Amy L. Reschly
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Sandra L. Christenson *Editors*

Student Engagement

Effective Academic, Behavioral, Cognitive, and Affective Interventions at School

Springer

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Editors
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This book is dedicated to the professionals who work daily to foster supportive and constructive student-teacher and family-school relationships to engage students academically, behaviorally, cognitively, and affectively. Their efforts are recognized.

Preface

The aims of this book are to (a) highlight the engagement subtypes that undergird Check & Connect and (b) identify scientifically based interventions that facilitate student engagement subtypes. The power and value of both individual and universal interventions designed to promote student engagement subtypes are featured in this book. We have included excellent descriptions of these interventions, which are authored by the program developers.

We have organized the book around research from Check & Connect, which began with initial funding from the US Department of Education, Office of Special Education Programs, in 1990 awarded to Drs. Bruininks, Thurlow, and Christenson, University of Minnesota researchers. The purpose of the 5-year funding was to develop, evaluate, and refine a dropout prevention intervention for middle school students with learning and behavioral disabilities. Dropout rates were increasing; however, they were due primarily to the increase in dropout for special education students, hence, the request for the grant proposal from the federal government. We like to say that Check & Connect was born in 1995.

A principle of Check & Connect has been to use empirically based interventions to connect students at school and with their learning. There has never been discouragement for using interventions designed by others that foster or enhance students' academic, behavioral, cognitive, or affective engagement. Rather, school personnel have been encouraged to implement or create interventions that fit their school context. The key to this, however, is that interventions are implemented with integrity and evaluated for effectiveness within that context. The impetus for action has always been to do what is necessary to engage disengaged learners at this school, with these professionals, with these parents, and with this student population. Across time and several large-scale interventions in urban schools, we established that context matters.

Over the years, our work expanded to underscore student engagement as a multidimensional construct with relevance for all youth. This focus included the development of the Student Engagement Instrument (SEI) (see Chap. 3), reinforcing the seminal role of understanding student perspectives. We were not interested in only describing characteristics or levels of students' academic, behavioral, cognitive, or

affective engagement because doing so leaves too many students at risk for negative educational outcomes. Rather, our purpose was to create an assessment-to-intervention link.

A final note is our belief that we began this work "right." In the development of Check & Connect, we worked collaboratively with special education personnel from the Minneapolis Public Schools to solve an authentic educational concern. We learned that the powerful effect of both researcher and practitioner input – *science and practice* – for the design of Check & Connect, as well as the ongoing interest of educators in the assessment of and for intervention in students' level of engagement, cannot be ignored. Additionally, the editors of this book have been closely associated with Check & Connect research in multiple roles, as mentors, trainers, and researchers. We hope this compilation of interventions organized by the four engagement subtypes proves beneficial to you and your colleagues.

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About the Editors

Amy L. Reschly is a Professor of Educational Psychology and Coordinator of the School Psychology Program at the University of Georgia. Her scholarly work focuses on student engagement, dropout prevention, and working with families to promote student success. She was Coeditor of the *Handbook of Research on Student Engagement* and the *Handbook of Student Engagement Interventions* and is currently the Editor of *School Psychology Review.*

Angie J. Pohl, PhD is a Middle School Principal in the Burnsville-Eagan-Savage School District in Minnesota. Through her various roles in education from teacher, school psychologist, and researcher to school leader, she has remained committed to promoting student engagement and ensuring all students are prepared academically, socially, and emotionally for the next level of education. Prior to leading in schools, she provided training on Check & Connect and served as an Investigator on several Check & Connect research projects.

Sandra L. Christenson is Professor Emeritus, Department of Educational Psychology, University of Minnesota. She has been a Principal Investigator on several federally funded projects in the areas of dropout prevention and family-school partnerships, including Check & Connect, which is in its 29th year of research and implementation. Dr. Christenson publishes extensively; recently, she coedited the *Handbook of Research on Student Engagement* and the *Handbook of Student Engagement Interventions.*

About the Contributors

Rebecca Abramson is Director of Strategic Learning and Continuous Improvement in the Relay Graduate School of Education in New York City. She previously worked as a Graduate Research Assistant and then as an Educational Consultant, on large, school-based, randomized control trials of the efficacy of mathematics programs designed by Lynn S. Fuchs.

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Clayton R. Cook is the John and Nancy Peyton Faculty Fellow in Child and Adolescent Well-Being and Professor of Educational Psychology at the University of Minnesota. His research focuses on developing, testing, and implementing effective supports that promote student's social, emotional, and behavioral well-being and functioning in school.

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and documenting their contributions to students' learning and development. Dr. Pianta has led research and development on measurement and improvement tools that help teachers interact with students more effectively and that are used widely in the United States and around the world. Dr. Pianta received a BS and an MA in Special Education from the University of Connecticut and a PhD in Psychology from the University of Minnesota. He began his career as a special education teacher and joined the University of Virginia faculty in 1986. He is past Editor of the Journal of School Psychology and associate editor for AERA Open. An internationally recognized expert in both early childhood education and K-12 teaching and learning, Dr. Pianta regularly consults with federal agencies, foundations, universities, and governments. He was named a Fellow of the American Education Research Association and received the Distinguished Alumni Award from the University of Minnesota in 2016.

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Part I
Foundations

Chapter 1
The Relevance of Student Engagement: The Impact of and Lessons Learned Implementing Check & Connect

Sandra L. Christenson and Angie J. Pohl

Consider descriptions of these students; perhaps, some represent the disengaged learners with whom you work. *Tom,* an 11th grader, is an excellent athlete, and while he receives average grades, his parents and teachers are frustrated because he puts forth minimal effort. They believe he is not working up to his potential. *Ben,* a 10th grader, is credit deficient, has a poor GPA, attends school regularly, skips some classes, and has many friends. He is under evaluation for special education. *Saundra*, a 9th grader with learning disabilities, works very hard, struggles to complete assigned work with accuracy, and has few friends. Her parents are actively supportive of her education and school progress. *Jose,* an 8th grader, was retained twice and is absent, on average, 2 days per week. He says school is pretty boring. *Felicia*, a 1st grader, has erratic attendance, and while her parents see some value in education, they are unaware of the positive correlation between attendance and achievement. Finally, *Will*, a 5th grader, has many office referrals and weak reading skills; he is considered a behavior problem. These students are examples of disengaged, marginalized learners. Although they present with a different combination of difficulties in academics, attendance, and behavior, they have something in common; they illustrate the disconnected and discouraged learners with whom we have worked on various Check & Connect (C & C) projects. These students illuminate the relevance of the construct, student engagement, for the school performance and progress of all students in K-12 schools (Yazzie-Mintz & McCormick, 2012).

For C & C, what began as a dropout prevention intervention changed relatively quickly into being described as a student engagement intervention. It was designed to help students who are at risk of school failure through relationship building, problem solving, and persistence. Developed with federal funding from the

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U.S. Department of Education, Office of Special Education Programs, the purpose of our initial 5-year (Christenson, Thurlow, Sinclair, & Evelo, 1990) funding was to develop, evaluate, and refine a dropout prevention intervention for middle school students with learning and behavioral disabilities. At that time, dropout rates were increasing; however, they were due primarily to the increase in dropout for special education students; hence, the source of the funding. Describing C & C as a student engagement intervention was a natural switch as the developers – University of Minnesota researchers and Minneapolis Public School educators – assumed that dropout would be a moot point if students were connected at school and engaged with learning. From the beginning, enhancing students' connection with school and a sense of belonging was the commitment of the developers. Although the source of funding for this development effort was special education, the researchers and practitioners also realized the remarkable variability in the functional, presenting behaviors of disengaged, marginalized, and alienated students. In C & C, identification of disengaged students is determined using observable, available school data in the categories of attendance, academics, and behavior. Consequently, disengaged students represent those with and without disabilities, and very importantly, not all students with disabilities are disengaged learners.

With the federal funding, we collaborated with general and special education personnel to solve an authentic educational concern. Our team used the planning year to examine the phenomenon of school dropout by reviewing existing literature and to understand the input and experiences – the living laboratory – of students, educators, and parents. Of particular importance for the development of C & C was Finn's (1989) explanation of early school withdrawal as a process not as an event. His description of the disengagement process as a lack of participation and identification with school often beginning in elementary grades influenced our decision to monitor the alterable variables of disengagement (i.e., attendance, academics, and behavior). Participation, the behavioral component, includes such behaviors as attending regularly, arriving to class on time, completing assignments, and involvement in extracurricular activities, while identification, the affective component, refers to the student's sense of belonging or school membership and valuing the outcomes of schooling or seeing the benefits of school as a means to future opportunities. After year 1, we implemented C & C for 2 years with the first cohort of students; we refined the procedures for implementation with a second cohort in years 4 and 5 of the grant funding.

C & C was born in 1995. The powerful effect of both researcher and practitioner input in the planning and implementation years – *science and practice* – for the design of C & C cannot be ignored. Together we developed a useful, practical intervention comprised of four components – checking, connecting, a mentor (also has been referred to as a monitor, advocate, coach), and parent engagement. The initial development of C & C was based on these assumptions: (a) leaving school prior to graduation is not an instantaneous event; (b) solving the dropout problem will require a coordinated effort of home, school, community, and youth; (c) empowering students to take control of their own behavior is necessary; and (d) schools must be designed to reach out to families in partnership with the community (Christenson,

Rounds, & Franklin, 1992). In addition to these assumptions, the components and elements of the intervention have remained the same across two decades of ongoing implementation and evaluation.

In this chapter, the student engagement intervention, C & C, is described in terms of what it is, how it is implemented, and its effectiveness with different samples of students in different educational settings. Lessons learned across the various implementations of C & C with elementary and secondary students with and without disabilities in suburban and urban school districts conclude the chapter. Several articles and manuscripts (e.g., Christenson & Reschly, 2010a; Lehr, Sinclair, & Christenson, 2004; Sinclair, Christenson, & Thurlow, 2005) have described C & C components, elements, and procedures, and three manuals have documented the intervention over time. In this chapter, we draw upon the most recent manual (Christenson, Stout, & Pohl, 2012).

What It Is

C & C is a scientifically based supplemental intervention (tier 2 or 3) that complements effective, universal system-level interventions (tier 1) to engage disengaged students at school and with learning. Because student engagement is the primary theoretical underpinning for understanding school dropout, C & C plays a vital role, not a sole role, in fostering school completion (Christenson et al., 2008).

Described in terms of four components: a mentor, check, connect, and engagement with parents, a key aspect of C & C is the provision of persistent student support by the mentor who intentionally emphasizes promoting positive student outcomes, such as school success, school completion, and student competence (Christenson & Anderson, 2002; Christenson, Sinclair, Lehr, & Godber, 2001). The mentor (a) works with a student and his/her family for a minimum of 2 years; (b) monitors the student's attendance, academic progress, and behavior at least weekly; (c) implements timely interventions, driven by data, to reestablish and maintain the student's connection at school and with learning and to enhance the student's social and academic competencies; and (d) engages with the parents to strengthen the family–school relationship and to be a resource for the parents. Mentors enhance home–school communication; respond to parental goals, desires, and concerns for the student; share information about the student and school policies and practices (e.g., high school graduation requirements and why attendance is essential); obtain parent input; assist parents in navigating the educational system; and strive to foster home support for learning. Thus, as the name suggests, C & C consists of two main activities executed by the mentor that create an assessment-intervention link. Check refers to the systematic monitoring of alterable student performance variables, and connect refers to the use of data to design personalized, timely interventions focused on problem solving and skill building. Interventions are designed in collaboration with school personnel and parents. To implement C & C with fidelity requires that the four components be in place.

Collectively, the four components focus on the monitoring of the early warning signs of dropping out of school (Balfanz, Bridgeland, Bruce, & Hornig Fox, 2012) and the use of data to develop a timely, individualized intervention to keep the student in school and on the trajectory toward high school graduation with enhanced academic and social competence. Mentors use "check" data recorded on a monitoring form and their knowledge gained from the student, teachers, and parents to re-establish the student's connection to school. How mentors monitor student progress, model correct behavior, and connect with and support students is very important to understanding the implementation of C & C. Mentors build trusting relationships with students and others; problem solve with, not for students; set personal goals with students; listen to the student, teacher, and parent perspectives; and are a persistent source of academic motivation for the student. *Mentors never give up on a student nor let the student give up.* The following seven essential elements or defining features of C & C illustrate our intervention model to engage students at school and with learning:

- *Relationship building* – Mutual trust and open communication are nurtured through a long-term commitment focused on fostering students' educational success.
- *Routine monitoring of alterable indicators* – Mentors systematically check warning signs of disengagement that are readily available to school personnel and can be altered through intervention (i.e., indicators of attendance, academic progress, and behavior).
- *Individualized and timely intervention* – Connect supportive interventions are personalized, not prescriptive; mentors use data as the basis for intervention design. Intervention support is based on student need, level of engagement with school, associated influences of home and school, and the leveraging of local resources.
- *Long-term commitment* – Interventions are implemented for a minimum of 2 years. Mentors make a 2-year commitment, which may involve following highly mobile youth and families from school to school and program to program within the district.
- *Participation in and affiliation with school* – Mentors facilitate student access to and active participation in school-related activities and events.
- *Problem solving and capacity building* – Mentors use a cognitive–behavioral approach to promote the acquisition of skills to resolve conflict constructively, encourage the search for solutions rather than a source of blame, and foster productive coping skills.
- *Persistence-plus* – The mentor is a persistent source of academic motivation, is familiar with the youth and family (continuity), and provides the message that "education is important for your future," encouraging significant others to reinforce that message (consistency).

The four components and essential elements, as portrayed in Table 1.1, are linked.

Across the years of implementation, C& C increasingly has been described as a structured mentoring intervention (Christenson, 2012). This description underscores

Table 1.1 C & C components and elements

Components	Elements
Mentor	• Relationship building • Long-term commitment • Persistence-plus
Check	• Systematic monitoring • Focus on alterable variables
Connect	• Problem solving • Capacity building • Personalized, data-based intervention • Promoting participation/affiliation with school
Engagement with parents	• Connect, engage, and partner with parents

the seminal role of the mentor for enhancing student success and engagement at school. The foundational underpinnings of C & C, as articulated in the clearly delineated components and elements, were drawn from literature on resiliency (e.g., Masten & Coatsworth, 1998) to build protective factors and reduce risk factors; cognitive–behavioral theory (e.g., August, Anderson, & Bloomquist, 1992) to empower students to problem solve and take control of their learning; systems-ecological theory (e.g., Bronfenbrenner, 1979) to acknowledge the role of multiple influences to engage students; and intrinsic motivation (NRC, 2004) to foster student perception of self-perceived competence and school connection. These theoretical underpinnings address the complex social problem of dropout by underscoring the seminal role of student engagement.

Conceptualizing student engagement In C & C, engaging students is more than promoting academic engaged time or attendance. Paying attention to students' emotional and intellectual feelings about school and learning is necessary to improve their schooling experiences and school completion outcomes. Conceptualized as a multidimensional construct, engagement consists of academic, behavioral, cognitive, and affective subtypes (see Chap. 2 for more detail). As such, it requires an understanding of both psychological connections within the academic environment and active student behavior. It is not sufficient to focus only on completion of learning activities or attendance (e.g., behavior) to re-engage students or foster a student's identity as a learner. Student feelings, interests, attitudes, as well as self-perceived competence on the task or use of a strategy for doing one's best are a critical aspect of academic identity.

In addition, the distinction between *indicators* and *facilitators* of engagement serves as the conceptual base for creating an assessment-to-intervention link. *Indicators* (e.g., attendance patterns, grades, credits accrued) are used to identify target students, whereas *facilitators* are home and school contextual factors that either promote or inhibit the student's connection with school (Christenson et al., 2008; Reschly & Christenson, 2012; Sinclair, Christenson, Lehr, & Anderson, 2003). The strength of C & C is that it is responsive to the needs of the individual student and his/her circumstances surrounding classroom learning and school

Table 1.2 Indicators and facilitators by engagement subtype

Subtype	Observable indicators	Facilitated by
Academic	Time on task, academic engaged time, accrual of credits	Utilizing after-school programs (tutoring, homework help), increasing home support for learning, implementing self-monitoring interventions
Behavioral	Attendance, fewer suspensions, classroom participation	Devising a personalized approach to attendance and participation issues, implementing programs to address skills such as problem solving and anger management, developing behavior contracts to address individual needs
Cognitive	Perceived relevance of schoolwork, self-regulation toward goals, meta-cognition	Using problem-solving skills, setting realistic goals, creating an active interest in learning
Affective	Identification with school, belonging, perceived connection at school with teachers and peers	Increasing support from parents and teachers, building personal relationships with marginalized students, assisting students with personal problems, connecting students to school activities

Source: Christenson et al. (2012, p. 8)

performance. Mentors work to develop a productive person–environment fit for each student on their caseload. "Person" refers to the responsibility of the student to alter his/her feelings or behavior, and "environment" refers to critical facilitators, examples of which are portrayed in Table 1.2.

A critical premise of C & C is that successfully completing school is much more than simply staying in school, and, thus, much more than not dropping out. It involves meeting the defined academic, social, and behavioral standards of the school. To move toward successful school completion, the continuum of *attend, engage, and invest* is a helpful framework for mentors who are supporting disengaged students. Mentors find that the main goal for some students is to attend. Once they are attending, the mentor works toward increasing their engagement, considering the subtypes of academic, behavioral, cognitive, and affective engagement. Once students have decided that school is important and worth the effort, the mentor moves the student toward investing in their future. In our experience of implementing C & C, mentors have found that the process is highly variable across students in terms of time needed to improve engagement; behavior change is a process of persistent support toward goals. Sample interventions for the continuum are presented in Table 1.3.

In sum, C & C is a supplemental intervention aimed at re-engaging disengaged students in school and moving them toward school completion. In C & C, a mentor builds relationships with students and parents, checks on student progress by systematically monitoring alterable variables, and connects with the student through personalized, timely intervention, problem solving, and skill building. Mentors make a long-term commitment to the student and family, persisting with the student and promoting the student's effort and persistence in turn.

