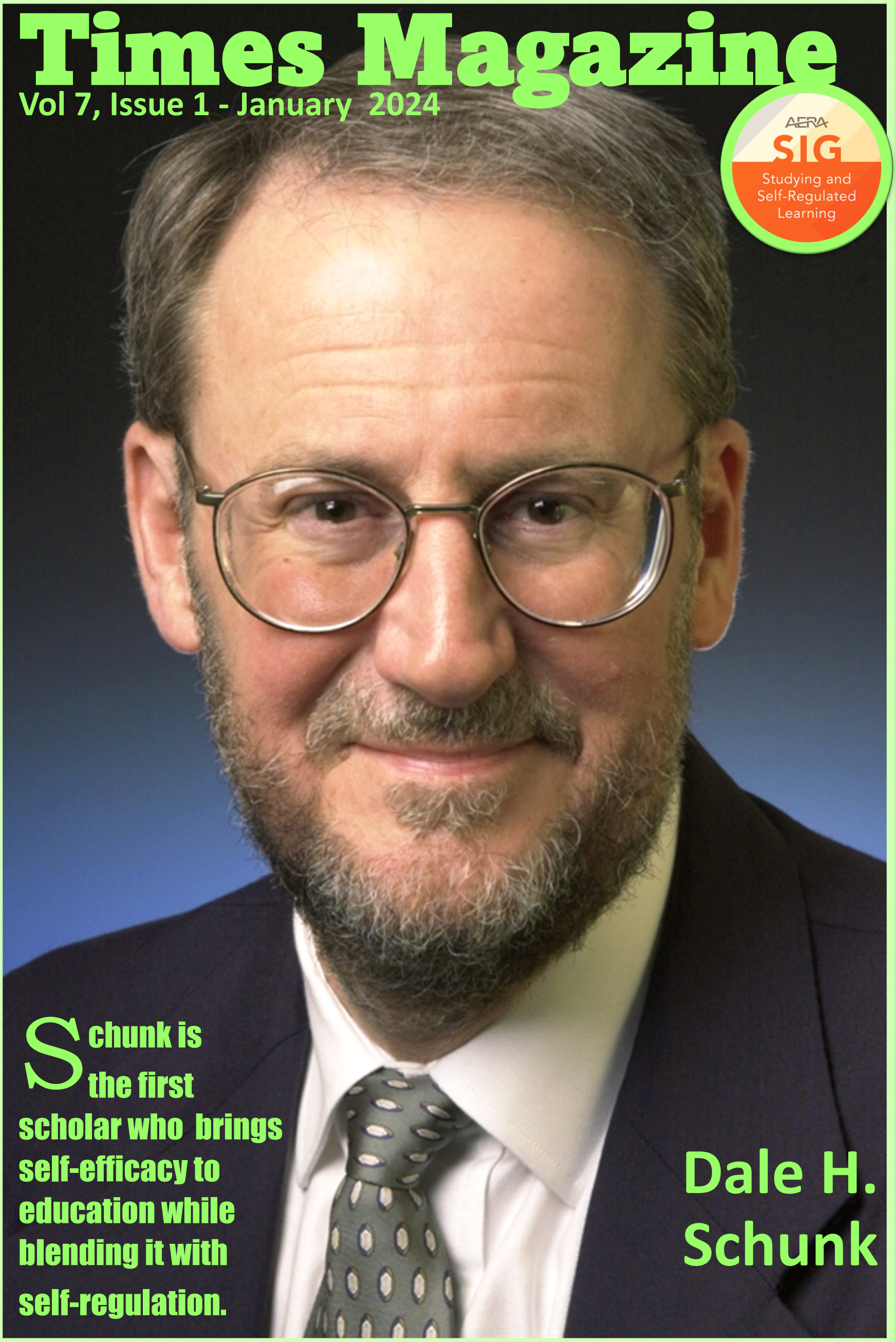
Times Magazine

Vol 7, Issue 1 - January 2024

AERA SIG Studying and Self-Regulated Learning



Schunk is the first scholar who brings self-efficacy to education while blending it with self-regulation.

