behaviors, return to the immediate reward phase to move the student back toward maintenance.

During maintenance, students must dig deep inside themselves to find their willingness and desire to continue to achieve. Discuss with students how they feel and what they are thinking during this stage. Assist them in developing a plan to continue the effort and practice required to sustain success. Also, encourage students to

refine their behaviors to fit different situations as they arise.

PHASE 4: HABIT

The final phase in the process is habit. A behavior becomes a habit when students have sufficient confidence to unconsciously apply strategies during tasks. Even when the task becomes complex or learners stumble in the learning process, students readily act to achieve success. Students are now autonomous in performance—moving from strategy implementation to skill development.

Once students habitually perform a behavior or skill, they should continually evaluate the implementation. Students should learn not to expect that the skills will always be useful in their first application. They should expect to practice, self-evaluate, and continue to maintain their beliefs in themselves.

C Is for Cognition

The dimension of cognition plays a significant role in SRL as students reflect on experiences, consider the multiple ways to solve complex and ambiguous problems, and communicate ideas to others.

Basically, cognition is the conscious act of thinking. Over the past century, the word *cognition* has become a common term to mean anything that is a mental process from simple or subtle processes (such as awareness of sensory input, movement at will, and recalling factual information) to very complex or abstract levels (such as critical reasoning, interpretation, and creativity). We can increase our cognition through the experiences of learning, whether it’s repetition, practice, or discovery-based. However, for our purposes, we will be looking at cognition from the perspective of the varied thinking processes students use in the classroom.

This section will discuss metacognition (thinking about thinking), infra-cognition (broad, general thinking), and metaphysical cognition (existential, philosophical thinking). An important factor of SRL is the ability to move from the reflective process of metacognition to the structured thinking tools of infra-cognition and ultimately, to use knowledge beyond the self in metaphysical thinking.

Figure 1.4 Levels of Cognition



Metacognition

Metacognition is “thinking about our own thinking.” This close thinking is the reflection process we all go through every day as we ponder recent and past occurrences. This active control over our higher forms of thinking enables us to engage in a more effective learning process. Metacognition includes the mental actions of planning how to approach a task, monitoring comprehension, and evaluating progress toward completion.

In some cases, metacognition has been used as an interchangeable term with self-regulation and executive functioning. In general, metacognition can be thought of as overseeing and controlling the cognition (thinking) process. Metacognition can be broken down into three subcategories of knowledge:⁶

- › **Personal knowledge:** where and how you learn best. Do you prefer to work in a quiet room alone or are you more productive in a group where ideas flow freely?
- › **Task knowledge:** knowing what kind of problem needs to be solved. Do you work best with very linear types of problems (algorithms) or are you better with abstract, undefined situations (real-world-type problems)?

- › **Strategy knowledge:** knowing what to do and when. Do you know the specific strategies to solve problems and when to apply those techniques?

Central to learning is the awareness of personal strengths and limitations, knowing how to approach and solve problems, and proficiency with effective strategies to successfully complete tasks. Students can learn metacognition and how to apply it to be more effective learners. For more on the learning of metacognition, see Chapter 5.

Infra-Cognition

Infra-cognition is the perennial or “grand” thinking processes. Just as in gardening, the term “perennial” in this instance means to live for many years. Perennial thinking has been used for generations and is more than the survival thinking of how to acquire food, shelter, and water. It is complex, critical, and creative thinking processes. These processes are “grand” because they are bigger than metacognition (personal thinking). As we progress through the 21st century into the neo-millennial era, thinking must advance beyond knowing the right answer to knowing multiple pathways to solving complex, ambiguous problems without simple solutions.

Incorporated in infra-cognition are the general academic skills essential for success in and between content areas. This includes techniques specific to the discipline, such as the strategies for editing (in a writing class), as well as general skills of analysis, such as breaking an idea or a problem into sub-components to identify similarities and differences among the parts. Chapter 5 offers strategies to increase students’ efficiency with infra-cognition.

Metaphysical Cognition

Metaphysical cognition is the most sophisticated level of cognition. In general terms, metaphysics is philosophical abstract or theoretical thinking about the nature of being, causality, truth, and the world in which all exist. Metaphysical thinking is the mental process that occurs when we have a deeper understanding of content and can connect ideas across subject areas to interpret the world around us.

6. Flavell, 1979.

Dorothy M. Emmet, a British philosopher, defined metaphysical thinking as analogical thinking, a form of reasoning in which similarities between two or more objects or ideas are compared to come to one point.⁷ Emmet divided analogical thinking into two categories:

Coordinating analogies: when ideas from one subject domain are used to understand or interpret another content area (example: using the phrase “big bang theory” to describe ideas of how the universe came to exist).

Existential analogies: when ideas from experiences are used to explain or make judgments about reality or our being (example: “Time is the fire in which we burn,” from Delmore Schwartz’s poem, “Calmly We Walk Through This April’s Day”).

Balancing the Three Dimensions of SRL

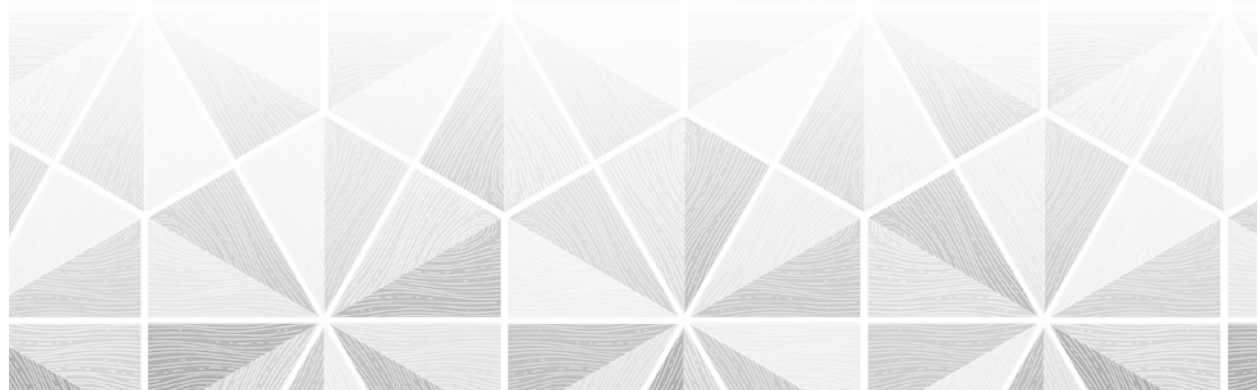
Attainment of peak levels of academic performance requires students to balance affect, behavior, and cognition. Keeping students strong in all three dimensions or learning how to adjust one dimension to support the others is an essential tool for learning and success.

Without a strong affect (the motivational beliefs that one can achieve), students will not focus their behavior and ignite their cognition.

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. Self-regulated learners can adjust the coordinating system of the ABCs to find greater enjoyment, motivation, and autonomy in learning.

Chapter Summary

This chapter gave a brief historical overview of how society has transformed from striving for achievement based on hard work and persistence to expecting instant gratification and multitasking. With this shift in how students perceive the learning process, we must understand the critical need to direct attention toward self-regulation for learning: the interrelated dimensions of affect, behavior, and cognition (the ABCs). Affect, or our feelings, is the conscious reaction to the emotional response to the internal and external world. A four-step process for behavior change enables students to move from using strategies to skill development. Cognition is a multilayered way of reflecting upon, thinking about, interpreting, and communicating complex ideas. Self-regulated learners fluidly balance these ABCs to be productive and successful, recognizing that when one dimension is out of balance, they can use the other two to create equilibrium.



7. Emmet, 1945.