Table 1.3 Corresponding intervention examples for the attend–engage–invest continuum

Place on continuum	Intervention examples
Attend	• Pick up student for school • Provide an alarm clock or teach student to use alarm on phone • Problem solve with student and parents about how to get to school on time • Help student establish a between classes routine for getting to class on time
Engage	• Help student set goals • Teach student to self-monitor and self-reflect on progress • Have student select rewards and consequences for achieving/not achieving his/her goals • Help student get involved in extracurricular activities • Teach student self-regulated learning and persistence strategies • Discuss with student how their success and failure can be attributed to their effort and attitude
Invest	• Help student determine long-term goals and create a plan for reaching them • Discuss with student the connection between schoolwork and long-term goals • Foster lifelong learning by fostering student interests • Discuss with student the habit, knowledge, and skills needed for postsecondary • Help student engage in career planning

How It Is Implemented

C & C was designed as a supplemental intervention to complement school-wide practices to engage students. Therefore, prior to beginning implementation of C & C, schools and organizations are encouraged to assess the effectiveness of their universal practices and to ensure that a system of supplemental supports is in place. It is expected that tier 1 preventive, proactive academic and behavioral interventions designed to support all students' engagement and success will effectively meet the needs of 80–90% of the students within the system. If this is not the case, tier 1 supports need to be strengthened before bringing in a targeted intervention such as C & C. Additionally, schools should assess the types of supplemental (tiers 2 and 3) resources and supports that are available for students within their school or community. Mentors leverage existing resources to meet students identified needs and help move them toward successful school completion. The more resources available, the more connections mentors can facilitate for students and the greater likelihood the students will re-engage in school. Once an effective system of supports is in place, schools can begin to implement C & C.

The steps for implementing C & C with fidelity are split into two stages: preparation and implementation. Although these steps are described comprehensively in a manual (Christenson et al., 2012), interested readers should be aware that training

and technical assistance are available through the University of Minnesota (www. checkandconnect.umn.edu). (Klemm E, personal communication, November 2017). Annually, C & C trainers provide four introductory 2-day sessions at the University of Minnesota and more than 50 local onsite trainings. C & C training has occurred in all but nine states and numerous international locations including Toronto, Canada; New London, South Africa; Tampere, Finland; Stockholm, Sweden; Wellington, New Zealand; and Sydney, Australia. Recipients of training have been school- and community-based professionals. Researchers are advancing the implementation of C & C through development of a C & C App designed to help sites with the tasks of monitoring, interpreting, and reporting on student progress using their tablet or computer.

Preparation stage The preparation stage begins with discussion and determination of the indicators of student disengagement in the particular school context to achieve a common understanding of alterable risk factors and corresponding protective factors associated with school dropout. Next, alterable indicators of the engagement subtypes are identified and used to identify target students. Sites implementing C & C are encouraged to establish specific referral criteria for participation. For example, target students may include those who attend less than 80–90% of the time and have low academic grades (e.g., 2 Ds or 1 F) or credit deficiencies, and who have three disciplinary referrals. Selection of a monitoring form and establishing criteria for defining high-risk students for each predetermined indicator of risk is necessary. Then, professionals in the implementation site select or hire mentors, ideally those who (a) believe that a high-risk student can change his/her behavior and improve academically and socially, (b) are willing to reach out to and collaborate with families and school staff, and (c) are organized and have well-developed time management skills. Mentors should "want to be" rather than feel "obligated to be" a mentor. They must be willing to persist with students despite their behavior and decision-making and believe in the power and value of problem solving with students to develop personal competencies.

Although C & C was designed as an 11-month intervention with dedicated mentors, it is often implemented in schools as a 9-month intervention. Increasingly schools are utilizing existing school staff as mentors. In this model, a variety of school staff (e.g., general education teachers, special education teachers, school social workers, counselors, behavior specialists, school psychologists, and paraprofessionals) are trained to take on the role of C & C mentor for 1–2 students in addition to their full-time responsibilities as a school staff member.

The final preparation step is to organize existing school and community resources that foster student engagement and address student need. To maximize scarce resources, mentors connect students and families to services in the school and community whenever possible to address alterable risk indicators being monitored and to enhance protective factors.

Implementation stage The first of seven steps in the implementation stage is *taking the time* to get to know students, parents, and teachers; building rapport; explaining the mentor role and the purpose and procedures for the C & C intervention; and

explaining the value of partnering. In particular, students should hear the mentor saying, "I am your advocate and am here to help you have a good school year, stay connected to school, and be more successful in school. I will listen to what is important to you and help you use problem-solving strategies, set personal goals, and think about your future endeavors." Parents should hear the mentor saying, "Your child is important and if we work together we can make a positive change and help your child be more successful in school." Teachers should understand that the mentor respects their busy schedule and wants to support their efforts and communicate with them at a preferred time.

Next, mentors begin to *check* or systematically monitor student performance at least weekly and record the data in a consistent fashion on the selected monitoring form (see an example of a high school monitoring form in Fig. 1.1) or by using the new C & C App. In C & C, systematic monitoring is an essential link to students' educational progress and performance; the monitoring form ties data to intervention both at one point in time and over time. Monitoring data over time allows the mentor to see patterns of disengagement and to deliver the appropriate level of *connect* intervention – basic or intensive. Monitoring data over time also allows mentors to see patterns of re-engagement and success and provides concrete data to share with students to help them see and celebrate their progress.

It is not enough for mentors to check student data; they must then use that data to inform how they *connect* with students, or how they intervene to support student engagement. Connect interventions are intentional; use observable behavioral and academic data (i.e., check data) for decision-making about intervention support; are designed in collaboration with the student, parents, and school personnel; enhance protective factors for students; teach the behavior that is expected of students; consider multiple intervention targets; and range across two levels of intervention (basic and intensive).

All C & C students receive the basic intervention. Here, the mentor shares "check" data, provides regular feedback about overall progress addressing risk, discusses school, discusses the importance of staying in school and working hard (e.g., information on unemployment rate for high school dropouts), and facilitates problem solving about any risk with the student. Students showing high risk for alterable indicators being monitored are provided with intensive interventions – supplemental, personalized interventions that address the check data and information gathered from the student, parents, and teachers. Intensive interventions complement the basic intervention – they do not replace it. The two levels maximize finite resources in settings and the mentor's availability of time.

Many different intensive connect interventions have been used across the two decades of implementing C & C with students in different grades, with different family circumstances, and with different educational needs. Initially, we focused on three broad categories of intensive intervention: academic support, problem solving, and recreational and community service exploration. Subsequently, we also organized intensive interventions by the presenting alterable risk factors (e.g., course failures, absences, and tardiness). Since 2012 and described in the manual, we have also organized intensive interventions by engagement subtype, adding

Check & Connect High School Monitoring Form

Student _____   ID _____   Grade _____

School _____   Mentor _____   Month _____

CHECK

Academic Data		M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F	High Risk
	Number of Grades at or Below D																					
	Number of Missing Assignments																					
	Cumulative Grades	1st Quarter Grades ___ D's ___ F's				2nd Quarter Grades ___ D's ___ F's				3rd Quarter Grades ___ D's ___ F's				4th Quarter Grades ___ D's ___ F's							
	Credit Accrual	_____ Credits earned out of _____ total possible													GPA:_____						
	Met Academic Standards	Math: Yes☐ No☐				Reading: Yes☐ No☐					Writing: Yes☐ No☐										

Behavior Data	M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F	High Risk
Tardy																					
Skipping Classes																					
Unexcused Absence																					
Excused Absence																					
Behavior Referral/Infraction																					
Detention																					
Suspension (In/Out-of-school)																					

CONNECT

Communication		M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F
Student Communication	Formal																					
	Informal																					
Family Communication	Attempt/Not reached																					
	Left Message																					
	Note home																					
	Phone Conversation																					
	Meeting																					
	Home Visit																					
Communication with school staff																						
Communication with outside agency																						

CONNECT (continued)

Basic Intervention	M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F
Share "Check" Data																					
Provide regular feedback																					
Discuss staying in school																					
Problem solve about risk																					

Intensive Intervention	M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F
Facilitate personal and/or future goal setting																					
Discuss academic progress and supports																					
Discuss behavior and supports																					
Discuss how current choices impact likelihood of graduating from high school																					
Intensive problem solving																					
Intensive problem solving w/parent																					
Intensive problem solving w/school personnel																					
Facilitate participation in community service																					
Facilitate participation in school sponsored activity																					
Facilitate tutoring																					
Facilitate participation in small-group instruction for passing exit exam																					
Teach organization and study skills																					
Arrange an alternative to suspension																					
Other:_____																					

Fig. 1.1 Example of Check & Connect high school monitoring form

Table 1.4 Examples of intensive interventions by engagement subtype

Engagement subtype	Intervention examples
Academic engagement	• Utilize after-school programs (tutoring, homework help) • Increase home support for learning, such as sending notes home, teaching students to use assignment notebooks, and sending home academic enrichment activities • Maximize instructional relevance (e.g., provide a clearly stated purpose of the task or assignment, graph progress toward goals) • Increase time on task and substantive interaction through peer-assisted learning strategies
Behavioral engagement	• Implement small groups to teach specific skills such a problem solving, anger management, or interpersonal communication • Develop specific behavior plans or contracts to address individual needs • Implement school-to-work programs that foster success in school and provide relevant educational opportunities • Encourage participation in extracurricular activities; actively seek to involve uninvolved students • Examine school discipline policies; ensure that they are considered fair and nonpunitive and are understood by the student
Cognitive engagement	• Enhance the student's personal belief in self and personal competence through repeated contacts, goal setting, problem solving, and relationship building • Implement self-monitoring interventions (e.g., teach the student to graph his/her progress toward his/her goals) • Discuss the link between student's effort and the outcome achieved and provide feedback on student effort • Enhance or explicitly identify the relevance of schoolwork to future goals • Help the student articulate the necessary steps to pursue personal goals and career aspirations • Set learning/mastery goals (in collaboration with teachers) instead of performance goals • Explicitly teach cognitive and metacognitive strategies (e.g., mnemonic strategies) and effective note-taking and study skills
Affective engagement	• Build personal relationships between the student and other adults • Personalize education (e.g., alter assignments to match the student's personal interests and goals) • Assist students with personal concerns • Provide extra support for students in a timely manner • Enhance peer connections through peer-assisted learning strategies

ideas for family and teacher consideration for supporting the student. Examples of interventions categorized by engagement subtype appear in Table 1.4; these subtypes are described in detail in this book.

Problem solving and goal setting are core strategies for mentors to utilize with students, parents, and teachers. Problem solving is the basis for teaching students productive coping strategies, such as seeking social support or asking for assistance, solving the problem, working hard, and seeking to belong and to participate (Frydenberg, 2008). Mentors provide information about the student's indicators of

risk, but they are not directive about potential solutions. They do not tell students what to do. They do not problem solve for students; rather they problem solve with students using the five-step problem-solving strategy: 1. Stop – think about the problem or risk. 2. What are some choices? 3. Choose one. 4. Try it. 5. How did it work? (August et al., 1992). Problem solving enhances decision-making and self-determination and, importantly, encourages the students to take risks, learn from mistakes, and identify what works for them. Problem solving with parents and teachers maintains the focus on solutions and interacting with a nonjudgmental attitude. When engaging in goal setting, mentors work with students to identify what the students hope to accomplish in the short and long term, what they value, what motivates them, what the barriers are to achieving their goals, and strategies for overcoming those barriers. Goal setting sets the stage for using self-regulated learning strategies, teaching students to plan, act, and evaluate their progress.

A 4th step in the implementation stage is *engaging with parents*; a step designed to strengthen the family–school relationship in order to enhance the child's school success. Mentors serve as liaisons between home and school, reaching out to, engaging with, and partnering with parents. Mentors invite the parents to partner explaining the seminal role they play in their children's outcomes; inform parents and are informed by parents about the child's educational performance and progress; and include parents in all decisions, including those about how to increase parent participation in their child's education. The mentor's interactions with parents are focused: what does the student need to be more successful and how can we collaborate to make this happen? Carefully crafted guidelines for the family–school interaction process direct mentors to attend to "what" they do in interaction with parents (e.g., maintain a positive, honest orientation to communication; develop a two-way communication system; ensure parents have the information needed to support their child's learning) and "how" they interact with parents (e.g., adopt a perspective taking attitude; think the best about parents without passing any judgment; respond to parents concerns; treat parents as equals).

Both the mentor's attitude and actions when engaging with parents are integral to our philosophy of partnering with parents. Mentors believe that parents can participate in multiple ways to support their child's education and rather than dictating how the parent should participate, mentors meet parents where they are and engage with them to discover what will work for them. Mentors do not see families as lacking or deficient nor do they try to "fix" them. Instead, mentors believe all families have strengths, but vary in terms of their material resources, knowledge of education norms, time, confidence, and self-efficacy (Stanton-Salazar, 2001). Mentors develop a reciprocal relationship with parents, building trust, taking time to talk to them about their concerns, listening to them, encouraging them, learning from them, offering practical help, and conveying caring for both the parent and child. Importantly, mentors recognize that trusting relationships develop over time. They work to earn the trust of the parent/family – they know that it takes time to get to know, dialogue, and be receptive to each other's ideas. By following through on parental requests and mutually determined action plans for the student, parent confidence in the mentor is increased. Through a positive, solution-oriented

problem-solving approach, mentors help parents address real and perceived barriers in their child's education. Maintaining a nonjudgmental, nonblaming attitude is crucial and made easier through the use of problem solving that addresses student check data and parental concerns.

On all C & C projects, there have been families who were difficult for mentors to access. A premise of C & C is that engaging with parents is essential – it is one of four components to the intervention. In those situations when the parent cannot be reached or the family–school relationship is strained, mentors provide persistent outreach. They continue to communicate (via notes, texts, voicemail) about the student's educational performance, continue to invite the parent to partner, and provide their personal contact information. Mentors remain optimistic, voicing, "If we work together, I believe _____ will do better in school."

The last three steps for implementing C & C with fidelity are to monitor the *person–environment fit,* provide *mentor support and supervision,* and *evaluate* program implementation. With respect to monitoring the person–environment fit, mentors are vigilant about how the resources of the learner and the learning context are organized to support the student to meet the demands and expectations of schooling (Christenson & Anderson, 2002). Risk and resilience are not inherent characteristics of the youth; instead, they result from the interactions, transactions, and relationships within multiple systems that envelop learners. Mentors monitor the existing school policies and practices and family beliefs and behaviors that may be interfering with the student's engagement at school and with learning. The mentor or coordinator brings to the attention of the principal any school-based policy or practice that is alienating to students and families and discusses with parents any family-based concerns that are interfering with student learning and graduating. For example, the mentor may state, "I am concerned about _____ because it may be working against Jasmine graduating on time or doing her best schoolwork. Could we meet and discuss what we believe is best for Jasmine?" In neither case does the mentor have control over the decisions of school personnel or parents.

The coordinator directs day-to-day implementation, overseas staff development, supports mentors, and supervises C & C activities. As the designated program leader, the coordinator is responsible for intervention integrity. The coordinator holds regularly scheduled team meetings, provides opportunities for ongoing staff development, and provides a venue to discuss and handle case management issues and situations. Because C & C is a targeted intervention designed to complement universal, school-wide practices, it is paramount for the coordinator to collaborate with building staff, reduce the likelihood of any service duplication, and coordinate C & C services with other direct service providers, such as special educators, probation officers, or community agencies.

The last implementation step is to evaluate the impact of the program. C & C is designed to use data that schools routinely collect; therefore, these same data can be used in establishing the criteria for successful implementation of the program. Quite simply, the alterable risk variables on the "check" section of the monitoring form used to identify target students represent dependent variables, those that are the desirable focus of change. Typically, educators are interested in the extent to which

C & C students are more likely to stay in school (retention), make progress in school, complete high school, and re-engage with school and learning. Evaluation assists in program improvement and is necessary for securing support within district initiatives and from funders.

Role of Mentor

C & C is an evidence-based intervention that strives to promote student competence, school success, and school completion – not only dropout prevention. The mentor wants the student attending school *and* improving on learning and working toward immediate and future goals. The primary goal of the C & C mentor is to help the student develop positive patterns of engagement at school and with learning. The role of the mentor is modeled after one of the commonly identified factors in the resiliency literature, namely, the presence of an adult to fuel motivation and foster the development of life skills needed to overcome adversity and obstacles (Masten & Coatsworth, 1998). The mentor helps students participate at school; navigate school and track progress; set personal educational goals, both immediate and future oriented; problem solve to meet the expectations of the school environment; and persist in the face of challenges. Other main functions of the mentor are to tailor interventions to meet student need; to collaborate with families, teachers, and other adults to support the student; to make referrals to the appropriate school-based professionals for students and families; and to share information about systems issues. Mentors problem solve with students, parents, and teachers to remove obstacles to being an engaged learner; collaborate with teachers and school personnel to modify any alienating school policies and practices; directly teach social skills and expected, appropriate classroom behavior; and continuously provide informed feedback to the student.

C & C is a relationship-based intervention, and the mentor builds relationships as part of an effective mentoring approach. The C & C mentor works with others to develop a student engagement plan. We believe that disengaged students need someone who consistently and persistently supports them – helping them to not only *reduce risk factors* and obstacles for their learning but also to *build protective factors*, such as problem solving, goal setting, asking for assistance, and putting forth more effort. Mentors want students to reflect on their level of school performance as they also think about and discuss ways to improve and meet the demands of the school environment. Mentors want students to be self-reliant, think about the future, enhance personal self-efficacy, and discover solutions to their problems through problem solving and dialogue. Disengaged students need to hear over and over: "School is important for your future, I believe in you, and I will support you to graduate and be more successful in school. It is possible for you to graduate with skills." Such messages provide a sense of optimism and hopefulness and represent the persistence-plus message in C & C.

Table 1.5 The persistence-plus message

Students	School and learning are important
Elementary	You can: • Be successful in school • Attend school regularly • Complete your schoolwork and assignments • Solve problems with peers effectively • Participate in school • Express frustration in a constructive manner
Secondary	You can: • Improve and succeed • Be on time • Attend classes regularly • Stay in school • Express frustration and anger in a constructive manner • Work positively with teachers • Be involved in school activities • Get a diploma • Graduate ready for college and career

The use of the persistence-plus message by the mentor and other key stakeholders helps the student believe in himself or herself as a learner. Persistence means the mentor does not stop believing in the student's ability to learn or change behavior and does not allow the student to be distracted from the importance of education and learning new academic and social competencies. Continuity means the mentor knows the student's educational history, is familiar with the student's background, and is available throughout the school year, the summer, and into next year. Consistency means the mentor communicates the importance of school to students and encourages other concerned adults to convey the message as well. Examples of messages for elementary and secondary students that convey a belief in the student as a learner are presented in Table 1.5. Characteristic of C & C, we encourage school and community professionals implementing C & C to modify the message to fit their particular context. Formal weekly meetings with the mentor and reinforcement of the message from teachers and parents help students internalize messages about school and influence behavior change over time.