Dale H. Schunk

Abraham Flanigan (SSRL SIG Senior Chair)
Divya Varier (SSRL SIG Junior Chair)
Pamela F. Murphy (Executive Editor)
Héfer Bembenutty (Editor-in-Chief, Content & Graphic Editor)

Editorial

Dale H. Schunk: The Scholar Who Introduced Self-Efficacy to Educational Psychology

Héfer Bembenutty

Dale H. Schunk is a professor in the School of Education at the University of North Carolina at Greensboro. He is making a remarkable impact on the field of educational psychology. His extensive research on self-efficacy, cognition, learning, self-regulation, and motivation has been instrumental in shaping our understanding of educational motivation.

This *Times Magazine* issue from the Studying and Self-Regulated Learning (SSRL) Special Interest Group (SIG) of the American Educational Research Association (AERA) pictorially showcases Schunk's childhood experiences and spotlights some of his remarkable contributions to educational psychology. He is a friend, colleague, mentor, advisor, author, teacher educator, and a caring and inspiring human being whom many aspire to emulate.

Schunk is the author of the textbook *Learning Theories: An Educational Perspective* and the coauthor of *Motivation in Education: Theory Research and Applications*; *Self-Regulated Learning and Academic Achievement: Theoretical Perspectives; Motivation and Self-Regulated Learning: Theory, Research, and Applications; Handbook of Self-Regulation of Learning* and *Performance; Educational Psychology: A Century of Contributions;* and *Self-Regulated Learning and Academic Achievement*, which are widely popular and influential. It is no surprise that he has received several prestigious awards, including our SIG's Barry J. Zimmerman Award for his contributions to self-regulated learning research, and is highly regarded in the academic and professional community.

As a child, Schunk had a supportive family and excelled both academically and in sports during high school. He went on to serve as an education and training officer in the Air Force and at NATO Southern Headquarters, and pursued a master's degree in education while working abroad. Schunk's dedication to education and psychology is further exemplified by his decision to pursue a doctorate in Psychological Studies in the Education Program at Stanford University while working with Albert Bandura as his dissertation advisor.

Working alongside other esteemed colleagues like Maria K. DiBenedetto, Peggy A. Ertmer, Jeffrey A. Greene, Antoinette R. Hanson, Judith L. Meece, Carol A. Mullen, Frank Pajares, Paul R. Pintrich, Carl W. Swartz, Ellen L. Usher, and Barry J. Zimmerman, Schunk has made significant contributions to the understanding of self-efficacy and self-regulation. His research has highlighted the importance of using coping modeling over mastery modeling as an approach to teaching. Schunk's studies have also revealed that modeling and attributions can have a significant effect on children's achievement.

Truly remarkable and impressive is Schunk's impact on education and psychology. His work on self-efficacy has been instrumental in shaping how we understand educational motivation. Schunk's vision has been so influential that today, every educational psychology textbook discusses self-efficacy in teaching, learning, instruction, and curriculum. His seminal work, *Cultivating Competence, Self-Efficacy, and Intrinsic Interest through Proximal Self-Motivation*, co-authored with Albert Bandura, is one of the most significant educational advances of the twentieth century.

After several commendable decades of impressive research, today, Schunk's contributions to the field of educational psychology continue to make a significant impact on learners, educators, and researchers alike. As one of the most respected and cited educational psychologists, his research, textbooks, and journal articles have undoubtedly influenced educational psychology. Schunk's work has significantly impacted our understanding of how students learn. He will continue inspiring future generations of educators and researchers.

“Growing up in Chicago during the 1950s, Schunk was an only child. His father Al Schunk earned his college degree in accounting and worked as a power sales engineer for Commonwealth Edison Company. His mother worked in the accounting department of Belmont Hospital. During his childhood, he enjoyed playing sports: football, baseball, softball, hockey, golf, and tennis. He attended Taft High School where he lettered in varsity football and made the National Honor Society.”

What is the current state of knowledge in self-regulation research? What are the most likely and promising avenues for research on self-regulation in the coming decade?