To build relationships with students on his or her caseload, which is typically the ratio of 1 mentor to 1 hour per week per 1.25 students per week (i.e., 25 students for half time work), mentors recognize that quality relationships cannot be forced. They strive to understand the student perspective and engage in ongoing, honest, solution-oriented communication and persistent outreach to the student, even when the student seems indifferent. Mentors use many ways to strengthen the relationship. For example, they: (a) demonstrate acceptance for the student and family and hold the student accountable for his/her behavior, performance, and decisions; (b) are accessible to the student and family, maintaining a flexible work schedule; (c) make a long-term commitment to the student and family; (d) establish a method of communication with the student and family early in the relationship; (e) protect

confidentiality to establish trust; (f) hold clear expectations for the student; (g) model desired behavior and provide the student with scenarios to practice responses; and (h) provide honest information always paired with an action plan (e.g., what would happen if you?). The relationship is rooted in the mentor's persistent support to and advocacy of the student to meet the academic and social demands of the school environment.

Building a trusting relationship, committing to and never giving up on students, and engaging in problem solving irrespective of student behavior and response help the mentor fuel students' motivation to learn. While cautious about overreliance on extrinsic reinforcement and rewards, the mentor attends primarily to students' psychological needs for autonomy ("I want to and value; I make choices"), belonging ("I belong; I identify"), and competence ("I can; I am willing to try and take a risk"). Providing reinforcement (tangible and intangible reinforcers) after the accomplishment and as a surprise for students to celebrate improvement and progress toward a goal is preferred. Surprise rewards are linked naturally to recognition of personal effort and behavior change without the student expecting something in return.

Problem solving with (not for) the student provides the opportunity for the mentor to understand the perspective of the student, for the student to learn about consequences of personal choices and decision-making, and for the mentor and student to refine the engagement plan to address the concern and to reach personal goals. When problem-solving with the student, the mentor uses several strategies. They may discuss increased options for consideration, facilitate a student's selection of a new goal or modification of an existing goal, underscore the value of the tasks, discuss and rate the importance and relevance of the task, rate the expectancy for personal success, reflect on reasons why the student is confident or wants to achieve the goal, and discuss the student's role vis-à-vis personal effort and choices in schooling outcomes. In particular, the mentor helps students differentiate motivation (i.e., desire directed toward an action) and volition (i.e., a conscious choice to take action). Volition is making a personal investment in learning – or effortful learning (Maehr & Midgley, 1996). Students have resonated with Moran and Gardner's (2007) structure of "hill, skill, will" for these more elusive concepts. Hill is the establishment of a proximal or distal goal, skill is the know how to accomplish a task with a level of certainty and confidence, and will is the volition or decision to begin and persevere until the goal is achieved. Eccles (1983) has referred to the "cost" of a task or goal, meaning what the student has to give up and the amount of effort that must be expended in order to complete the task or attain the goal, especially in the face of challenges. Mentors discuss various aspects of putting forth effort.

Intervention Summary

In closing, C & C is in its 29th year of programmatic development, research, training, and providing technical assistance. It has accomplished this record because of its balance between clearly delineated components; a set of essential elements

grounded in engagement, systems, resilience, cognitive–behavioral, and motivation theories; articulated implementation steps; *and* its dynamic responsiveness to the changing educational environment and changing nature of students. C & C is a structured mentoring intervention, but the types of supportive interventions designed and implemented are not formulaic. In C & C, mentors build relationships with the student and their parents and teachers; systematically "check" student performance data each week; provide timely and personalized interventions that consider the "check" data, student perspective and need, family circumstances, and availability of school and community resources; and engage with parents and foster parental participation in their children's schooling. Mentors "check" and "connect" through relationship building, problem solving, and persistence – never giving up on the belief that the student can learn, achieve, and improve his/her behavior and attitude.

Effectiveness of Check & Connect

C & C has been evaluated by researchers at the University of Minnesota and by researchers independent of the program developers. The research methodology has included descriptive, quasi-experimental, and experimental designs. Across two decades of evaluation, the results, albeit varied, support at least one study that has yielded increases in credits earned, persistence rates, graduation rates, and perceived increase in parent participation and reduction in absences, tardiness to school/class, behavioral referrals, and dropout rates. The 2006 and 2015 What Works Clearinghouse reviews of dropout prevention programs found C & C to have positive effects on staying and progressing in school, but no discernible effects on graduation rates. More detail with respect to research on C & C follows. These results should be evaluated with some key considerations in mind. Given what we know about the process of disengagement over years that typically precedes dropping out, we maintain that the later we initiate intervention, the longer it takes to successfully re-engage students. Additionally, we have found that a sustained student engagement intervention yields benefits for these students. Thus, in our work, we typically do not evaluate intervention effects until students have received 2 years of intervention. Relatedly, we can successfully promote school completion among students with significant academic and behavioral difficulties, but our research shows that we often need 5 years, instead of 4, to accomplish this goal. Finally, the effectiveness of an intervention is directly tied to the quality and fidelity of implementation, which is evaluated to varying degrees in the studies described below.

Studies have found that participation in C & C improves attendance and enrollment, especially for middle school students and students with disabilities.

- Fifty-four culturally and linguistically diverse middle school students at risk of dropout received C & C. Students in the treatment group had significantly better 8th-grade attendance; however, there was no effect on students' GPA or number of office referrals (Powers, Hagan, & Linn, 2017).

- The efficacy of C & C was examined for 553 urban general education students with the lowest probability of on-time graduation based on district-level early warning signs (attendance, behavior, and course performance) in grades 8 and 9 who received 3 years of C & C beginning in the summer prior to grade 10. No effect on attendance was revealed for the C & C students (Heppen et al., 2017).
- C & C was delivered to 765 students in grades 1–8 in 23 neighborhood schools in a large urban school district (Guryan et al., 2016). Two cohorts of students participated in C & C; each student was assigned a mentor for two school years. Results of a 4-year randomized control trial evaluation of C & C revealed significant differences in attendance for middle school students, but no effects on attendance for elementary school students. Based on estimates on the treated, participation in C & C decreased student absences among students who began the program in grades 5–7 by a statistically significant 3.4 days, or 20.2% relative to the control complier mean. Pooling cohorts 1 and 2, participation in C & C revealed a statistically significant increase of 4.3 days present.
- One hundred seventy-five 9th-grade students with emotional/behavioral disabilities were randomly assigned to treatment and control groups and received the intervention for 4–5 years (Sinclair et al., 2005). Participation in C & C improved persistence, enrollment, and attendance for students with emotional/behavioral disabilities. Fewer treatment students were out of school with effect sizes (ES) increasing in magnitude from small to moderate over successive years of intervention (0.22 for year 2, 0.32 for year 3, and 0.48 for year 5). Noteworthy was the finding that highly mobile students demonstrated persistent attendance despite attending multiple educational programs when compared with the control students (60% vs. 20%, ES = 0.41).
- In a pre–post intervention design and replication study, 147 elementary students who were absent or tardy to school 12% or more of the time received C & C for 2 years. At the end of 2 years, about 40% of C & C students were engaged and regularly attending school (the equivalent of zero to one day absent per month), an improvement of 135% over baseline behavior. Incidence of tardiness to school declined. About 86% of C & C students were engaged and arriving to school on time (the equivalent of zero to one day tardy per month), an improvement of 104% over baseline behavior (Lehr et al., 2004).
- C & C improved outcomes for students with a history of truancy. In a pre–post intervention design, 363 chronically truant secondary students showed improved attendance and academic performance as well as a reduction in the number of skipped classes and out-of-school suspensions. About 65% of C & C students who were referred before their absences exceeded 25% of the school year were successfully engaged (defined as less than zero to one day absent per month), with no incidences of course failures (Sinclair & Kaibel, 2002).
- Ninety-four students in special education who had received C & C for 2 years in middle school were randomly assigned to treatment and control groups upon entrance to 9th grade. By the end of 9th grade, treatment group students were significantly more likely than control group students to be enrolled in school (91% vs. 70%) and to have persisted in school with no periods of 15-day absences (85% vs. 64%) (Sinclair, Christenson, Evelo, & Hurley, 1998).

Participation in Check & Connect has some effect on academic progress, such as the number of course failures and credit accrual.

- Although there were no differences in math and reading standardized test scores or GPA, there was a significant reduction in course failures for middle school students who participated in C & C. C & C students failed 0.17 fewer courses (Guryan et al., 2016).
- Over half of chronically truant secondary students who participated in C & C for 2 or more years had no course failures (Sinclair & Kaibel, 2002).
- Ninety-four students in special education who had received C & C for 2 years in middle school were randomly assigned to treatment and control groups upon entrance to 9th grade. By the end of 9th grade, treatment group students were significantly more likely than control group students to be on track to graduate within 5 years (i.e., more credits earned in 9th grade) (Sinclair et al., 1998).
- The benefit of combining C & C with Communities in Schools for 260 primarily Hispanic and low-income students in middle and high schools was examined (Maynard, Kjellstrand, & Thompson, 2014). Although there was no effect on attendance for students who received C & C, these students experienced a 3% improvement in academic performance (i.e., GPA in four content areas) and an 11% reduction in office disciplinary referrals for the average student in the intervention compared to the control condition.
- C & C did not have any statistically significant impacts on measures of academic progress for general education students with the lowest probabilities of on-time graduation. A critical issue for this study included the extreme credit deficiency of students beginning in grade 10 (first year of implementation). Also, approximately 25% of the treatment sample ($n = 553$) left the school district to attend various alternative schools (Heppen et al., 2017). The one sign of program impact was the successful completion of courses during summer 2013, the summer before students' senior year of high school. Treatment students were more likely than control students to take courses in the summer of 2013 (60.1% vs. 36.8%, $p < 0.001$).
- Despite the positive impact of C & C on passing summer courses, treatment students did not accumulate significantly more credits by the end of summer 2013. C & C also had no significant impact on students' likelihood of failing fewer than two courses during the 4th year of high school or passing the state high school exit exams in mathematics and English language arts. Failing courses continued to be a problem for both groups of students – in the 4th year of high school alone, more than 30% of students in both the treatment and control groups failed two or more semester-long courses.

The impact of C & C on various subtypes of student engagement is equivocal.

- C & C did not have any statistically significant impact on measures of engagement (e.g., participation in extracurricular activities, cognitive and affective engagement) (Heppen et al., 2017). Critical issues for this study included the credit deficiency of students beginning in grade 10, the limited availability of

resources for the general education population (relative to special education), and mobility.

- Several studies, as noted above, reported a positive impact on indicators of behavioral engagement, specifically attendance and keeping students in school.

The impact of C & C on graduation rates is equivocal.

- C & C did not have a statistically significant impact on the likelihood of dropping out or on-time graduation for general education high school students (Heppen et al., 2017). Ultimately, about half of the students in the study sample graduated on time. Specifically, 52% of treatment students and 53% of control students graduated within 4 years of high school entry. During the follow-up year, no differences in high school graduation emerged as 59% of treatment students and 58% of control students graduated within 5 years. On average, students in both the treatment and control groups continued to be academically at risk throughout the study.
- The effect of C & C to enhance high school graduation for students with a history of truancy was examined in a quasi-experimental study for 132 students in four high schools. High school graduation and GED attainment relative to school dropout and transfer out of district were higher for students who received C & C (Strand & Lovrich, 2014).
- A total of 1061 students (unduplicated count) received intensive caseload support from the Minneapolis High School Completion Check & Connect Initiative for 8 years. The overall trend in graduation rates demonstrated significant improvement. Specifically, the 2010 cohort-type AYP graduation rate improved for the seven comprehensive high schools in the Minneapolis Public Schools (MPS). For example, during the final 2-year funding period, 57% of the high-risk C & C 12th graders graduated in 4–5 years ($n = 62$ of 108). Of the 68 continuing 12th graders, 50 had earned enough credits to graduate within the following school year; 30 of these students had passed all three required GRAD tests. Two-thirds of the C & C participants for the final 2-year reporting period either graduated or were on track to graduate within 5 years. The researchers attributed improved graduation rates over the 8 years to the integration of the MPS universal high school transformation initiatives (e.g., attendance monitoring) with the targeted C & C initiative (Sinclair & Kaibel, 2011).
- C & C treatment students were less likely to drop out of school than students in the control group at the end of 4 years (39% vs. 58%) and at the end of 5 years for a subsample of students with emotional and behavioral difficulties (42% vs. 94%). The effect size for treatment and control student differences for a 5-year graduation rate was significant and moderate (ES = 0.53) (Sinclair et al., 2005).

The mentor–student relationship as provided in C & C may improve engagement for students.

- An underlying principle of C & C is that it takes time to develop a relationship, especially for disengaged, marginalized students (Christenson et al., 2012). For both cohorts of middle school students with attendance problems, the effect of

participating in C & C was larger in the 2nd year of the intervention than the first year (Guryan et al., 2016). Though this difference was not statistically significant, the pattern of results is suggestive of the possibility that the strength of relationship between the mentor and student may be an important mediator of the effectiveness of C & C. It may also be that time is required of mentors to determine and intervene on the obstacles causing students to miss and engage in school.

- The effect of the mentor–student relationship on student engagement was examined for 80 elementary students who received C & C for at least 20 months. The mentor perspective on this relationship predicted teacher-rated academic engagement, while the student perspective on this relationship approached significance as a predictor of teacher-rated academic engagement. Neither the mentor nor the student perspective on the relationship was a significant predictor of social engagement (Anderson, Christenson, Sinclair, & Lehr, 2004).

- Mentors and high school students reported that relationships with supportive adults were one of four variables for fostering school success. Although mentors strongly endorsed this view, C & C students also reported that the presence of supportive adults encouraged them to succeed. Moreover, successful students were more likely than their less successful peers to describe ways in which these adults provided specific, instrumental support (e.g., tutoring the student in academic subjects). Mentors noted that successful students benefited from several supportive adults collaborating on their behalf, which suggests the presence of caring adults alone is not sufficient. Instead, relationships are more powerful when adults work together and provide instrumental support, forming a safety net that is noticed by the student (Novoa et al., 2017).

C & C works to engage students and families actively at school and with learning.

- Eighty-seven percent of parents of C & C students in kindergarten through 8th grade were rated by teachers as more supportive of their children's education (defined as parent follow through, communication with school, and homework completion). Teachers' perceptions of student behavior were positive; 90% indicated that the students were showing improvement in homework completion, interest in school, and attendance. Teachers' observations of students who received 2 years of sustained intervention were very positive; teachers rated these students significantly more likely to be eager to learn, follow school rules, think ahead about consequences, get along with others, show respect for others' rights and feelings, and persist when challenged by difficult tasks, all critical competencies of school success (Lehr et al., 2004).

Sustainability

Sustainability of an intervention is always of interest. The MPS, where we began the development and research, provides an excellent example of sustainability of C & C. In the 2010 school year, the district institutionalized C & C, meaning it was

funded on the core school district budget. Support from the district was due, in part, to the improved graduation and retention rates over 8 years when C & C was integrated with a universal attendance monitoring program, a program funded by the BUSH Foundation (Sinclair & Kaibel, 2011). Currently, MPS C & C uses combined data measures on academic performance and attendance to refer students to C & C monitors who serve in the role of case manager, advocate, and mentor (Kaibel C, personal communication, November 2017). MPS C & C serves middle and high school students and provides service to homeless and highly mobile elementary students who are attending the district's non-Title I schools. In this application of C & C, MPS educators assume that the relationship between the C & C monitor (term for mentor utilized in MPS) and the identified student is a powerful tool used to change student trajectories – and that C & C has a large enough impact on student trajectories to move the needle on district-wide metrics such as on-time graduation and attendance. At its core, MPS C & C views the relationship between the student and his or her monitor as the mechanism for increasing student engagement and positive youth development.

Concluding remarks on effectiveness What can we conclude? Two conclusions stand out. First, C & C is effective for getting students to and keeping students in school (see WWC, 2006; 2015). This is noteworthy. Academic instruction and our other intervention efforts cannot work if a student is absent. Thus, improving school retention rates offers promise for addressing the typical high rates of mobility for disengaged students and, hence, for improving academic outcomes over time. Second, to date, C & C has had only a marginal effect on academic outcomes for middle or high school students. C & C is not a free-standing academic program but rather is designed to work with those responsible for academic instruction, and it is implemented within a system, which may foster or inhibit re-engagement efforts. The disconnect between targeted intervention efforts, like C & C, and academic outcomes speaks to the importance of effective universal practices.

Although there are some studies in which no significant results were found, it would be erroneous to conclude that C & C is not an evidence-based intervention. The appropriate conclusion in the research base relates to *for whom and under what conditions* the effectiveness of C & C was revealed. For example, C & C may not be effective for high school students in general education who begin the intervention in 10th grade and, at that point, are credit deficient (Heppen et al., 2017), particularly in the absence of sufficient and appropriate resources school- and community-wide (e.g., supplemental academic enrichment, mental health) – those contextual facilitators for the mentor to draw upon in connect interventions. We posit that results from one study do not mean that significant results are not feasible for disengaged students in general education. Educational contexts vary and they matter for student outcomes.

In order to increase the likelihood of successful school completion, *C & C is best implemented within a system of effective universal practices designed to teach and engage all students.* This is a situation of both – universal practices and supplemental intervention are needed to enhance graduation rates. Without strong, effective

universal practices, there are far too many diluting effects for disengaged learners. For example, C & C students in a high school with an effective positive school-wide behavior program (PBIS) outperformed those participating in C&C in high schools without it (Sumi C, personal communication, 2017). Fortunately, our research community has identified many effective universal practices, such as Positive Behavior Intervention and Supports (PBIS; Sugai, Horner, & McIntosh, 2008; see Chap. 10), classroom self-regulated learning (Cleary, 2015; see Chap. 15), fostering positive teacher–student relationships (Klem & Connell, 2004), social-emotional learning (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011), and family–school collaborative interventions (Christenson & Reschly, 2010b; Reschly & Christenson, 2012), and several state-level projects are incorporating C & C with these universal practices.

There is much that happens between our efforts to promote students' attendance and eventual completion. This space in-between speaks to the importance of, and connection between, students' affective, cognitive, academic, and behavioral engagement for promoting school completion. It is the reason we developed interventions to address each subtype as well as a measure of students' cognitive and affective engagement (the Student Engagement Instrument, described in greater detail in Chap. 3). Most studies of C & C have been conducted with secondary students and rely on graduation rate as a dependent variable. As described in the first manual (Evelo, Sinclair, Hurley, Christenson, & Thurlow, 1996), C & C is an intervention to keep students in school. Over time, we have placed an increased emphasis on engaging students as learners, wanting them to complete school with sufficient academic and social skills to make a successful transition to postsecondary enrollment options. Students' perceptions of their cognitive and affective engagement and information about these interventions matched to subtype are important considerations for future research with C & C.