"I believe we have much to do. Learning environments are ever changing. Compared with only a few years ago, students today are using online resources a lot in their courses, and many courses are fully online. Self-regulation should be critically important for success in technological environments. There are two major issues. One is how we can best prepare students with self-regulation skills to succeed in online environments. The other is how using technology can affect students' self-regulation, motivation, and learning. I am impressed with the research on self-regulation that is emerging on these issues.

We need more research on the development of self-regulation. It seems that there are different paths to self-regulation. Formal teaching is one, but there are others. I suspect that much self-regulation develops in informal contexts, such as when individuals participate in collaborative projects or nontraditional types of mentoring relationships. We know little about how self-regulation develops outside of formal arrangements.

I also think we need more research on ways to effectively integrate self-regulatory processes into the regular instructional curriculum. Teaching students to use self-regulation in educational contexts is only the first step. For them to develop self-regulatory competence they must internalize the processes such as setting goals and selecting effective strategies so that these become part of their self-regulatory systems and learn how to adapt self-regulation to different tasks and settings. These goals only can be accomplished if students learn how to make necessary adaptations to fit different contexts and given the opportunities to practice their skills. Research is lacking on these outcomes."

“My parents placed tremendous value on education. My father was the first member of his family to earn a college degree. My mother did not attend college because of personal circumstances, although she always wished she had gone to college. It was assumed that I would attend college.”

“My parents stressed learning and doing well in school. From them, I received my earliest attributional feedback: work hard!”

“They also helped to build my self-efficacy.”

“From them, I learned how important education was and how enjoyable learning could be.”

“When I selected psychology as my undergraduate major, they both were happy and eager to learn more about my studies.”

Schunk's Interview (1)
(Sakiz, 2008)

What do you think your contributions are to the field of Educational Psychology?

I have emphasized that self-efficacy, motivation, and self-regulation affect student learning and achievement. I am pleased to see the increasing amount of research on these topics as reflected in professional journals and papers at conferences. Compared with when I began my career, we know much more now about the operation of cognitive and motivational variables in learning settings. And this research base also has affected educational policy and practice. For example, current teaching standards reflect the idea that teachers must address student motivation.

Who influenced your way of thinking early in your academic career? Have you had mentors throughout your professional journey?

I have had several mentors who have helped me tremendously. My academic advisor at Stanford was Nate Gage. He was an authority on teacher education and he forced me to consider how the topics I was interested in applied to teaching and learning. My dissertation advisor was Al Bandura and I worked as a research assistant with him and with Herb Clark in psycholinguistics. From these Stanford professors I learned how to conduct research. Since graduate school I have had close professional collaborations with Barry Zimmerman, Judith Meece, Paul Pintrich, and Frank Pajares. They have been mentors, colleagues, and friends. I have learned how important it is to have others to talk to, work with, and provide support.

How is self-regulated learning associated with self-efficacy?

Self-efficacy is closely linked with self-regulated learning. Researchers investigate self-efficacy for self-regulated learning, or people's self-efficacy for structuring their learning experiences and regulating their performances and learning outcomes. People might enter a learning situation with a sense of self-efficacy for self-regulation. As they work on the task they assess their progress. The belief that they are making progress substantiates their self-efficacy and keeps them motivated. Self-efficacious students who are dissatisfied with their progress are apt to change their strategy to one they believe will be more effective. Successful task completion further substantiates self-efficacy and leads to subsequent self-regulation. Self-efficacy and self-regulated learning are intertwined during all phases of learning.

Why do you think it is important to integrate the social, cultural and motivation literatures in the examination of learning and motivation?

It is critical to integrate these literatures because they don't exist in isolation. Children's social and cultural environments will affect their academic motivation and learning and vice versa. What happens outside of classrooms affects what happens inside the classrooms. Children are part of social and cultural communities. When these communities do not value education, it may be difficult for teachers to interest children in learning. Conversely, there are many success stories showing how strong role models outside of school help to motivate children to learn in school. We have tended to examine the social, cultural, and motivation literatures in isolation, but we definitely need a better integration because research supports their interdependence.

How can neuroscience research be integrated better into Educational Psychology?