Finally, what we have learned is that g*raduation is possible for all students*; however, the 4-year graduation rate may be unrealistic for some learners. In order to make graduation a reality for all students, alternative pathways toward graduation that lead to postsecondary enrollment and employment options, as well as flexible timelines (e.g., 5 years), may be necessary. Findings from C & C projects support a 5-year graduation rate for disengaged students as well as alternative pathways to high school graduation (Sinclair et al., 2005). The disconnect between targeted comprehensive (academic, behavioral, affective, cognitive) engagement interventions and typical school practice is an important area to address in research and future implementation of C & C.

Lessons Learned Across Various Check & Connect Projects

Four lessons about implementing C & C with students in general and special education and in suburban and urban school districts since 1995 are described in the manual (Christenson et al., 2012). First, we witnessed the power, value, and

importance of personalized interventions to address the needs of disengaged learners. Second, mentors and students consistently reported that productive relationships are integral for students' behavior change, commitment to learning, and academic progress in school. In fact, we have often speculated that the unique feature of C & C is not the specific interventions per se, but the fact that interventions are facilitated by a person, the mentor, who is trusted and known by the student and who has demonstrated his or her concern for the school performance of the youth persistently and consistently over time. Third, the leadership provided by the coordinator or designated program leader impacts fidelity and integrity of implementation and cannot be bypassed. Fourth, understanding students' emotional and intellectual feelings about school (i.e., perception of competence and control, personal values and goals, and social connectedness to peers and teachers) is essential for understanding their schooling experiences and performance outcomes. Engagement for students at high risk of educational failure is much more than time on task (i.e., academic engagement) or attendance and participation (i.e., behavioral engagement). We learned that it is necessary to foster students' perceived connection with others (i.e., affective engagement) and motivation-to-learn and perceived relevance of schoolwork for future endeavors (i.e., cognitive engagement). Engagement in learning, we theorize, requires turning motivation into action. When compared to a control group, C & C students with disabilities in high school completed more assigned work (Sinclair et al., 1998, 2005).

As we adapted C & C to different school contexts, we recognized the value of flexibility. C & C is not a circumscribed, highly prescriptive intervention, although it has specific components and a set of clearly delineated elements that help to explain why and how to engage students. The distinction between form and function is relevant here and assists in adapting to the needs of a particular school context. Disengaged students are not the same, nor are school environments. For example, the function of the element, systematic monitoring of performance and progress variables has to occur; however, which variables are selected for systematic monitoring can vary and should fit the school context. They are selected by the educators, who know the students' needs best. Hence, the active ingredients for changes in student behavior can be explained, and yet, allow for enough flexibility for the intervention to be useful and practical to practitioners.

Another lesson relates to parent engagement. Engaging with parents is not "one-size-fits-all." An exact, step-by-step prescription would ignore the richness and diversity among families as well as differences in school contexts. Mentors strive for ongoing positive, solution-oriented interaction; they invite parents to partner and inform parents and are informed by parents about the student's educational progress and learning experiences, and they include parents in all decisions reached through problem solving. Although the C & C philosophy for engaging with parents allows for trust building, we have experienced in every project the challenge of accessing parents.

A main lesson learned is that disengaged students care about their education. Recall how discouraged or disconnected students introduced at the beginning of this chapter varied in indicators of and reasons for disengagement. *Like disengagement,*

student engagement is a multidimensional construct. We want students to be engaged academically, behaviorally, cognitively, and affectively. Many of our high school students voiced concerns to their mentors. They might say, "I can't do the work. It is not important. Where will it get me? My teachers don't even like me. School is not for me. I have no friends." Their comments mirrored the intrinsic motivation literature – they were saying I can't, I won't, I don't value, I don't belong. Of course, we wanted them to readily say, "I value, I will try, I can, and I belong."

To foster an "I want to, I belong, I can" attitude and belief, the other ABCs – autonomy, belonging, and competence – come into view. We have observed that disengaged learners benefit when persistent support is provided regularly from someone who believes in them. It is common parlance in schools to hear "failure is OK – we learn from mistakes." We do not disagree. However, disengaged students too often experience repeated failure paired with little to no problem solving and planning (e.g., using a different strategy to meet the goal). Hence, when students think about expectations for their success or their beliefs about their competence, they face two obstacles: (a) Effort – they do not want to try anymore and minimize the value and importance of the task, and (b) Confidence – they are not confident they can complete an assigned task with an acceptable level of success. C & C mentors help them see the path and to be willing to take the risk. Students begin to think "even if I fail I can learn from this attempt – and my mentor believes in me."

C & C mentors hold students accountable for their behavior, repeatedly. We have learned that like dropout, behavior change for disengaged learners is a process not an event. Students do not readily change their behavior with one problem-solving situation. Rather, persistence modeled by the mentor over a minimum of a 2-year commitment offers the most promise for changing the trajectory of these students. In our experience, this is the "hard" reality for school personnel.

In closing, C & C is a structured mentoring intervention comprised of systematic monitoring of student performance, timely intervention coordinated with teachers and parents, and relationship building with the mentor who provides the persistent support and avenue for problem solving with the student. These aspects allow the mentor to design in collaboration with others an *individualized* approach to service delivery for students showing early signs of withdrawal. They create a person–environment fit for engaging students who are disengaged or are at-risk of dropout.

We have not demonstrated that the C & C intervention influences norm referenced measurement of achievement or graduation rates. We speculate, however, that to fully address and change student grades and time on task of disengaged students, we must also address their motivation to learn and connection with others around learning – or their cognitive and affective engagement. Students must believe that the task is important for their future, that they can be successful on a task, and that they belong. Implementing student engagement interventions system wide and with a targeted initiative such as C & C offers an avenue for engaging students and improving graduation rates. We all want students to attend; but we also want them to want to be at school and learning. Engagement of students requires a multidimensional conceptualization – it is an essential construct for academic learning outcomes, fostered in a one-to-one relationship and through effective universal practices.

References

Anderson, A. R., Christenson, S. L., Sinclair, M. F., & Lehr, C. A. (2004). Check & Connect: The importance of relationships for promoting engagement with school. *Journal of School Psychology, 42*, 95–113.

August, G. J., Anderson, D., & Bloomquist, M. L. (1992). Competence enhancement training for children: An integrated child, parent, and school approach. In S. L. Christenson & J. C. Conoley (Eds.), *Home-school collaboration: Enhancing children's academic and social competence* (pp. 175–192). Silver Spring, MD: National Association of School Psychologists.

Balfanz, R., Bridgeland, J. M., Bruce, M., & Hornig Fox, J. (2012). *Building a grad nation: Progress and challenge in ending the high school dropout epidemic*. Baltimore: Johns Hopkins University Civic Enterprises Everyone Graduates Center.

Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.

Christenson, S. L. (2012). Check & Connect – Mentoring students for school success, Portland State University, invited address for the 2012 Summer Institute on youth mentoring, Community Series, July 26, 2012.

Christenson, S. L., & Anderson, A. R. (2002). Commentary: The centrality of the learning context for students' academic enabler skills. *School Psychology Review, 31*(3), 378–393.

Christenson, S. L., & Reschly, A. L. (2010a). Check & Connect: Enhancing school completion through student engagement. In E. Doll & J. Charvat (Eds.), *Handbook of prevention science* (pp. 327–348). New York: Routledge – Taylor and Francis.

Christenson, S. L., & Reschly, A. L. (Eds.). (2010b). *Handbook on school-family partnerships*. New York: Routledge – Taylor and Francis.

Christenson, S. L., Reschly, A. L., Appleton, J. J., Berman, S., Spanjers, D., & Varro, P. (2008). Best practices in fostering student engagement. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V* (pp. 1099–1120). Washington, DC: National Association of School Psychologists.

Christenson, S. L., Rounds, T., & Franklin, M. J. (1992). Home-school collaboration: Effects, issues, and opportunities. In S. L. Christenson & J. C. Conoley (Eds.), *Home-school collaboration: Enhancing children's academic and social competence* (pp. 19–51). Silver Spring, MD: National Association of School Psychologists.

Christenson, S. L., Sinclair, M. F., Lehr, C. A., & Godber, Y. (2001). Promoting successful school completion: Critical conceptual and methodological guidelines. *School Psychology Quarterly, 16*(4), 468–484.

Christenson, S. L., Stout, K., & Pohl, A. (2012). *Check & Connect: A comprehensive student engagement intervention: Implementing with fidelity*. Minneapolis, MN: University of Minnesota, Institute on Community Integration.

Christenson, S. L., Thurlow, M. L. & Sinclair, M. F. & Evelo, D. L. (1990–1995) Partnership for School Success: Dropout Prevention and Intervention Programs for Junior High School Students in Special Education. (1990–1995). Office of Special Education Programs, U. S. Department of Education, Field Initiated Research.

Cleary, T. J. (Ed.). (2015). *Self-regulated interventions with at-risk youth: Enhancing adaptability, performance, and well-being*. Washington, DC: American Psychological Association.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*, 405–432.

Eccles, J. (1983). Expectancies, values and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives* (pp. 75–146). San Francisco: Freeman.

Evelo, D., Sinclair, M., Hurley, C., Christenson, S., & Thurlow, M. (1996). *Keeping kids in school: Using Check & Connect for dropout prevention*. Minneapolis, MN: University of Minnesota, Institute on Community Integration.

Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research, 59*(2), 117–142.

Frydenberg, E. (2008). *Adolescent coping: Advances in theory, research, and practice*. New York: Routledge.

Guryan, J., Christenson, S., Claessen, A., Engel, M., Lai, I., Ludwig, J., … Turner, M. C. (2016). The effect of mentoring on school attendance and academic outcomes: A randomized evaluation of the Check & Connect program. In *Institute for Policy Research, working paper series*. Evanston, IL: Northwestern University.

Heppen, J. B., Zeiser, K., Holtzman, D. J., O'Cummings, M., Christenson, S., & Pohl, A. (2017). Efficacy of the Check & Connect mentoring program for at-risk general education high school students. *Journal of Research on Educational Effectiveness*. http://www.tandfonline.com/doi/full/10.1080/19345747.2017.1318990

Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health, 74*, 262–273.

Lehr, C. A., Sinclair, M. F., & Christenson, S. L. (2004). Addressing student engagement and truancy prevention during the elementary years: A replication study of the Check & Connect model. *Journal of Education for Students Placed At-Risk, 9*(3), 279–301.

Maehr, M. L., & Midgley, C. (1996). *Transforming school cultures*. Boulder, CO: Westview Press.

Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments. *American Psychologist, 53*(2), 205–220.

Maynard, B. R., Kjellstrand, E. K., & Thompson, A. M. (2014). Effects of Check and Connect on attendance, behavior, and academics: A randomized effectiveness trial. *Research on Social Work Practice, 24*(3), 296–309.

Moran, S., & Gardner, H. (2007). "Hill, skill, and will": Executive function from a multiple intelligences perspective. In L. Meltzer (Ed.), *Executive function in education: From theory to practice* (pp. 19–38). New York: Guilford Press.

National Research Council and the Institute of Medicine. (2004). *Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: The National Academies Press.

Novoa, C. M., Storm, K.J., Sumi, W.C., Fabrikant, N., Gracely, S., & Garcia, C. (2017). *Student and mentor perspectives on student success in Check & Connect.* Manuscript submitted for publication.

Powers, K., Hagan, K., & Linn, M. (2017). A mixed method efficacy and fidelity study of Check and Connect. *Psychology in the Schools, 54*, 1019–1033. https://doi.org/10.1002/pits.22038

Reschly, A. L., & Christenson, S. L. (2012). Moving from 'context matters' to engaged partnerships with families. *Journal of Educational and Psychological Consultation, 22, 1*(2), 62–78.

Sinclair, M.F., & Kaibel, C. (2002). *Dakota County: Secondary Check & Connect program. Program evaluation 2002 final summary report.* Minneapolis: University of Minnesota, College of Education and Human Development, Institute on Community Integration.

Sinclair, M., & Kaibel, C. (2011). *Bush Foundation: Check & Connect school completion initiative final report*. Minneapolis, MN: Minneapolis Public Schools.

Sinclair, M. F., Christenson, S. L., Evelo, D., & Hurley, C. (1998). Dropout prevention for high risk youth with disabilities: Efficacy of a sustained school engagement procedure. *Exceptional Children, 65*(1), 7–21.

Sinclair, M. F., Christenson, S. L., Lehr, C. A., & Anderson, A. R. (2003). Facilitating student engagement: Lessons learned from Check & Connect longitudinal studies. *The California School Psychologist, 8*(1), 29–42.

Sinclair, M. F., Christenson, S. L., & Thurlow, M. L. (2005). Promoting school completion of urban secondary youth with emotional or behavioral disabilities. *Exceptional Children, 71*(4), 465–482.

Stanton-Salazar, R. D. (2001). *Manufacturing hope and despair: The school and kin support networks of U.S.-Mexican youth*. New York: Teachers College Press.

Strand, P. S., & Lovrich, N. P. (2014). Graduation outcomes for truant students: An evaluation of a school-based, court-engaged community truancy board with case management. *Child & Youth Services Review, 43*, 138–144.

Sugai, G., Horner, R. H., & McIntosh, K. (2008). Best practices in developing a broad-scale system of support for school-wide positive behavior support. In A. Thomas & J. P. Grimes (Eds.), *Best practices in school psychology V* (pp. 765–780). Bethesda, MD: National Association of School Psychologists.

What Works Clearinghouse. (2006). *WWC intervention report: Check & Connect*. Washington, DC: U.S. Department of Education.

What Works Clearinghouse. (2015). *Dropout prevention intervention report: Check & Connect*. Retrieved from http://ies.ed.gov/ncee/wwc/pdf/intervention_reports/wwc_checkconnect_050515.pdf

Yazzie-Mintz, E., & McCormick, K. (2012). Finding the humanity in the data: Understanding, measuring, and strengthening student engagement. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 743–762). New York: Springer.

Chapter 2
Dropout Prevention and Student Engagement

Amy L. Reschly

An alternate title to this chapter could be, "How Student Engagement Evolved into a Unifying Construct That is Relevant for Students from Elementary School through College." As described in Chap. 1, our work in dropout prevention and student engagement grew out of the 29 years of development, implementation, and evaluation of Check & Connect. Furthermore, student engagement is the foundation of the most widely accepted theory describing the developmental process of dropout and completion (e.g., Finn, 1989; Finn & Zimmer, 2012) and also underlies the most promising dropout prevention programs (Reschly & Christenson, 2006). As we worked to study and understand successful school completion efforts, engagement was growing in prominence among scholars from several disciplines and educators around the world (Christenson, Reschly, & Wylie, 2012). Our own theorizing and study of engagement has also evolved, advancing work in the measurement of student engagement and underscoring the need for school-wide efforts to enhance student engagement. I use the pronouns *we* or *our* in several places in this chapter to reflect the collective, collaborative work of myself, Sandra Christenson, Angie Pohl, Jim Appleton, Matthew Lovelace, and others. In this chapter, I'll describe some of the lessons we learned in promoting successful school completion and the evolution of the engagement construct from dropout to a global construct for all kids.

What Is Our Goal?

One of the most important things to keep in mind when discussing dropout prevention or even education in general is this question: What is the goal of our efforts? It isn't to pass the fourth-grade high-stakes assessment or to rank highly among

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schools in our state in language arts and math. We contend that the focus must be on promoting successful school completion, not preventing dropout per se. We could design interventions that forcibly deliver students to school each day or focus on getting them in their seats. The problem with this focus is that attendance, "seat time," or just showing up doesn't ensure that students have the skills, attitudes, or behaviors they need to successfully complete high school, and in turn, be productive members of the society (Reschly & Christenson, 2019b). A parallel may be found in a prevention and resilience framework in which it is recognized that there should be two goals to this work: lowering children's risk *and* strengthening their resilience to increase the chances that they will become successful, competent adults (Masten & Coatsworth, 1998). A similar conclusion is reached within positive psychology where scholars will often point out that the absence of psychopathology or disease does not mean that an individual is happy, well, or thriving (Seligman & Csikzentmihalyi, 2000). We don't just want our students to have lower risk and less psychopathology; rather, our goals are much more about competence, resiliency, and wellness. So, when thinking about dropout and school completion, we focus on ensuring children and youth kids have the attitudes, behaviors, and skills they need to be successful, productive members of society – successful school completers – rather than just preventing them from being dropouts (Christenson, Sinclair, Lehr, & Godber, 2001; Reschly & Christenson, 2006, 2019b). It is the successful completion that ensures future opportunity.

There Are No Easy or Quick Fixes

Complex social problems do not have easy fixes. One can only imagine what it would be like if we could diagnose a reading difficulty, attention problem, or students' disengagement with a quick test and then prescribe a dose of an intervention, like an antibiotic one might take for strep throat and the student would be cured. You may remember several years ago hearing about the so-called Houston or Texas Miracle. Essentially, a school district "cured" their dropout problem administratively by re-coding their dropouts as other things, like having returned to their native country, earning a GED, or transferring schools. The reported event dropout rate (i.e., the number of students who drop out within a given academic year) was 1.5%, where in reality, it was somewhere between 25% and 50% (Leung, 2006). Similarly, periodically stakeholders and legislators will suggest raising the Compulsory School Attendance Age (CSAA), or the age at which a student can legally drop out of school within each state, as a means to address a state's dropout problem. The idea is that if we just make it harder for kids to leave, they won't. Research with national datasets found a small relationship between CSAA and timing of dropout; however, the CSAA did not have a meaningful association with high school graduation, meaning that a higher legal dropout age may be related to students dropping out later in high school rather than earlier, but this later dropout age may not translate to a greater likelihood of successful completion. Furthermore, dropout rates did

not decline in states that raised their CSAA during the years studied (Landis & Reschly, 2011). In other words, just making it harder for kids to leave school *by itself* is not enough to promote successful high school completion, likely because such initiatives do not address the reasons why students want to leave school prematurely or provide support to help students re-engage and be successful with learning and in the school environment (Landis & Reschly, 2011; Reschly & Christenson, 2019b). Furthermore, proposals like this do not reflect what is widely known about high school dropout – that is, that dropout is best understood as a long-term process of withdrawal and disengagement that was preceded by less severe forms of withdrawal and disengagement in middle school, elementary school, and even early elementary school.

Developmental Processes One cannot discuss dropout and completion without consideration of the process of dropping out. People are often surprised when they hear of research that indicates we can predict who will drop out from early elementary school based on variables like attendance, behavior, attachment to school (Alexander, Entwisle, & Horsey, 1997; Barrington & Hendricks, 1989), and achievement, with reading being of particular importance (Hernandez, 2012). The old adage that third grade marks the shift from learning to read to the necessity of reading to learn applies to dropout and completion risk as well. Not only do studies suggest that students who do not read well by third grade are unlikely to recover (Juel, 1988), they are at much greater risk for dropping out of school than students who read with proficiency (Hernandez, 2012; Lloyd, 1978). Reading is essential for students to become engaged and maintain their engagement with learning (Christenson & Thurlow, 2004). Difficulty in learning to read is one of the most common reasons that students are referred for special education evaluation and/or are retained in grade: two strong indicators of high risk for not completing high school (Reschly, 2010).

Other pathways to dropping out have been described from early childhood. For example, Garnier, Stein, and Jacobs (1997) identified three pathways that indicated the long-term process of dropping out as one characterized by the compounding of early risk into adolescence: early school difficulties (achievement, motivation) that result in eventual failure; exposure to drug use that increases likelihood of use in adolescence and greater likelihood of stressful life events, affecting achievement and motivation; and early family stress that increases the chances of difficulties at school entry, which are magnified with time and increased difficulties as the student progresses, eventually resulting in dropout. Evans and DiBendetto (1990) also described two pathways from early school experiences: students experiencing entry problems (i.e., behavioral or emotional difficulties that interfere with their success in school) and those exhibiting early skill deficits either socially or with learning that interfere with their connection to school.

The primary theory for high school dropout and completion was articulated by Finn (1989). His model, termed the Participation-Identification Model, described a cycle of behavioral engagement (i.e., participation in school), school success, and identification (i.e., an emotional connection to school), which in turn prompted

continued participation, creating a cycle of participation-success-identification that sustains many students successfully through high school completion. In contrast, the process of dropout is characterized not as a cycle of engagement and success but rather one of withdrawal, less success, increasingly reduced identification that occurs over many years. As students' emotional connections wane, the likelihood, quality, and depth of their participation also decrease, reducing their success in school and further affecting their emotional connection.

This theory addresses the developmental processes involved in dropout and completion, describing how engagement changes with age and level of schooling. Successful participation in kindergarten may entail little more than attendance, whereas successful participation in sixth grade frequently requires some preparation for class and school, such as homework completion, having materials (e.g., books, paper, writing utensils), and participation in class (e.g., discussions, projects). As students continue in school, more is required to participate successfully. Also, there are additional opportunities to be involved at school through clubs, activities, sports, and various leadership positions (e.g., student council, club officers; Finn, 1989). Finn drew attention to the developmental period prior to school entry as well, focusing on whether students were prepared to participate successfully in order to establish the participation-success-identification cycle, which coincides with the two early developmental pathways to dropout described by Evans and DiBendetto (1990). Some of the long-term effects of high-quality early childhood programs, including high school graduation, may, in fact, prepare students for success upon school entry, facilitating the cycle of behavior, success, and emotional connection needed to sustain through school completion (Reschly & Christenson, 2012, 2019b).

In addition to students' preparation prior to school entry, there are other factors that may influence the cycle of participation, success, and identification. Finn (1989) opined that students' natural ability and quality of instruction affected the cycle. It seems likely that students with more natural academic ability may more easily experience success in school, and that teachers have an impact on how engaged students are at school and with learning. These two factors highlight the interaction between individual students and their environments, fitting with broader developmental theories (Bronfenbrenner, 1977, 1979; Sameroff, 2009) and the role of contexts – families, schools, peers, and communities – in promoting or undermining students' engagement (Reschly & Christenson, 2012, 2019a, 2019b).

The take home messages from theory and research on early predictors of dropping out are these: Dropping out is best thought of as a long-term process, not an event. For some, the process of disengagement begins before students enter school. Among others, risk is evident early in their school careers. Over time, these risks begin to compound and present in more serious forms of disengagement from schooling and eventually culminate in dropout. If we understand dropout as a long-term process, it makes sense that our prevention efforts must also start early.

Putting Risk in Context Teachers, or frankly any individual who works with youth across settings, are aware of a range of risk factors present in student, family,

and even school circumstances. Generally, the more risk a child experiences, the greater the likelihood of a poor outcome (Masten, 2014), such as dropout, adolescent substance abuse, or incarceration. Commonly, we describe these risks as being inherent or contained within a child, their family, community, or school they attend, such as the child's mother is unemployed or a single mom; the child has poor attendance/a learning disability/behavior problem; the school is poor; the neighborhood is dangerous, etc. There are general risk factors for poor development, such as poverty, as well as factors associated with resilience, or the development of competence (i.e., "positive adaptation in the context of risk or adversity," Masten, 2014, p. 9) despite significant threats or risks to development (e.g., Doll & Lyon, 1998; Masten, 2014). These same risk and resiliency factors are similar for various developmental outcomes; however, there are also those that are more specific to dropout as well. Examples are provided in Table 2.1.

Describing risk or resilience as a child, family, or school factor is easy but too simplistic; it belies the complexity of development, risk and competence, and the importance of contexts. Rather, risk or success and competence are not a property of children or their families or their schools but rather contained in the interactions between the children and their environment and among these major contexts for development (family, school, community; Christenson & Anderson, 2002). Or, in other words, risk is inherent in contexts, the unique characteristics of individual children, and interactions among children, their families, schools, and communities.

Many dropout scholars have offered distinctions among variables that are predictive of poor school outcomes but are not easily amenable to intervention or specific enough to serve as an intervention target. For example, it would be ill-advised or impossible to move students from a state with a low completion rate to one with a higher one (e.g., Nevada to Iowa) or to make parents remarry. Similarly, indicators such as socioeconomic status or whether one speaks English as their first language may be useful for showing which groups of students are at greater risk for noncompletion, but given the number of students within each of these groups who do successfully complete high school (Table 2.2), these demographic or status indicators have limited utility for intervention purposes (Christenson, 2008; Reschly & Christenson, 2006, 2012, 2019b). Still other predictors, such as grade retention, are a marker for additional risk and processes, such as difficulty in learning to read or write, poor attendance, behavior problems, or a combination of these and other variables. Poverty as well is a unique marker in the many threats to development that are embedded within poverty, including an array of environmental (e.g., greater noise and exposure to toxins; increased likelihood of living in a dangerous neighborhood) and psychosocial (e.g., less social support and parent involvement; greater likelihood of exposure to violence, family disruption, harsh parenting) risks (see Evans, 2004).

Even with our general understanding of risk, developmental processes, and dropping out, there is no one factor that is foolproof or surety for prediction. Many students who eventually dropped out, for example, thought it was likely they would

Table 2.1 Risk and resilience: general and those specific to school completion

General risk factors[a]	General factors associated with resilience[a]
• Poverty • Low parent education • Marital discord/family dysfunction • Ineffective parenting • Child maltreatment • Poor physical health of a child or a parent • Parent mental illness or incapacity • Large family size	**Student level** • Good intellectual ability • Positive temperament • Positive social orientation, including peer friendships • High self-efficacy, self-confidence, and self-esteem • Achievement orientation with high expectations • Resilient belief system • Higher rate of engagement in productive activities **Family** • Close, affective relationship with at least one parent or caregiver • Effective parenting (i.e., warmth, structure, high expectations) • Warm relationships and guidance from extended family **School/community** • Access to and relationships with positive adult models in a variety of extrafamilial contexts, including schools • Connections with at least one or a variety of prosocial organizations • Access to responsive, high-quality schools
Risk factors for dropping out	**Protective factors for school completion**
• Minority group status[b] (Native American, Hispanic, or Black ethnic backgrounds)[c] • Taking adult roles[b] (e.g., teen pregnancy; regular, closer to full-time employment) • Social deviance[b] (e.g., substance abuse, conduct disorder) • Low SES[b,c] • English learners[c] • Those with high-incidence disabilities[c] (e.g., behavior disorders, learning disabilities)	**Student** • Homework completion[c] • Preparation for class[c] • High locus of control[c] • Expectations for school completion[c] • High-quality early childhood experiences[c]

- Personality[b]
  Dropouts have lower self-esteem and confidence and are more impulsive
- Community characteristics[b]
  Urban areas, Southeastern and Western United States, poorer communities, single-parent families, nonwhite communities; communities with high rates of foreign-born individuals
- Household stress[b]
- Family processes[b]
  Dropouts have poorer relationships with parents and communicate less with them; permissive parenting styles[b,c]
- Grade retention[c]
- Behavior problems in school[c]
- Poor attendance[c]
- Family mobility,[c,d] homelessness, and foster care[d]
- Incarcerated parent[d]
- Family holds low educational expectations[c]

School
- Weak adult authority[c]
- Large school size (>1000 students)[c]
- High pupil–teacher ratios[c]
- Few caring relationships between staff and students[c]
- Poor or uninteresting curricula[c]
- Low expectations and high rates of truancy[c]

Family
- Provision of academic support (e.g., help with homework) and motivational support (e.g., high expectations, talking to children about school) for learning[c]
- Parental monitoring[c]

School
- Orderly school environments[c]
- Committed, caring teachers[c]
- Fair discipline policies (as perceived by the students)[c]

Notes: [a]Doll and Lyon (1998), [b]Rosenthal (1998), [c]Reschly and Christenson (2006), [d]America's Promise Alliance (2014)
American's Promise Alliance used these risk factors for interrupted school enrollment

Table 2.2 High school and postsecondary attendance and completion statistics

Adjusted cohort high school graduation rates		Immediate college enrollment of high school completers[b]	
Selected years[a]		**Overall**	67%
2010–2011	79%	**Gender**	
2013–2014	82%	Male	61%
2015–2016	84%	Female	72%
Ethnicity[b]	**2015–2016**	**Ethnicity**	
Asian/Pacific Islander	91%	White	69%
White	88%	Hispanic	67%
Hispanic	79%	Asian	87%
Black	76%	Black	58%
American Indian/Alaska native	72%	**College completion**[c]	
Selected states/district[b]		**Overall**	65.7%
Washington, District of Columbia	69%	Black	48%
Iowa	91%	Hispanic	57%
		Asian	77%
		White	72%

[a]McFarland, Cui, & Stark (2018), [b]McFarland et al. (2018), [c]Shaprio et al. (2019)

graduate from high school and even attend college (Dynarski & Gleason, 2002). Still others had good grades (Bridgeland, Diulio, & Morison, 2006) and attendance records (Dynarski & Gleason, 2002), and many students with an array of risk factors will successfully complete school. A combination, or clustering, of these factors in concert with students' assets or protective factors, contexts, and changes that come with development and time are all important considerations. For example, studies find that although many students have stable levels of engagement (either high or low) across development, others demonstrate variable trajectories, with some moving from high risk to low risk in terms of engagement; trajectories are associated with outcomes in expected ways (Archambault & Dupéré, 2017; Janosz, Archambault, Morizot, & Pagani, 2008; Li & Lerner, 2011; O'Donnell, Lovelace, Reschly, & Appleton, 2019; Wiley & Hodgen, 2012).

Student engagement fits well within this overall framework for understanding risk and those factors that are associated with more positive school completion outcomes. In fact, the primary reasons student engagement has emerged as a construct of interest to scholars and educators around the world are that student engagement is (a) directly related to their current performance in school as well as predictive of long-term outcomes, such as high school graduation and college attendance; and (b) unlike demographic and status variables described earlier, engagement is amenable to intervention (Christenson et al., 2012; Reschly & Christenson, 2012, 2019b).

Students' engagement, as represented by variables like participation at school, students' connections to peers and teachers, and perceptions of the importance of education for their futures, is associated with current school performance and pre-

dictive of high school completion outcomes within and across various demographic groups (Finn & Rock, 1997; Lovelace, Reschly, Appleton, & Lutz, 2014; Reschly & Christenson, 2006). For example, Lovelace et al. (2014) examined whether subgroups differed in their cognitive and affective engagement: those in high risk (emotional and behavioral disorders) versus lower risk (speech and language impairments) for dropping out disability groups, those with high versus low academic achievement, and those with high levels of behavioral disengagement (determined by absences and disciplinary infractions) versus those who were not behaviorally disengaged. Results were as expected: students in a low-risk disability category, those with higher achievement, and who were not behaviorally disengaged evidenced higher cognitive and affective engagement at school and with learning. Furthermore, Finn and Rock (1997), in a classic study, demonstrated that within a demographically high-risk group (i.e., lower income ethnic minority students), it was students' engagement that differentiated whether the students were successful high school completers, regular completers, or dropouts. Engagement in this study was defined largely in terms of behavior, such as whether the student worked hard, their attendance (absences and tardies), homework completion, preparation for school, participation in extracurricular activities, whether the student pays attention in class, etc. Low engagement or disengagement is an educational risk factor, whereas engagement promotes educational resilience (Finn & Rock, 1997; Finn & Zimmer, 2012).

Conceptualizing risk in terms of students' disengagement focuses our attention on variables such as attendance, low levels of participation in class or extracurricular activities, preparation for class and school, connections to peers and teachers, and the importance of education to one's future. Engagement is affected by those same contexts above – the classroom, the school, family, peer group, and community – and thus, provides *contexts for* and relevant *targets of* intervention efforts.

Drawing upon Research: What School Completion Studies Tell Us The maxim that there are no quick or easy fixes to promote school completion is clearly underscored by research on dropout prevention programs. Earlier work in this area concluded that although much is written about dropout, there were few effective interventions (Christenson et al., 2001). As efforts to evaluate interventions became more systematic and sophisticated, the difficulty of promoting school completion became even more apparent. Alarmingly, there are many reasons to argue that promoting school completion is more important today than ever before in our nation's history, including the shrinking availability of jobs available to those without a high school diploma, shifting economic patterns that favor postsecondary preparation for employment, and the dire consequences for the dropouts, their families, and our economy (Reschly & Christenson, 2019b; Rumberger, 2011).

A summary of the effectiveness of path to graduation/dropout prevention programs reviewed by the Institute of Education Sciences' What Works Clearinghouse may be found in Table 2.3.

To date, the WWC has reviewed 33 programs. Fifteen programs were rated as having potentially positive effects in at least one of three areas: staying in school,

Table 2.3 What Works Clearinghouse reviews of path to graduation/dropout prevention programs

Name	Program effectiveness		
	Staying in school	Progressing in school	Completing school
Accelerated Middle Schools	Potentially positive	Positive effects	–
ACT Aspire	N/A	N/A	N/A
ALAS: Achievement for Latinos Through Academic Success	Potentially positive	Potentially positive	–
Belief Academy	N/A	N/A	N/A
Career Academies	No discernible effects	No discernible effects	Potentially positive effects
Check & Connect	Positive effects	Potentially positive effects	No discernible effects
Coca-Cola Valued Youth Program	N/A	N/A	N/A
Credit Recovery Programs	N/A	N/A	N/A
Dual Enrollment Programs	Potentially positive		Positive effects
Financial Incentives for Teen Parents to Stay in School	Potentially positive	No discernible effects	No discernible effects
First Things First	No discernible effects	–	–
Green Dot Public Schools		Potentially positive	
High School Puente Program	N/A	N/A	N/A
High School Redirection	Mixed effects	Potentially positive	No discernible effects
I Have a Dream	N/A	N/A	N/A
Job Corps	–	No discernible effects	Potentially positive effects
JOBSTART	–	–	Potentially positive effects
Middle College High School	No discernible effects	–	No discernible effects
National Guard Youth Challenge Corps	–	–	Potentially positive effects
New Century High Schools	N/A	N/A	N/A
New Chance	–	–	Potentially positive effects
Project COFFEE	N/A	N/A	N/A
Project GRAD	–	No discernible effects	No discernible effects
Quantum Opportunity Program	–	No discernible effects	No discernible effects
Reconnecting Youth	N/A	N/A	N/A
Service and Conservation Corps	–	–	No discernible effects

Table 2.3 (continued)

Name	Program effectiveness		
	Staying in school	Progressing in school	Completing school
Summer Training and Education Program (STEP)	No discernible effects	No discernible effects	
Talent Development High Schools	–	Potentially positive effects	–
Talent Development Middle Grades Program	N/A	N/A	N/A
Talent Search	–	–	Potentially positive
Twelve Together	Potentially positive	No discernible effects	–
Wyman Teen Outreach Program	N/A	N/A	N/A
YouthBuild	N/A	N/A	N/A

Note: https://ies.ed.gov/ncee/wwc/FWW/Index
N/A no studies met criteria for review by WWC

progressing in school, and completing school. No program is potentially positive in all three areas. Three programs, Accelerated Middle Schools, Check & Connect, and Dual Enrollment Programs, were rated as having positive effects in terms of staying in school (Check & Connect), progressing in school (Accelerated Middle Schools), or completing school (Dual Enrollment). One might look at this and conclude that getting students who are at-risk to complete high school is almost impossible; large and troubling gaps in completion and college attendance remain between students of different demographic groups (Table 2.2), and we have few programs that we know to be effective. Another view, however, may note the real progress we've made in promoting school completion, recording our highest rate in the 2015–2016 academic year (McFarland, Hussar, et al., 2018). Furthermore, 25 years ago, we could make few definitive statements regarding what was effective or even promising (Christenson et al., 2001; Dynarski & Gleason, 2002; Prevatt & Kelly, 2003). Thus, the growth in the number of promising programs, the common elements of these programs, and the high-quality evaluations of these and other programs provide real guidance and hope for the success of our efforts.

Dropout is a complex developmental process, and complex processes do not have simple or easy solutions. The work that has been conducted to design, implement, and evaluate completion efforts provides both cautions and promising directions, including lessons from programs and practices that were not effective. For example, in some cases, interventions may not have been well-grounded in theory or research on dropping out (Lehr, Hansen, Sinclair, & Christenson, 2003; Prevatt & Kelly, 2003). In others, perhaps, efforts started too late, when students were in high school and their disengagement and academic difficulties were most severe and, thus, much harder to address. In addition, efforts may not always been intensive enough (e.g., an add-on counseling program in middle school, Dynarski &

Gleason, 2002) or comprehensive enough (Christenson et al., 2001; Prevatt & Kelly, 2003) to address the extent of students' disengagement and/or academic or behavioral difficulties that further contributed to their withdrawal (Reschly & Christenson, 2006). Furthermore, there is heterogeneity in students' attendance, behavior, and academic difficulties; thus, no one intervention program or strategy can necessarily work for all students who are at-risk for not completing high school (Reschly & Christenson, 2019b). The unique characteristics of school and community contexts add additional complexity to the selection and implementation of school completion efforts. Hence, the take home messages are that educators and scholars (1) may draw from promising programs and practices, and (2) should evaluate the effects of these efforts in their own unique contexts (Reschly & Christenson, 2006, 2012).

In Table 2.4, we provide a summary of general principles for promoting school completion. Many of these principles require interconnected efforts beginning with early childhood and continuing through adolescence. Below, we choose to elaborate on one of these principles: creating a universal context for student engagement and school completion efforts across levels of schooling.