This field is expanding rapidly and compared with only a few years ago today we know much more about the operation of neural processes not only in learning but also in motivation and emotion. Thus, with respect to rewards, neuroscience research suggests that the brain may be predisposed toward experiencing and sustaining pleasurable outcomes. The expectation of receiving a reward for learning may activate this pleasure network and in fact store this expectation as part of a neural network. A moderate amount of emotion can facilitate learning, which may occur because the hormones epinephrine and norepinephrine— which are secreted as part of an emotional response—can enhance memory for the attending event.

Another thing that the neuroscience literature shows is that the brain is complex. Simple generalizations from brain research may be misleading. There are examples of educational programs that purport to use brain research to offer suggestions for teaching, such as ways to teach to certain sides of the brain. Many of those suggestions are not supported by neuroscience research, which instead shows that the brain is dynamic and undergoes periods of rapid development and change.

Neuroscience research offers us tremendous insights into the processes that underlie teaching and learning. There are at least five solid implications that should be infused into Educational Psychology texts. (1) Early childhood education is critical to help develop children's brains for optimal functioning. (2) Cognitive processes are complex. We must specify which aspects of attention and memory we are concerned with (i.e., memory for what?) and tailor instruction accordingly. (3) Diagnose specific learning difficulties and address these. Addressing problems generally, such as with reading improvement programs, will be less effective. (4) Multiple factors in learners and environments affect learning. Teachers must consider these various influences in designing instruction. (5) Use active learning methods, such as problem-based learning, discussions, simulations, and role playing.

Sakiz, G. (2008). An Interview with Dale Schunk. *Educational Psychology Review, 20*, 485–491 https://doi.org/10.1007/s10648-008-9084-5

Schunk's Daughter , Son-In-Law, and Grandchildren

Schunk's Interview (2)

(Bembenutty, 2015)

You have been one of the world leaders on self-self-efficacy research. What is self-efficacy and why it is important for learning? Researchers have distinguished types of self-efficacy. What are those types and why they are important?

Bandura (1997) discussed how self-efficacy can affect many aspects of our lives. Self-efficacy is important in education because research shows that it can exert strong effects on motivation, learning, self-regulation, and achievement (Schunk & Pajares, 2009). Compared with students lower in self-efficacy, those who feel capable of learning and performing well are more apt to select challenging tasks to work on, expend greater effort and persist longer in the face of difficulties, and achieve at higher levels. They also are likely to interpret difficulties not as failures but rather as challenges that require adjustments in their goals and strategies.

There are different types of self-efficacy. Self-efficacy for performance refers to one's perceived capabilities for performing actions that one already has learned. Self-efficacy for learning denotes perceived capabilities for learning new skills. The latter is important because students who hold a sense of self-efficacy for learning are apt to display higher motivation and learn better than those who doubt their capabilities for learning.

Bandura (1997) discussed collective self-efficacy, or the perceived capabilities of members of a group for the group's accomplishing given actions. Collective self-efficacy is important in schools where teachers and administrators who feel collectively self-efficacious about improving student learning are likely to work to facilitate changes in classrooms and curricula.

Teacher self-efficacy refers to a teacher's sense of self-efficacy for helping students learn. Teachers who hold a sense of self-efficacy are apt to work harder to design activities to help students learn and persist longer with them than will teachers who question their capabilities to improve student learning. Researchers also have explored the operation of collective teacher self-efficacy and of self-efficacy for self-regulated learning, among others.

What are the sources and effects of self-efficacy?

What is the role of modeling in self-efficacy? Bandura noted four sources of self-efficacy information: actual performances, vicarious experiences, forms of social persuasion, and physiological indexes. How students interpret their actual performances should provide the most reliable information because these interpretations are tangible indicators of one's capabilities. Performances interpreted as successful should raise self-efficacy whereas failures should lower it, although an occasional difficulty experienced by a student after many successes is unlikely to have much impact on the student's self-efficacy.

Learners acquire much information about their capabilities through knowledge of how others perform. Models such as teachers and successful peers convey vicarious self-efficacy information. Similarity to others is a cue for gauging one's self-efficacy. Students who observe similar peers succeed are apt to feel more efficacious and motivated to attempt the task because they are likely to believe that if their peers can succeed they can as well. However, a vicarious increase in self-efficacy can be negated by subsequent performance failure. If those students who observed similar peers succeed try the task themselves but perform poorly, their self-efficacy may decline. Because students often seek models with qualities, they admire and with capabilities to which they aspire, models can help instill beliefs that will influence one's life.