Intervention scholars have long noted that school policies and practices may hinder efforts to promote school completion (Christenson et al., 2001; Dynarski & Gleason, 2002), something also found in our work with Check & Connect (Christenson, Stout, & Pohl, 2012). In the dropout literature, the distinction between what are termed *push* and *pull* effects highlights the importance of a school-wide perspective (Jordan, McPartland, & Lara, 1999). Essentially, there are school policies that drive students away from school (e.g., exclusionary discipline, overly punitive grading or attendance rules). Other empirical literature has found school-level differences in school completion even after characteristics of the students who attend those schools are accounted for. For example, those schools with orderly environments, that students perceive have fair discipline policies, and committed, caring teachers have higher rates of school completion; whereas those with weak adult authority, high student–teacher ratios and larger schools in general, few caring relationship among teachers and students, and low expectations have higher rates of dropout (Table 2.1).

Isolated programs that are not integrated within the broader school community are less likely to be effective, with school policies, practices, and people who may be at odds regarding efforts to re-engage students thereby undermining overall program impact. School completion efforts with those at-risk for dropping out are best implemented within an overall context that is geared toward the engagement of all students. In this same vein, the developmental nature of engagement, with pathways from early childhood and processes of engagement and disengagement occurring from early elementary school to high school and beyond, requires efforts that begin early in schooling, coordination across levels of schooling, and routine monitoring and follow-up (Reschly & Christenson, 2006, 2012, 2019b). Finally, because our goal isn't just preventing dropout but rather promoting successful school completion for all students, efforts to promote student engagement occur best when conceptualized within an RTI or MTSS framework. In our view, all school improvement efforts, those that target early reading skills, screening for mental health difficulties,

Table 2.4 General considerations for school completion

Providing high-quality early childhood education[a,b]	Preschool is not a panacea to educational equity and outcomes. However, high-quality preschool experiences have been shown to have both short-term (e.g., reduced grade retention, special education placements) and long-term positive outcomes for students with high risk for poor outcomes (e.g., high school graduation). By itself, it may not be enough to ensure the academic engagement and progress of those who are at greatest risk, but it is likely an important step to ensuring students begin school with the tools to successfully participate, experience academic success, and identify with school and learning
Implementing early and sustained academic, behavioral, and attendance interventions[a,c]	Catching and intervening with difficulties – attendance, behavior, or with academics – is crucial for maintaining engagement and progress or re-engaging students who are at-risk for dropping out. Relatedly, we want to catch difficulties before they become severe and more difficult to address to ensure students can be engaged and benefit from the curriculum and social aspects of schooling
Opportunities for academic success[a,b,d]	In many ways, this speaks to the importance of personalization for students. In addition, it is very difficult to sustain or re-engage students in the face of ongoing failure. Students and educators must be able to see progress toward learning goals, and students must have opportunities for academic success
Ending reliance on grade retention[a, c]	At a minimum, grade retention is an ineffective and costly practice for ameliorating students' academic or behavioral difficulties. There are a number of studies indicating the deleterious effects of grade retention on students' social-emotional well-being and other risky health behaviors and ineffectiveness in addressing academic difficulties (see Reschly & Christenson, 2013 for more information)
Paying special attention during transitions[a,b,c,e]	Some students struggle to maintain personal connections and motivation following transitions (i.e., elementary to middle school and middle to high school) and begin to demonstrate increased signs of behavior, attendance, and academic difficulties. We recommend exploring ways to ease the transition for all students (e.g., supporting relationships among students and teachers through smaller, more personal settings; helping students and families prepare for the transition with visits, information, school contacts; supporting student involvement in a variety of clubs and activities)
Engaging in systematic monitoring and timely response[c,e]	Systematic monitoring and follow-up with those showing increased signs of risk is key to school improvement efforts and RTI/MTSS models. It is also a critical feature of school completion efforts. Students' risk status may change over time. Embedded within this principle is the notion of responding before student difficulties become more serious and harder to address. Early Warning Systems typically include indicators of Attendance, Behavior, and Course taking (ABC's, Balfanz & Byrnes, 2019); we recommend also monitoring students' affective and cognitive engagement, as well as participation in class and school (e.g., extracurriculars).
Creating a universal context for student engagement and school completion efforts across levels of schooling	All school improvement and intervention efforts are school completion efforts – interventions are most effective when delivered in a context where all adults, policies, and practices are consistent in their message and focus – in this case, supporting engagement of all students for successful school completion

[a]Reschly and Christenson (2006), [b]Jimerson, Reschly, and Hess (2014), [c]Reschly and Christenson (2019b), [d]McPartland (1994), [e]Reschly, Appleton, and Pohl (2014)

social-emotional learning curricula, classroom management strategies, etc., are in fact school completion efforts (Reschly & Christenson, 2019b). *Student engagement and school completion are unifying constructs across school levels and tiered support models*.

Winning Hearts *and* **Minds** Early in our work with Check & Connect, it became apparent that re-engaging students for school completion required more than helping them meet the academic and behavioral standards of the school (Christenson & Reschly, 2010). Rather, connecting with students through relationships and engaging with them regarding the relevance of schooling to their futures and supporting more positive motivation and development of self-regulation were necessary to our efforts. We came to refer to this as students' psychological or affective and cognitive engagement at school and with learning, hence the hearts and minds reference. Of course, relationships and smaller, more personal settings; support for academic success; counseling as needed, etc. have long been thought of as essential elements of dropout prevention programs (e.g., Dynarski & Gleason, 2002; McPartland, 1994; Rumberger et al., 2017). What is different is that we were interested in students' individual perceptions and response to interventions, as represented by their engagement, not the provision of a particular element per se. People experience contexts (as well as intervention programs, teachers, rules) in different ways. A parallel may be drawn from the reinforcement literature in that whether something is reinforcing is determined by an individual's response to it, not what we think should be. Thus, the extent to which family, classroom, peer, or school contexts supported or undermined students' engagement is reflected in the student's perceptions of support, belonging, relevance of education to their futures, and self-regulation, as well as their preparation for and participation in class and school, extracurricular involvement, attendance, behavior, etc.

As our own work in student engagement was evolving, so too was broader interest in engagement as a vehicle for school reform as well as a conceptualization that engagement may be relevant for all youth, not only those at-risk for poor educational outcomes (Christenson, Reschly, & Wylie, 2012). These changes similarly reflect a shift to the positive features of engagement and promotion of competence and success, rather than disengagement and disaffection solely as indicators of risk. These ideas (e.g., importance of emotion and cognition for re-engaging youth, positive features of engagement for school completion, relevance of engagement for all youth and school reform) lead us to the current state of student engagement as a meta-construct (Fredricks, Blumenfeld, & Paris, 2004) and organizing framework for educators (Christenson, 2008; Reschly et al., 2014, 2017; Reschly & Christenson, 2019b).

Student Engagement

Student engagement is an exceptional construct in that it appeals to both educators and scholars from *all over the world*. Engagement resonates with educators who recognize it and view it as an essential element of classrooms and schools (Finn &

Zimmer, 2012). It is the lack of engagement, what is sometimes referred to as disengagement or disaffection, that is particularly evident to educators who describe students, especially at the middle or high school levels, as disinterested, uninvolved, and unmotivated (Christenson et al., 2008; Fredricks et al., 2004).

For scholars, student engagement has been characterized as a meta-construct (Fredricks et al., 2004) because it brings together previously distinct lines of research related to schooling and students, such as connectedness, motivation, attendance, and extracurricular participation. Student engagement also unites scholars from various disciplines (e.g., public health; educational, developmental, child clinical, and school psychology; special education). Whether an educator or scholar, the broad view of student engagement including students' emotion, cognition, and behavior allows for much richer, more complete depictions of students' school experiences (Fredricks et al., 2004).

One caution about engagement is that each of us seems to be certain of what it is and how it looks when students are engaged or disengaged. Yet, it is not always clear that we are talking about the same thing. This state of affairs calls to mind one of the Harry Potter stories in which Harry stumbles upon the Mirror of Erised. The mirror was enchanted such that each person who looks into the mirror saw the thing they most desire (Rowling, 1998). Reading about and studying student engagement can seem that way at times.

Definitions of engagement typically include aspects of emotion, cognition, and behavior (Fredricks et al., 2004); yet, what is characterized as emotion in one theory might be thought of as a cognitive indicator in another. Still other scholars differentiate motivation from engagement, with engagement representing observable behavior while others seemingly subsume motivation into the engagement meta-construct (Reschly & Christenson, 2012). In our own intervention work, we separated academic engagement (e.g., credits earned, time on task) from behavioral engagement (e.g., attendance, disciplinary incidents) to better link students to interventions with the realization that improving students' attendance or behavior while in school, although necessary and important, was not enough to ensure that students were engaged with learning in order to make academic progress. Furthermore, students and teachers also have different views on engagement, wherein teachers overestimate how engaged students are in instruction (Appleton & Lawrenz, 2011). Studies also find low correspondence between students' and teachers' perceptions of their relationships, especially in terms of support (Hughes, 2011; Murray, Murray, & Waas, 2008). Teachers may rate their quality of relationships more positively than students (Schulte, Shanahan, Anderson, & Sides, 2003).

A few years ago, we offered the following definition of student engagement:

> Student engagement refers to the student's active participation in academic and co-curricular or school-related activities, and commitment to educational goals and learning. Engaged students find learning meaningful, and are invested in their learning and future. It is a multidimensional construct that consists of behavioral (including academic), cognitive, and affective subtypes. Student engagement drives learning; requires energy and effort; is affected by multiple contextual influences; and can be achieved for all learners (Christenson, Reschly, & Wylie, 2012, p. 816–817).

For several decades, student engagement was at the core of dropout prevention efforts. Two major trends helped bring engagement forward as a unifying construct for all youth. The first is the supposition that student engagement should serve as the basis of high school reform initiatives. In 2004, the National Research Council and Institute of Medicine [NRC] published a volume titled, "Engaging Schools: Fostering High School Students' Motivation to Learn." This esteemed group of scholars argued for the importance of engagement for all students and drew attention to the conditions in schools that enhance students' engagement, such as classroom teaching, school policies and practices, and connecting schools with families and the community. Regarding these conditions, the NRC (p. 28, 2004) noted, "High schools must make students believe and feel that they are respected and that they belong, that they can learn what they are being required to learn, and that the lessons of school 'make sense' within the context of their own lives."

Davis and Rumberger (2012) further linked student engagement, motivation, and school reform efforts. The authors detailed six dimensions of engagement and motivation and described corresponding high school reforms for each dimension, such as:

1. Accessible Immediate Rewards (e.g., levels of focused extra help)
2. Embedded Intrinsic Interest (e.g., project-based learning)
3. Direct Functional Relevance (e.g., career academies)
4. Positive Interpersonal Climate (e.g., adult mentors and advisors)
5. Alternative Talent Development (e.g., extracurricular activities)
6. Shared Communal Engagement (e.g., student participation in decision-making)

Taken together, these arguments fit nicely with the growing realization that schools may positively or negatively affect dropout and completion and that school completion efforts are most effective within a school context that is focused on engagement and success of all students. Although most articles about reform are targeted to middle and high schools, because that is when students' disengagement and amotivation are most visible and severe, these elements are similarly relevant for elementary-aged youth. Humans have fundamental needs for autonomy, belonging, and competence (NRC, 2004), regardless of age. At school, students' engagement may be viewed as a manifestation of the extent to which these needs are being met (Reschly et al., 2017).

The second trend, building to and since the publication of the influential Fredricks et al. (2004) student engagement article, is the many and varied associations between indicators of students' affective, cognitive, and behavioral engagement, from early elementary school through college, and a wide range of student outcomes, including social-emotional well-being, risky health behavior, achievement, high school completion, as well as college attendance and persistence. Student engagement is not a cure for cancer, global warming, strep throat, etc. It is, however, associated with significant indicators of student well-being, behavior, and achievement; predictive of future outcomes; and amenable to the effects of intervention (Christenson, Reschly, & Wylie, 2012; Reschly & Christenson, 2012). Table 2.5 provides examples of engagement indicators and selected representative associations and studies.

Table 2.5 Representative indicators of engagement and student outcomes

Indicator	Selected associations of interest	Selected studies
Academic engagement		
Time on task/ academic engaged time	Student achievement	Greenwood (1991)
Language arts and math course performance	Failures in sixth grade are highly predictive of dropout	Balfanz, Herzog, and Mac Iver (2007)
Homework completion	Achievement (results favor middle and high school)	Cooper, Robinson, and Patall (2006), Fan, Xu, Cai, He, and Fan (2017), Hattie (2009)
Affective engagement		
Belonging	Attendance	Anderman (2002), Finn (1993)
	Engagement in schoolwork	Wiley and Hodgen (2012)
	Mastery goal orientation and cognitive engagement	Walker and Greene (2009)
	Grades	Roeser, Midgley, and Urdan (1996)
	Achievement and dropout	Catalano, Haggerty, Oesterle, Fleming, and Hawkins (2004)
	Motivation	Goodenow (1993a, 1993b)
Teacher–student relationships	Achievement	Hattie (2009)
	Motivation	Skinner and Belmont (1993)
	Effort	Murray & Murray (2004)
	Subjective well-being	Holfve-Sabel (2014)
	Close, positive relationships are protective for those with additional risk	Baker (1999), Murray and Pianta (2007)
Peer relationships	Having friends at school associated with involvement, behavior, and achievement	Berndt and Keefe (1995), Simons-Morton and Chen (2009), Wentzel, Barry, and Caldwell (2004)
	Working with friends and having friends positively associated with cognitive skills and academic performance	Wentzel, Jablansky, and Scalise (2018)
	Peers predict changes in students' liking, enjoyment, and achievement over the course of a school year	Ryan (2001)
Peer rejection	Negatively related to academic participation	Ladd, Birch, and Buhs (1999)
Peer victimization	Associated with lower engagement and achievement	Ladd, Ettekal, and Kochenderfer-Ladd (2017)
Peer support	Academic support associated with academic prosocial goals	Wentzel (1994)
	Positive adjustment	Van Ryzin, Gravely, and Roseth (2009)
	Lower support associated with maladjustment	Demaray and Malecki (2002)
Connectedness	Family and school connectedness were protective of a range of risk and health behaviors among adolescents	Resnick et al. (1997)

(continued)

Table 2.5 (continued)

Indicator	Selected associations of interest	Selected studies
Behavioral engagement		
Class participation	Academic performance	Finn (1993) Voelkl (1997)
School misbehavior	Part of early warning systems, behavior data are predictive of dropout	Lovelace, Reschly, and Appleton (2017)
Extracurricular activities	Academic achievement; reduced rates of substance use, delinquent behavior, dropout; better psychological adjustment	Feldman and Matjasko (2005)
Attendance	Achievement (early elementary school through college)	Caldas (1993), Chang and Romero (2008), Gottfried (2010), Credé, Roch, and Kieszczynka (2010)
	Dropout and being on track for graduation	Barrington and Hendricks (1989), Bruce, Bridgeland, Fox, and Balfanz (2011), Lovelace et al. (2017), Kieffer, Marinell, and Neugebauer (2014)
	From HS: consistent employment and income	Finn (2006)
Truancy	Drug use and disengagement	Henry (2007)
Cognitive engagement		
Self-regulation/ strategy use	Performance on seatwork, exams/ quizzes	Pintrich and De Groot (1990)
	Achievement; also differentiates high- and low-achieving students	Greene, Miller, Crowson, Duke, & Akey (2004), Cleary (2006)
Future goals and aspirations	In a study of multiple engagement indicators, future goals and aspirations predicted high school dropout and completion	Lovelace et al. (2014), Lovelace et al. (2017)
	College attendance and persistence	Fraysier, Reschly, & Appleton (2019)
Goal orientation		
Multiple indicators of student engagement		
Prediction of dropout and/or completion from elementary school	Absences, behavior, teacher comments, academic difficulty	Alexander et al. (1997), Barrington and Hendricks (1989), Ensminger and Slusarcick (1992)
Prediction of dropout and on-time graduation from high school	After controlling for gender, ethnicity, free or reduced price lunch, indicators of cognitive and affective engagement significantly predicted on-time graduation and dropout	Lovelace et al. (2014)
College attendance, persistence, and completion; adult employment	After accounting for background, high school engagement (e.g., attendance, classroom behavior, and extracurricular activities) predicted college and adult employment outcomes	Finn (2006)

Summary

The purpose of this chapter was to describe the evolution of the student engagement construct from a focus on disengagement and dropout to school completion and engagement as a construct that is relevant for all students across levels of schooling. In addition, student engagement and school completion were proposed as unifying constructs for educators and all interventions, policies, and practices within schools, corresponding perfectly with tiered models of support. The next two chapters in the Foundations Section of this book are focused on measuring student engagement and treatment integrity.

References

Alexander, K. L., Entwisle, D. R., & Horsey, C. S. (1997). From first grade forward: Early foundations of high school dropout. *Sociology of Education, 70*, 87–107.

America's Promise Alliance. (2014). *Don't call them dropouts: Understanding the experience of young people who leave high school before graduation*. Medford, MA: America's Promise Alliance and Center for Promise, Tufts University.

Anderman, E. M. (2002). School effects on psychological outcomes during adolescence. *Journal of Educational Psychology, 94*, 795–809. https://doi.org/10.1037/0022-0663.94.4.795

Appleton, J. J., & Lawrenz, F. (2011). Student and teacher perspectives across mathematics and science classrooms: The importance of engaging contexts. *School Science and Mathematics, 111*, 143–155. https://doi.org/10.1111/j.1949-8594.2011.00072.x

Archambault, I., & Dupéré, V. (2017). Joint trajectories of behavioral, affective, and cognitive, engagement in elementary school. *The Journal of Educational Research, 110*, 188–198. https://doi.org/10.1080/00220671.2015.1060931

Baker, J. A. (1999). Teacher-student interaction in urban at-risk classrooms: Differential behavior, relationship quality, and student satisfaction with school. *The Elementary School Journal, 100*, 57–70.

Balfanz, R., & Byrnes, V. (2019). Early warning indicators and intervention systems: State of the field. In J. Fredricks, A. Reschly, & S. Christenson (Eds.), *Handbook of student engagement interventions*. London, UK: Elsevier.

Balfanz, R., Herzog, L., & Mac Iver, D. J. (2007). Preventing student disengagement and keeping students on the graduation path in urban middle-grades schools: Early identification and effective interventions. *Educational Psychologist, 42*, 223–235. https://doi.org/10.1080/00461520701621079

Barrington, B. L., & Hendricks, B. (1989). Differentiating characteristics of high school graduates, dropouts, and nongraduates. *Journal of Educational Research, 89*, 309–319.

Berndt, T. J., & Keefe, K. (1995). Friends' influence on adolescents' adjustment to school. *Child Development, 66*, 1312–1329. https://doi.org/10.2307/1131649

Bridgeland, J. M., Diulio, J. J., & Morison, K. B. (2006). *The silent epidemic: Perspectives of high school dropouts*. Washington, D.C.: Civic Enterprises.

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, 513–531.

Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.

Bruce, M., Bridgeland, J. M., Fox, J. H., & Balfanz, R. (2011). *On track for success: The use of early warning indicator and intervention systems to build a grad nation.* Civic Enterprises and The Everyone Graduates Center at Johns Hopkins University. http://new.every1graduates.org/wp-content/uploads/2012/03/on_track_for_success.pdf

Caldas, S. J. (1993). Reexamination of input and process factor effects on public school achievement. *Journal of Educational Research, 86*, 206–214. https://doi.org/10.1080/00220671.1993.9941832

Catalano, R. F., Haggerty, K. P., Oesterle, S., Fleming, C. B., & Hawkins, J. D. (2004). The importance of bonding to school for healthy development: Findings from the social development research group. *Journal of School Health, 74*, 252–261. https://doi.org/10.1111/j.1746-1561.2004.tb08281.x

Chang, H. N., & Romero, M. (2008). *Present, Engaged, and Accounted for: The Critical Importance of Addressing Chronic Absence in the Early Grades*. National Center for Children in Poverty, Mailman School of Public Health, Columbia University. Retrieved from: http://www.nccp.org/publications/pdf/text_837.pdf

Christenson, S. L. (2008, January 22). *Engaging students with school: The essential dimension of dropout prevention programs.* [Webinar]. National Dropout Prevention Center for Students with Disabilities.

Christenson, S. L., & Anderson, A. R. (2002). Commentary: The centrality of the learning context for students' academic enabler skills. *School Psychology Review, 31*, 378–393.

Christenson, S. L., & Reschly, A. L. (2010). Check & Connect: Enhancing school completion through student engagement. In E. Doll & J. Charvat (Eds.), *Handbook of prevention science* (pp. 327–348). New York: Routledge/Taylor and Francis.

Christenson, S. L., Reschly, A. L., Appleton, J. J., Berman, S., Spanjers, D., & Varro, P. (2008). Best practices in fostering student engagement. In A. Thomas & J. Grimes (Eds). *Best practices in school psychology* (5th ed., pp. 1099–1119). Bethesda, MD: National Association of School Psychologists.

Christenson, S. L., Reschly, A. L., & Wylie, C. (Eds.). (2012). *Handbook of research on student engagement*. Boston, MA: Springer Science & Business Media. https://doi.org/10.1007/978-1-4614-2018-7

Christenson, S. L., Sinclair, M. F., Lehr, C. A., & Godber, Y. (2001). Promoting successful school completion: Critical conceptual and methodological guidelines. *School Psychology Quarterly, 16*, 468–484.

Christenson, S. L., Stout, K., & Pohl, A. (2012). *Check & Connect: A comprehensive student engagement intervention*. Minneapolis, MN: University of Minnesota.

Christenson, S. L., & Thurlow, M. L. (2004). School dropouts: Prevention considerations, interventions, and challenges. *Current Directions in Psychological Science, 13*, 36–39.

Cleary, T. J. (2006). The development and validation of the self-regulation strategy inventory self-report. *Journal of School Psychology, 44*, 307–322. https://doi.org/10.1016/j.jsp.2006.05.002

Cooper, H., Robinson, J. C., & Patall, E. A. (2006). Does homework improve academic achievement? A synthesis of research, 1987–2003. *Review of Educational Research, 76*, 1–62. https://doi.org/10.3102/00346543076001001

Credé, M., Roch, S. G., & Kieszczynka, U. M. (2010). Class attendance in college: A meta-analytic review of the relationship of class attendance with grades and student characteristics. *Review of Educational Research, 80*, 272–295. https://doi.org/10.3102/0034654310362998

Davis, M. H., & Rumberger, J. M. (2012). High school reform and student engagement. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 515–539). New York: Springer. https://doi.org/10.1007/978-1-4614-2018-7_25

Demaray, M. K., & Malecki, C. K. (2002). The relationship between perceived social support and maladjustment for students at risk. *Psychology in the Schools, 39*, 305–316. https://doi.org/10.1002/pits.10018

Doll, B., & Lyon, M. A. (1998). Risk and resilience: Implications for the delivery of educational and mental health services in schools. *School Psychology Review, 27*, 348–363.

Dynarski, M., & Gleason, P. (2002). How can we help? What we have learned from recent federal dropout prevention evaluations. *Journal of Education for Students Placed At-Risk, 7*, 43–69.

Ensminger, M. E., & Slusarcick, A. L. (1992). Paths to high school graduation or dropout: A longitudinal study of a first-grade cohort. *Sociology of Education, 65*, 95–113.

Evans, G. W. (2004). The environment of childhood poverty. *American Psychologist, 59*, 77–92.

Evans, I. M., & DiBendetto, A. (1990). Pathways to school dropout: A conceptual model for early prevention. *Special Services in the Schools, 6*, 63–80.

Fan, H., Xu, J., Cai, Z., He, J., & Fan, X. (2017). Homework and students' achievement in math and science: A 30-year meta-analysis, 1986–2015. *Educational Research Review, 20*, 35–54. https://doi.org/10.1016/j.edurev.2016.11.003

Feldman, A. F., & Matjasko, J. L. (2005). The role of school-based extracurricular activities in adolescent development: A comprehensive review and future directions. *Review of Educational Research, 75*, 159–210.

Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research, 59*, 117–142.

Finn, J. D. (1993). *School engagement and students at risk*. Washington, DC: National Center for Education Statistics.

Finn, J.D. (2006). *The adult lives of at-risk students: The roles of attainment and engagement in high school.* (NCES 2006–328). U.S. Department of Education, Washington, DC: National Center for Education Statistics.

Finn, J. D., & Rock, D. A. (1997). Academic success among students at-risk for school failure. *Journal of Applied Psychology, 82*, 221–234.

Finn, J. D., & Zimmer, K. S. (2012). Student engagement: What is it? Why does it matter? In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 97–131). New York: Springer. https://doi.org/10.1007/978-1-4614-2018-7_5

Fraysier, K., Reschly, A.L., & Appleton, J. J. (2019). *Predicting postsecondary enrollment and persistence with secondary student engagement data*. Manuscript submitted for publication.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*, 59–109.

Garnier, H., Stein, J., & Jacobs, J. (1997). The process of dropping out of high school: A 19-year perspective. *American Educational Research Journal, 34*(2), 395–419.

Goodenow, C. (1993a). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools, 30*, 79–90. https://doi.org/10.1002/1520-6807(199301)30:1<79::AID-PITS2310300113>3.0.CO;2-X

Goodenow, C. (1993b). Classroom belonging among early adolescent students: Relationships to motivation and achievement. *Journal of Early Adolescence, 13*, 21–43. https://doi.org/10.1177/0272431693013001002

Gottfried, M. A. (2010). Evaluating the relationship between student attendance and achievement in urban elementary and middle schools: An instrumental variables approach. *American Educational Research Journal, 47*, 434–465. https://doi.org/10.3102/0002831209350494

Greene, B. A., Miller, R. B., Crowson, H. M., Duke, B. L., & Akey, K. L. (2004). Predicting high school students' cognitive engagement and achievement: Contributions of classroom perceptions and motivation. *Contemporary Educational Psychology, 29*, 462–482.

Greenwood, C. R. (1991). Longitudinal analysis of time, engagement, and achievement in at-risk and non at-risk students. *Exceptional Children, 57*, 521–535. https://doi.org/10.1177/001440299105700606

Hattie, J. (2009). *(2009). Visible learning: a synthesis of over 800 meta-analyses relating to achievement. London*. New York: Routledge.

Henry, K. L. (2007). Who's skipping school: Characteristics of truants in the eighth and tenth grade. *Journal of School Health, 77*, 29–35. https://doi.org/10.1111/j.1746-1561.2007.00159.x

Hernandez, D. J. (2012). *Double jeopardy: How third-grade reading skills and poverty influence high school graduation*. Baltimore, MD: Annie E. Casey Foundation.

Holfve-Sabel, M. A. (2014). Learning, interaction and relationships as components of student well-being: Differences between classes from student and teacher perspective. *Social Indicators Research, 119*, 1535–1555. https://doi.org/10.1007/s11205-013-0557-7

Hughes, J. N. (2011). Longitudinal effects of teacher and student perceptions of teacher-student relationship qualities on academic adjustment. *The Elementary School Journal, 112*, 38–60. https://doi.org/10.1086/660686

Janosz, M., Archambault, I., Morizot, J., & Pagani, L. (2008). School engagement trajectories and their differential predictive relations to dropout. *Journal of Social Issues, 64*, 21–40. https://doi.org/10.1111/j.1540-4560.2008.00546.x

Jimerson, S., Reschly, A. L., & Hess, R. (2014). Best practices in promoting high school completion. In A. Thomas & P. Harrison (Eds.), *Best practices in school psychology* (6th ed., pp. 83–95). Bethesda, MD: National Association of School Psychologists.

Jordan, W. J., McPartland, J. M., & Lara, J. (1999). Rethinking the causes of high school dropout. *The Prevention Researcher, 6*, 1–4.

Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology, 80*, 437–447. https://doi.org/10.1037/0022-0663.80.4.437

Kieffer, M. J., Marinell, W. H., & Neugebauer, S. R. (2014). Navigating into, through, and beyond the middle grades: The role of middle grades attendance in staying on track for high school graduation. *Journal of School Psychology, 52*, 549–565. https://doi.org/10.1016/j.jsp.2014.09.002

Ladd, G. W., Birch, S. H., & Buhs, E. S. (1999). Children's social and scholastic lives in kindergarten: Related spheres of influence? *Child Development, 70*, 1373–1400. https://doi.org/10.1111/1467-8624.00101

Ladd, G. W., Ettekal, I., & Kochenderfer-Ladd, B. (2017). Peer victimization trajectories from kindergarten through high school: Differential pathways for children's school engagement and achievement? *Journal of Educational Psychology, 109*, 826–841. https://doi.org/10.1037/edu0000177

Landis, R. N., & Reschly, A. L. (2011). An examination of compulsory school attendance ages and high school dropout and completion. *Educational Policy, 25*, 719–761. https://doi.org/10.1177/0895904810374851

Lehr, C. A., Hansen, A., Sinclair, M. F., & Christenson, S. L. (2003). An integrative review of data-based interventions: Moving beyond dropout towards school completion. *School Psychology Review, 32*, 342–364.

Leung, R. (2006). *The 'Texas Miracle'*. 60 Minutes, CBS News. https:www.cbsnews.com/news/the-texas-miracle/

Li, Y., & Lerner, R. M. (2011). Trajectories of school engagement during adolescence: Implications for grades, depression, delinquency, and substance use. *Developmental Psychology, 47*, 233–247. https://doi.org/10.1037/a0021307

Lloyd, D. (1978). Prediction of school failure from third-grade data. *Educational and Psychological Measurement, 38*, 1193–1200.

Lovelace, M. D., Reschly, A. L., & Appleton, J. J. (2017). Beyond school records: The value of cognitive and affective engagement in predicting dropout and on-time graduation. *Professional School Counseling, 21*, 70–84. https://doi.org/10.5330/1096-2409-21.1.70

Lovelace, M. D., Reschly, A. L., Appleton, J. J., & Lutz, M. E. (2014). Concurrent and predictive validity of the Student Engagement Instrument. *Journal of Psychoeducational Assessment, 32*, 509–520. https://doi.org/10.1177/0734282914527548

Masten, A. S. (2014). *Ordinary magic: Resilience in development*. New York: Guilford.

Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments. *American Psychologist, 53*, 205–220.

McFarland, J., Cui, J., & Stark, P. (2018). *Trends in high school dropout and completion rates in the United States: 2014* (NCES 2018–117). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Available from: https://nces.ed.gov/pubs2018/2018117.pdf

McFarland, J., Hussar, B., Wang, X., Zhang, J., Wang, K., Rathbun, A., … Bullock Mann, F. (2018). *The Condition of Education 2018 (NCES 2018–144)*. U.S. Department of Education. Washington, DC: National Center for Education Statistics. Available from: https://nces.ed.gov/pubs2018/2018144.pdf

McPartland, J. M. (1994). Dropout prevention in theory and practice. In R. J. Rossi (Ed.), *Schools and students at risk: Context and framework for positive change* (pp. 255–276). New York: Teachers College.

Murray, C., & Murray, K. M. (2004). Child level correlates of teacher–student relationships: An examination of demographic characteristics, academic orientations, and behavioral orientations. *Psychology in the Schools, 41*, 751–762.

Murray, C., Murray, K. M., & Waas, G. A. (2008). Child and teacher reports of teacher–student relationships: Concordance of perspectives and associations with school adjustment in urban kindergarten classrooms. *Journal of Applied Developmental Psychology, 29*(1), 49–61. https://doi.org/10.1016/j.appdev.2007.10.006

Murray, C., & Pianta, R. C. (2007). The importance of teacher-student relationships for adolescents with high incidence disabilities. *Theory Into Practice, 46*, 105–112.

National Research Council & the Institute of Medicine. (2004). *Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: National Academies Press.

O'Donnell, K., Lovelace, M., Reschly, A.L., & Appleton, J. J. (2019) *Longitudinal trajectories of student engagement: Predicting high school graduation and college attendance*. Manuscript submitted for publication.

Prevatt, F., & Kelly, F. D. (2003). Dropping out of school: A review of intervention programs. *Journal of School Psychology, 41*, 377–395.

Printich, P. R., & de Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*, 33–40.

Reschly, A. (2010). Reading and school completion: Critical connections and Matthew effects. *Reading and Writing Quarterly, 26*, 1–23.

Reschly, A., & Christenson, S. L. (2006). Promoting school completion. In G. Bear & K. Minke (Eds.), *Children's needs III: Understanding and addressing the developmental needs of children*. Bethesda, MD: National Association of School Psychologists.

Reschly, A. L. & Christenson, S. L. (2013). Grade retention: Historical perspectives and new research. *Journal of School Psychology, 51*, 319–322. https://doi.org/10.1016/j.jsp.2013.05.002

Reschly, A. L., Appleton, J. J., & Pohl, A. (2014). Best practices in fostering student engagement. In A. Thomas & P. Harrison (Eds.), *Best practices in school psychology* (6th ed., pp. 37–50). Bethesda, MD: National Association of School Psychologists.

Reschly, A. L., & Christenson, S. L. (2012). Jingle, jangle, and conceptual haziness: Evolution and future directions of the engagement construct. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 3–19). New York: Springer.

Reschly, A. L., Pohl, A., Christenson, S. L., & Appleton, J. J. (2017). Engaging adolescents in secondary schools. In B. Schultz, J. Harrison, & S. Evans (Eds.), *School mental health services for adolescents*. Oxford University Press, New York.

Reschly, A. L., & Christenson, S. L. (2019a). The intersection of student engagement and families: A critical connection for achievement and life outcomes. In J. A. Fredricks, A. L. Reschly, & S. L. Christenson (Eds.), *Handbook of student engagement interventions* (pp. 57–71). London, UK: Elsevier. https://doi.org/10.1016/B978-0-12-813413-9.00005-X

Reschly, A. L., & Christenson, S. L. (2019b). *Lowering the high school dropout rate: Lessons from the research (PDK Primer #2)*. Arlington, VA: Phi Delta Kappa.

Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., … Ireland, M. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *JAMA, 278*, 823–832. https://doi.org/10.1001/jama.278.10.823

Roeser, R. W., Midgley, C., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating role of goals and belonging. *Journal of Educational Psychology, 88*, 408–422.

Rosenthal, B. S. (1998). Non-school correlates of dropout: An integrative review of the literature. *Children and Youth Services Review, 20*, 413–433. https://doi.org/10.1016/S0190-7409(98)00015-2

Rowling, J. K. (1998). *Harry Potter and the sorcerer's stone*. New York: Arthur A. Levine Books.

Rumberger, R., Addis, H., Allensworth, E., Balfanz, R., Bruch, J., Dillon, E., … Tuttle, C. (2017). *Preventing dropout in secondary schools (NCEE 2017–4028)*. Washington, DC: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, U.S. Department of Education. https://whatworks.ed.gov

Rumberger, R. W. (2011). *Dropping out: Why students drop out of high school and what can be done about it*. Cambridge, MA: Harvard University Press. https://doi.org/10.4159/harvard.9780674063167

Ryan, A. M. (2001). The peer group as a context for the development of young adolescent motivation and achievement. *Child Development, 72*, 1135–1150. https://doi.org/10.1111/1467-8624.00338

Sameroff, A. (2009). *The transactional model of development: How children and contexts shape each other*. Washington, DC: American Psychological Association. https://doi.org/10.1037/11877-001

Schulte, L. E., Shanahan, S., Anderson, T. D., & Sides, J. (2003). Student and teacher perceptions of their middle and high schools' sense of community. *School Community Journal, 13*, 7–33.

Seligman, M. E. P., & Csikzentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, *55*, 5–14. https://doi.org/10.1037/0003-066X.55.1.5

Shapiro, D., Dundar, A., Huie, F., Wakhungu, P., Bhimdiwala, A., & Wilson, S. (2019, February). *Completing college: A state-level view of student completion rates (signature report no. 16a)*. Herndon, VA: National Student Clearinghouse Research Center.

Simons-Morton, B., & Chen, R. (2009). Peer and parent influences on school engagement among early adolescents. *Youth & Society, 41*, 3–25. https://doi.org/10.1177/0044118X09334861

Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology, 85*, 571–581. https://doi.org/10.1037/0022-0663.85.4.571

Van Ryzin, M. J., Gravely, A. A., & Roseth, C. J. (2009). Autonomy, belongingness, and engagement in school as contributors to adolescent psychological well-being. *Journal of Youth and Adolescence, 38*, 1–12. https://doi.org/10.1007/s10964-007-9257-4

Voelkl, K. E. (1997). Identification with school. *American Journal of Education, 105*, 294–318. https://doi.org/10.1086/444158

Walker, C. O., & Greene, B. A. (2009). The relations between student motivational beliefs and cognitive engagement in high school. *The Journal of Educational Research, 102*, 463–472. https://doi.org/10.3200/joer.102.6.463-472

Wentzel, K. R. (1994). Relations of social goal pursuit to social acceptance, classroom behavior, and perceived social support. *Journal of Educational Psychology, 86*, 173–182. https://doi.org/10.1037//0022-0663.86.2.173

Wentzel, K. R., Barry, C. M., & Caldwell, K. A. (2004). Friendships in middle school: Influences on motivation and school adjustment. *Journal of Educational Psychology, 96*, 195–203. https://doi.org/10.1037/0022-0663.96.2.195

Wentzel, K. R., Jablansky, S., & Scalise, N. R. (2018). Do friendships afford academic benefits? A meta-analytic study. *Educational Psychology Review, 30*, 1241–1267. https://doi.org/10.1007/s10648-018-9447-5

Wiley, C., & Hodgen, E. (2012). Trajectories and patterns of student engagement: Evidence from a longitudinal study. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of Research on Student Engagement* (pp. 585–599). Boston, MA: Springer. https://doi.org/10.1007/978-1-4614-2018-7_28

Chapter 3
Assessment of Student Engagement

Kayleigh O'Donnell and Amy L. Reschly

The focus of this volume is on evidence-based practical strategies to enhance student engagement at school and with learning. A key element of intervention, of course, is assessment. Without assessment, how would one verify that there is a problem, select an intervention that matches student needs, or determine whether or not the intervention was effective? In education, we commonly conduct assessments or collect data that are not suitable for or easily linked to intervention, despite numerous calls and suggestions for best practices (Christenson & Ysseldyke, 1989; National Association of School Psychologists [NASP], 2009; Ysseldyke et al., 2006). Student engagement, however, is ideally suited for identification of risk, linking assessment to intervention, and monitoring student progress (Christenson et al., 2008; Fredricks, Rescly, & Christenson, 2019; Reschly, Appleton, & Pohl, 2014).