Individuals also receive self-efficacy information from social persuasions (e.g., "I'm sure you can do this."), but persuasions should be based on reality if they are to be effective. Empty praise will not have much effect on one's self-efficacy and, like vicarious information; subsequent performance outcomes will support or refute the persuasive information. Telling learners that they can do well will not lead to high self-efficacy if they subsequently encounter difficulties.

Learners also acquire self-efficacy information from physiological and emotional states such as anxiety and stress. A strong emotional reaction to a task may signal that one is competent or not. When students experience negative thoughts before attempting a task (e.g., thinking they will fail as they begin an exam), these affective reactions can signal that they lack competence and bring about added stress that will guarantee the outcome they fear.

Sources of self-efficacy information do not operate automatically but rather must be cognitively integrated, weighed, and appraised. Often, the sources conflict. For example, students may observe peers succeed and be told by the teacher that they can succeed, but then experience difficulty themselves. Researchers are addressing how students integrate self-efficacy information from different sources (Joët, Usher, & Bressoux, 2011).

Bembenutty, H. (2015). An interview with Dale H. Schunk: The Scholar who first applied self-efficacy to education while blending It with self-regulation. *Contemporary Pioneers in Teaching and Learning* (pp. 19–31). Information Age Publishing.

We met, "first at AERA in New York and later at AERA in New Orleans, he [Héfer] introduced me to Maria DiBenedetto. In New Orleans in 2011 we were on the program together in a session honoring Dr. Zimmerman's contributions. Our professional association developed into a personal one, and we now have been married for almost six [seven] years."

Schunk's Selected Publication Abstracts

Schunk, D. H. (2023). Assessing motivation dynamically. In M. Bong, J. Reeve, & S.-i. Kim (Eds.), *Motivation Science: Controversies and Insights* (pp. 453–458). Oxford University Press. https://doi.org/10.1093/oso/9780197662359.003.0074

Motivation has a long history in psychology and other disciplines. By the mid-twentieth century, it was an active field of inquiry. Educators similarly became more interested in motivation. Whereas motivation often was viewed as a performance variable (i.e., motivation could affect the performance of what people already knew how to do), educators were more concerned about how motivation might influence new learning. For educators, "motivated learning" was of high interest. Needed are assessments that capture fine-grained changes in real time (as they occur) and that can link with personal and environmental variables that may affect those changes. There are methodologies that can assess changes dynamically, and methodological advancements constitute a key area of future motivation research. This chapter discusses some of these existing methodologies with real-time assessments: think-alouds, observations, traces, microanalytic methods, diaries, and experience sampling. Added to this list are neural activations, which offer exciting possibilities for motivation research.

Schunk, D. H. (2003). Self-efficacy for reading and writing: Influence of modeling, goal setting, and self-evaluation. *Reading &Writing Quarterly*, *19*(2), 159-172. https://doi.org/10.1080/10573560308219

Perceived self-efficacy, or students' personal beliefs about their capabilities to learn or perform behaviors at designated levels, plays an important role in their motivation and learning. Self-efficacy is a key mechanism in social cognitive theory, which postulates that achievement depends on interactions between behaviors, personal factors, and environmental conditions. Self-efficacy affects choice of tasks, effort, persistence, and achievement. Sources of self-efficacy information include personal accomplishments, vicarious experiences, social persuasion, and physiological indicators. At the outset of learning activities, students have goals and a sense of self-efficacy for attaining them. Self-evaluations of learning progress sustain self-efficacy and motivation. Research on academic learning is summarized, showing how modeling, goal setting, and self-evaluation affect self-efficacy, motivation, and learning. Suggestions for applying these ideas to teaching are provided.

Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist*, *26*(3-4), 207-231. https://doi.org/10.1080/00461520.1991.9653133

Academic motivation is discussed in terms of self-efficacy, an individual's judgments of his or her capabilities to perform given actions. After presenting an overview of self-efficacy theory, I contrast self-efficacy with related constructs (perceived control, outcome expectations, perceived value of outcomes, attributions, and self-concept) and discuss some efficacy research relevant to academic motivation. Studies of the effects of person variables (goal setting and information processing) and situation variables (models, attributional feedback, and rewards) on self-efficacy and motivation are reviewed. In conjunction with this discussion, I mention substantive issues that need to be addressed in the self-efficacy research and summarize evidence on the utility of self-efficacy for predicting motivational outcomes. Areas for future research are suggested.

Schunk, D. H. (1981). Modeling and attributional effects on children's achievement: A self-efficacy analysis. *Journal of Educational Psychology, 73*(1), 93–105. https://doi.org/10.1037/0022-0663.73.1.93

56 children (mean age 9 yrs, 10 mo) showing low arithmetic achievement received either modeling of division operations or didactic instruction, followed by a practice period during which half of the Ss in each treatment received effort attribution for success and difficulty. Both treatments enhanced division persistence, accuracy, and perceived efficacy, but cognitive modeling produced greater gains in accuracy. Perceived efficacy was an accurate predictor of arithmetic performance across levels of task difficulty and modes of treatment. The treatment combining modeling with effort attribution produced the highest congruence between efficacy judgment and performance.

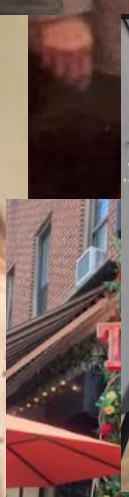
Schunk, D. H. (1989). Self-efficacy and achievement behaviors. *Educational Psychology Review*, *1*, 173-208. https://doi.org/10.1007/BF01320134

In this article self-efficacy research is reviewed in domains relevant to education. Research addressing cognitive skills, social skills, motor skills, and career choices has shown that self-efficacy is an important construct that helps to explain students' learning and performance of achievement-related behaviors. Research also has identified variables that are associated with educational contexts and that signal to students how well they are achieving or making progress in learning. These task-engagement variables include models/social comparative information, goal setting, attributional and performance feedback, strategy instruction, cognitive processing, and reward contingencies. A suggested future self-efficacy research agenda might include maintenance and generalization of changes in self-efficacy, the identification of additional task-engagement variables, instrument development and validation, integration of efficacy information from diverse sources, developmental influences on self-efficacy, and teachers' sense of efficacy.

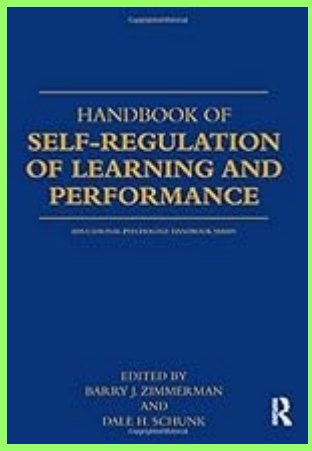
Schunk, D. H. (1990). Goal setting and self-efficacy during self-regulated learning. *Educational Psychologist*, *25*(1), 71-86. https://doi.org/10.1207/s15326985ep2501_6

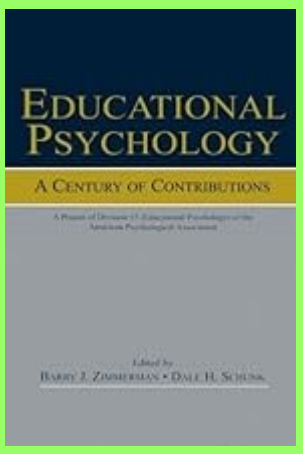
This article focuses on the self-regulated learning processes of goal setting and perceived self-efficacy. Students enter learning activities with goals and self-efficacy for goal attainment. As learners work on tasks, they observe their own performances and evaluate their own goal progress. Self-efficacy and goal setting are affected by self-observation, self-judgment, and self-reaction. When students perceive satisfactory goal progress, they feel capable of improving their skills; goal attainment, coupled with high self-efficacy, leads students to set new challenging goals. Research is reviewed on goal properties (specificity, proximity, difficulty), self-set goals, progress feedback, contracts and conferences, and conceptions of ability. Ways of teaching students to set realistic goals and evaluate progress include establishing upper and lower goal limits and employing games, contracts, and conferences. Future research might clarify the relation of goal setting and self-efficacy to transfer, goal orientations, and affective reactions.

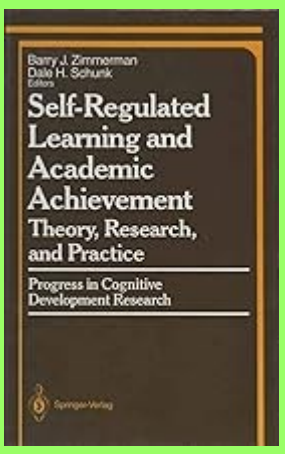
Schunk's Family and Friends

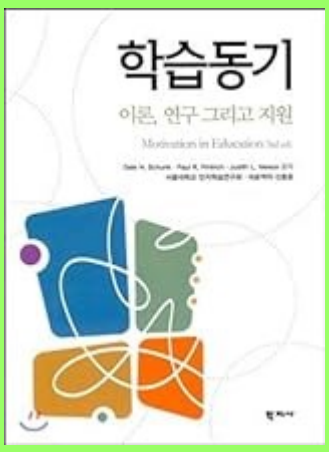


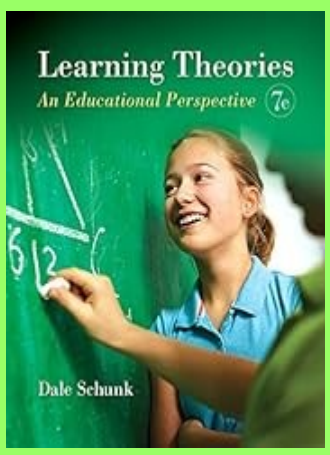
Schunk's Selected Books

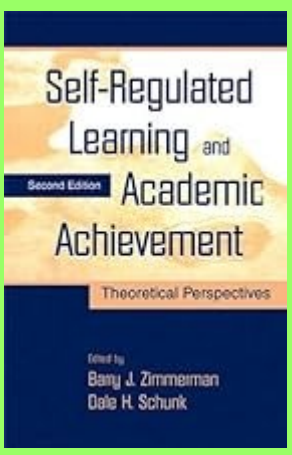


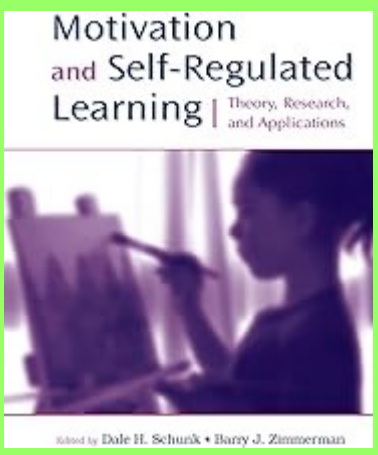


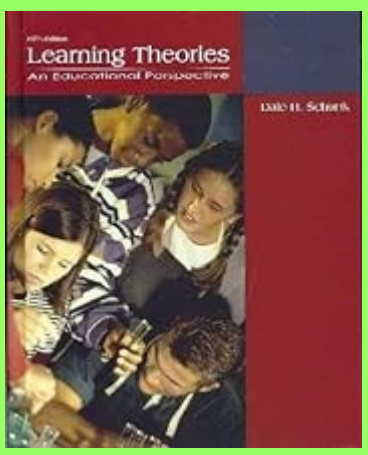


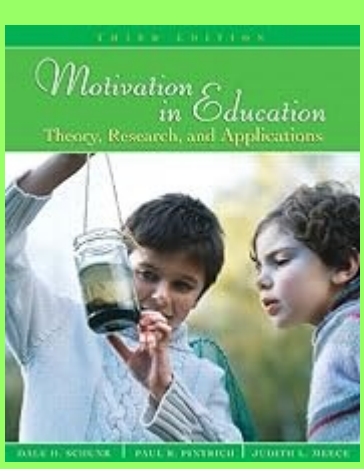


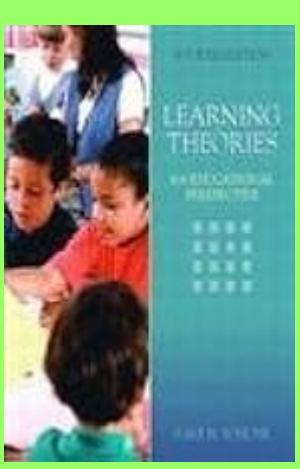


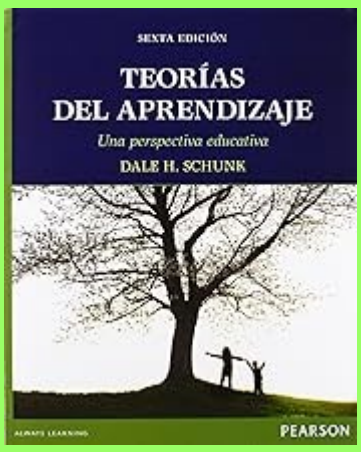


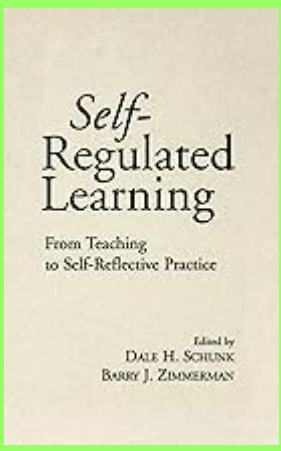


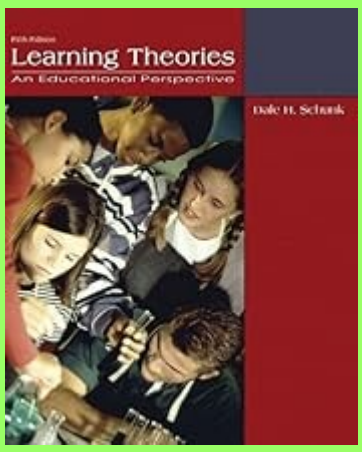


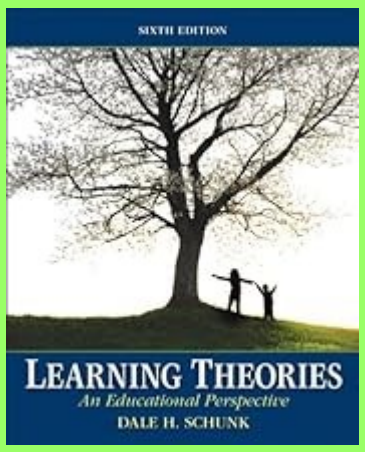












"I met with him [Albert Bandura] to discuss the idea of applying self-efficacy to educational settings involving teaching and learning. Up to that time all the research by Bandura and his colleagues on self-efficacy had been conducted in clinical settings. He was most interested in my ideas because he, too, believed that self-efficacy could help to explain student motivation and learning. He agreed to work with me and he became the chair of my dissertation committee. For my dissertation, I investigated the operation of self-efficacy during children's learning of long division skills (Schunk, 1981)."

Schunk's Legacy

How would you like the field of educational psychology to remember you?
What do you consider your legacy to be?

"As for my legacy, I take satisfaction in knowing that my doctoral dissertation was the first application of self-efficacy to an educational context that involved student learning...Since then there have been numerous applications of self-efficacy to educational settings, and many of these also involved new learning. I think that my dissertation, and the journal article that resulted from it (Schunk, 1981), were models for other researchers to use to craft their research investigations. I am impressed with how important self-efficacy is now considered to be for learning, motivation, self-regulation, and achievement. I also take satisfaction in knowing that I have contributed to the conceptual understanding of the developmental processes of self-regulation and the role that observation, emulation, and self-control contribute to the acquisition of self-regulation. I also hope to be remembered as someone who conducted research with clear implications for how to improve teaching and learning. Too often our educational research studies do not lead to changes in educational practices. Compared with when I began my academic career, I believe that practitioners are more aware that self-efficacy, motivation, and self-regulation are critically important for learning and achievement, and increasingly they try to address these in their teaching practices." (Bembenutty, 2015)