Specifically, the assessment of student engagement may facilitate educators' ability to determine which students are at-risk for poor educational outcomes and may benefit from additional intervention, as well as what types of interventions may be most effective for students. The potential of the assessment of engagement relates to findings that suggest student engagement is associated with academic performance and behavior (Christenson, Reschly, & Wylie, 2012), mental health (Reschly, Pohl, Christenson, & Appleton, 2017; Suldo, Parker, Shaunessy-Dedrick, & O'Brennan, 2019), and resilience (Finn & Rock, 1997; Finn & Zimmer, 2012). Student engagement is also predictive of future performance in terms of high school dropout and graduation (Finn & Rock, 1997; Lovelace, Reschly, & Appleton, 2017)

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and postsecondary enrollment and persistence (Finn, 2006; Fraysier, Reschly, & Appleton, 2019; Lawson & Masyn, 2015). Furthermore, unlike so many demographic variables associated with student outcomes, student engagement is amenable to intervention (see Chap. 2; Christenson et al., 2008; Reschly et al., 2014).

As described elsewhere within this book, student engagement is conceptualized as a meta-construct, consisting of behavioral, emotional, and cognitive components (Fredricks, Blumenfeld, & Paris, 2004). Christenson and colleagues further separated behavioral components into behavioral and academic subtypes of engagement to facilitate the link to appropriate interventions (Appleton, Christenson, & Furlong, 2008; Appleton, Christenson, Kim, & Reschly, 2006). Each of these four subtypes of engagement – academic, behavioral, cognitive, and affective – is represented in a section of this book. In Fig. 3.1, we provide example indicators of each subtype of engagement.

A number of methods have been used to measure indicators of student engagement, such as observations, school record data, and surveys. We find that indicators of academic and behavioral engagement may be directly observed (e.g., time on-task, academic engaged time) and/or are readily available in school records (e.g., school disciplinary incidents, attendance, grades). For example, schools that utilize early warning systems (EWS) often contain information on students' course failures, attendance, and disciplinary incidents and are easy for school personnel to access (Balfanz & Byrnes, 2019). In contrast, information on students' cognitive and affective engagement is not readily observable or as easy to acquire. To illustrate this point, we have often asked questions like, how can one tell if a student
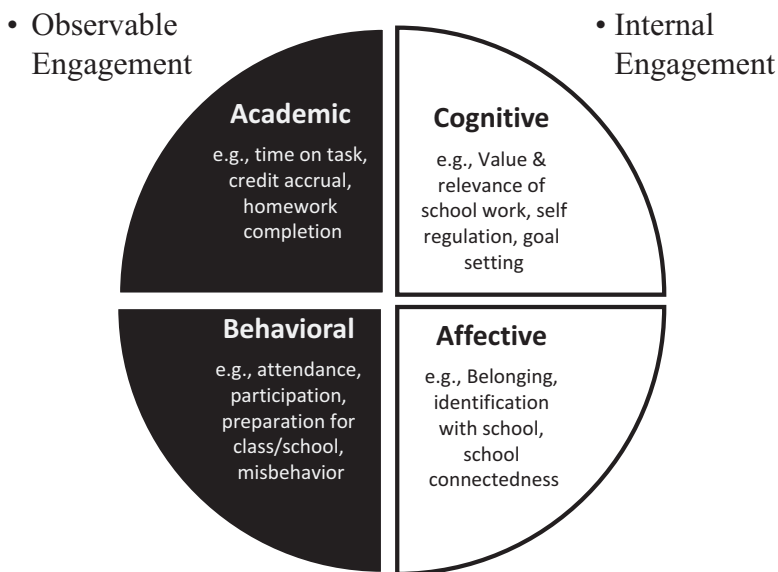
Fig. 3.1 Four subtypes of student engagement and representative indicators. (Reschly, Appleton, and Pohl (2014). Reprinted with permission)

feels like they belong? Believes their teacher or peers care about them? Feels supported? Sees how their schoolwork relates to their future goals? This is of particular importance when one considers the differences between students' and teachers' reports of student engagement (Skinner, Kindermann, & Furrer, 2009) and students' engagement with instruction (Appleton & Lawrenz, 2011) and the connection between these higher inference, internal forms of engagement, associations with behavioral and academic engagement, and in turn, student outcomes (Reschly & Christenson, 2006, 2012). For cognitive and affective engagement, the primary source of information is the student themselves, with possible supplements from teachers, parents, or peers.

The following sections of this chapter will explore the assessment of academic, behavioral, and cognitive/affective engagement, with specific examples of how to assess the relevant indicators for each subtype. Cognitive and affective engagement are grouped together given that, as previously described, they represent internal subtypes of engagement that typically require student self-report to understand and most rating scales assess both subtypes together rather than separately. We describe a few of the most widely used student engagement surveys used to gather information about students' cognitive and affective engagement. One measure of engagement, the Student Engagement Instrument (SEI), will be described in greater detail. The SEI is based on the model of engagement that grew out of work with Check & Connect (Chapters 1 and 2). We conclude with practical considerations and promising areas for educators on the assessment of student engagement.

Academic Engagement

The main methodologies for examining students' time on-task, credits earned toward graduation, homework completion, and course grades include school records, permanent products, student- or teacher-report, and standardized observation schedules. As previously described, many schools using EWS already have data on indicators of academic engagement, such as credits earned toward graduation, course failures, and grade point average (GPA). Teachers also collect permanent products of academic engagement, including homework and class assignments. However, as educators know, students may complete assignments and not be engaged (e.g., copying work from another student). Assessing students' academic engagement is incredibly important, as one of the strongest predictors of achievement is the amount of time students spend actively engaged in learning (Gettinger & Ball, 2008). Below, a few examples of observation systems, rating scales, and a combination of the two (i.e., Direct Behavior Ratings [DBR]) are described in more detail.

Observations

Considered by many as the "gold standard" for assessing engaged time, a number of observation systems exist within the field of education. Although we highlight a standardized observation schedule here, observations are flexible and educators can develop their own observation systems to suit their needs. Student observations can provide helpful information about whether or not students were academically engaged during class by examining the time that students remained on-task. Various observation schedules define on-task behavior differently. A common definition coined by Gettinger and colleagues (Gettinger & Ball, 2008; Gettinger & Walter, 2012), known as academic engaged time (AET), is defined as time that students are actively engaged in the learning process. But how can we tell if a student's time on-task is productive and successful? Ardoin and Sayeski (2019) argued that a complete picture of AET can be understood by combining information of on-task behavior with achievement data for this reason.

Regardless of the definition for time on-task, there are multiple types of systematic direct observations of on-task behavior, including whole interval, partial interval, and momentary time sampling recording (Alberto & Troutman, 2012). The observer (who may be a teacher, paraprofessional, school psychologist, etc.) may choose to examine individual students or groups of students on rotation. Once the length of the observation has been determined (e.g., 30 minutes), the observation window is divided into intervals (e.g., 1 minute each). Various recording strategies each have their own strengths and weaknesses. With whole interval recording, the observer notes if the student was on-task throughout the entire interval; this type of recording may underestimate the occurrence of behavior. Partial interval recording records whether the student was on-task at least once during the interval, and therefore may overestimate the occurrence of behavior. Finally, momentary time sampling (regarded as a more accurate recording method) assesses whether or not the student was on-task at the end of the interval. Overall, shorter intervals lead to greater accuracy (e.g., Zakszeski, Hojnoski, & Wood, 2017) but are less practical for teachers to implement.

There are also a number of published observation measures. Volpe, DiPerna, Hintze, and Shapiro (2005) reviewed seven paper-and-pencil observational coding schemes designed to measure classroom behavior, noting the importance of examining psychometric properties (e.g., interrater reliability) and ensuring the selected code matches the situation. In some cases, the observational form was part of a larger screening and diagnostic system (e.g., the Academic Engaged Time Code of Walker and Severson's Systematic Screening for Behavior Disorders), whereas other coding schemes were standalone measures (e.g., the Behavioral Observation of Students in Schools [BOSS]; Shapiro, 1996). The recording methods included duration recording (i.e., total time engaged with instruction/learning), partial interval, whole interval, momentary time sampling, and Likert-scale ratings. Regardless of the system selected, educators and interventionists must ensure that observers are adequately trained, conduct checks on interrater reliability, and keep in mind the need for several observations (Volpe et al., 2005).

The BOSS, developed by Shapiro (1996), is an excellent example of an observational code for academic engagement. The BOSS system divides on-task behavior into active engaged time (e.g., writing on an assignment) and passive engaged time (e.g., looking at the teacher). Off-task behavior is also divided into different categories, including motor activity (e.g., being out of seat), verbal behavior (e.g., nonacademic talk), passive nonengagement (e.g., looking out the window; Volpe et al., 2005). Active and passive engaged time are recorded using momentary time sampling, while off-task behaviors are scored using partial interval recording (Hintze, Volpe, & Shapiro, 2002). The observation period is split into 15-second intervals. The behavior of a peer is coded every fifth interval for the purpose of comparison. There is also a code for Teacher-Directed Instruction (i.e., an estimate of the amount of time the teacher engaged in direct instruction; Hintze et al., 2002; Volpe et al., 2005). At the end of the observation, scores for active and passive engaged time and off-task behaviors of the target student and the comparison peer are calculated (Hintze et al., 2002).

Surveys and Rating Scales

Elements of academic engagement are also sometimes included in student self-report measures, which ask students to report on their on-task behavior, grades, and homework completion. In fact, most homework research uses student self-report (e.g., Cooper, Robinson, & Patall, 2006). However, caution is warranted with regard to the accuracy of students' self-reported grades and homework completion. For example, approximately 82% of high school students and 54.3% of college students accurately report their grades; only 36.1% of Scholastic Assessment Test (SAT) scores are accurately self-reported (Kuncel, Credé, & Thomas, 2005). Thus, while associations to other constructs are similar between self-reported and actual grades, and there is always value in seeking to understand student perceptions, we recommend using the more objective school data when available. One example of how students may self-report on their academic engagement may be drawn from Skinner's Engagement versus Disaffection with Learning scale (EvsD; Skinner et al., 2009) wherein students are asked if they agree with the statement, "When I'm in class, I listen carefully."

Direct Behavior Rating (DBR)

A DBR combines positive features of both systematic direct observations and behavior rating scales. Observations still occur at specific times, with well-defined operational definitions of the target behavior, but responses are gathered via a rating scale format (e.g., 0 = *not at all engaged*, 10 = *completely engaged*; Briesch, Chafouleas, & Riley-Tillman, 2016), providing a much more efficient means of

collecting student data. Chafouleas, Riley-Tillman, and colleagues have conducted extensive research on the psychometric properties of DBRs, including comparisons to systematic direct observations and the sensitivity of DBRs to the effects of intervention. DBR is frequently used to estimate academic engagement and disruptive behavior. The National Center on Intensive Intervention found evidence of reliability and validity for the use of DBRs to measure academic engagement (www.intensiveintervention.org). Additional information, including examples and training materials, may be found at the National Center on Intensive Intervention and the University of Connecticut (www.dbr.education.uconn.edu).

Behavioral Engagement

Significant aspects of behavioral engagement include students' attendance, participation in extracurricular activities, and disciplinary incidents. Similar to academic engagement, many indicators of behavioral engagement are regularly collected in schools. Various indicators of behavioral engagement can also be garnered through observation schedules and teacher-, student-, or parent-report.

Attendance

Information regarding students' attendance within EWS may include information on excused and unexcused absences and tardies, which can be used to calculate the percent of days that a student is present and on time relative to the number of days enrolled. This percentage can be used to determine if a student is chronically absent, typically defined as missing 10% or more of school days for any reason (which is approximately 18 days missed per year; Attendance Works, 2013). There may be no differentiation of why a student is absent (e.g., a medical issue versus skipping class), so understanding why some students choose to not attend classes may need to be assessed through student self-report or parent-report measures. However, educators should be concerned with absences because it reflects the amount of instruction a student is missing, not whether a student's absences are excused or unexcused.

Behavior

Within EWS or otherwise, schools also typically collect data on disciplinary incidents/behavioral referrals. Office discipline referrals (ODRs) are defined as when a student engages in a problem behavior that breaks a school rule that is observed or identified by school staff which results in a consequence and written documentation of the event (Sugai, Sprague, Horner, & Walker, 2000). It is important to know the

frequency and severity of ODRs, which can be broken down by the resulting consequence (e.g., detention, in school suspension, out-of-school suspension, or expulsion). ODRs are commonly used as indicators of behavioral engagement within schools, and there is some support for using ODRs to assess school-wide behavior climate (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004) and for progress monitoring purposes (McIntosh, Frank, & Spaulding, 2010). However, some caution is warranted, given inconsistencies across how the same problem behavior may be perceived by teachers and the resulting consequences for different students (Irvin et al., 2004; Sugai et al., 2000). This is problematic, given racial disparities in ODRs from preschool through high school (U.S. Department of Education, Office for Civil Rights, 2016).

Observations may also be used to assess disruptive classroom behaviors; many use the same observation technologies as those described for academic engagement in the previous section of this chapter. Educators may wish to simply record the event count (i.e., frequency) or duration (i.e., length of time) of disruptions during a set observation window for a given student. As previously discussed, the BOSS (Shapiro, 1996) observation schedule contains an off-task or disruptive behavior component (including off-task motor, verbal, and passive behaviors) in addition to active and passive academic engagement. Although some may want to measure disruptive behavior specifically, on-task behavior is often the preferred metric. This is because students cannot simultaneously be disruptive and on-task, and on-task behavior (e.g., AET) is also the goal behavior.

In addition, students' disruptive behaviors in class can be assessed via student self- or teacher-report. For example, "I get in trouble at school" is an item on the School Engagement Measure-MacArthur (SEM; Fredricks, Blumenfeld, Friedel, & Paris, 2003). Similar to academic engagement, there may be issues with students' accuracy of self-reported attendance or disruptive behavior compared to school data. Described in the Academic Engagement section of this chapter, DBRs can also provide a measure of a student's disruptive behaviors based on teacher-report.

Extracurricular Participation

Extracurricular participation is an aspect of students' behavioral engagement that is not always collected or compiled systematically by schools; schools may track information about the number of activities available and which adult(s) facilitate these activities, but not necessarily the time students spend engaged in these activities. This information is certainly possible to obtain; for example, large research studies like the National Education Longitudinal Study (NELS) or the Education Longitudinal Study (ELS) include questions about student extracurricular involvement. Generally, greater involvement in extracurriculars is associated with positive outcomes across multiple domains (e.g., greater academic achievement, higher self-esteem, and reduced delinquent behavior; Feldman & Matjasko, 2005; Fredricks, 2012), although differences based on type of activity and hours spent

have been identified (Martinez, Coker, McMahon, Cohen, & Thapa, 2016). This information could easily be collected as a part of school data systems or be included in EWS. Schools may also collect surveys from students or parents to gather information on what extracurricular activities (e.g., sports, arts, clubs) a student is involved in and the time spent engaged in these activities.

Surveys and questionnaires can also be used to determine students' preparedness for class (e.g., bringing the proper materials), frequency of fighting, etc. Questions such as, "How often did you come to class and find yourself without these things: (a) pencil or paper; (b) books; (c) your homework done" have been used in large, national, longitudinal research studies conducted through the National Center for Education Statistics. These studies, such as the NELS and ELS, have regularly been used to study many of the engagement indicators described in this chapter (e.g., extracurricular activities, attendance, motivation, cognitive engagement). What one loses in terms of theoretically driven and comprehensiveness of measures of constructs in such large datasets, one gains in terms of representativeness of the population, numbers, and ability to follow students over many years, as well as the addition of parent- and teacher-reports.

Cognitive and Affective Engagement

Generally, students' cognitive (e.g., self-regulation skills, feelings of about relevance of school, value of learning) and affective (e.g., feelings of belonging and school connectedness, relationships with teachers and peers) engagement are assessed via student- or teacher-report. As previously described, these subtypes of engagement are frequently assessed together as they are both internal aspects of engagement, with students or teachers indicating how much they agree or disagree with various statements about a student's engagement. Student self-report is the most common and practical method of assessing these subtypes of engagement as students reflect on whether items describe themselves (Fredricks & McColskey, 2012). In addition, student's perceptions of their own engagement should be of significant interest to educators. As educators we may think we are providing our students with the best supports and interventions, but if students do not feel supported, then are we really doing our job (Chap. 2)? Will the intervention even be effective? Furthermore, some scholars argue that given the highly inferential nature of cognitive and affective engagement, it is necessary to use student self-report (Appleton et al., 2006). Although student self-report may be preferable for older students who are capable of reporting their thoughts and feelings, teacher-report may be most beneficial for younger students who may not accurately self-report (Fredricks & McColskey, 2012). However, a study by Skinner et al. (2009) found that teacher- and student-reports of engagement correlated for behavioral engagement, but less so for emotional (affective) engagement. Despite the necessity of understanding our students, their self-reported engagement is generally underutilized or not even assessed in many schools.

Given that engagement is a broad, unifying construct, a number of measures exist that tap different aspects of the construct, such as belonging (Goodenow, 1993), motivation (Pintrich & De Groot, 1990), student–teacher relationships (Pianta & Nimetz, 1991; Pianta & Stuhlman, 2004), climate (National Center on Safe Supportive Learning Environments, 2019), and identification (Voelkl, 1995, 2012), among others. Researchers have, for example, used survey items on boredom as an indicator of cognitive engagement (Reschly & Christenson, 2006) or focused on interrelated constructs such as students' interest or enjoyment in their classwork (Shernoff, Csikszentmihalyi, Shneider, & Shernoff, 2003). In the history of psychological and educational research, engagement is still a relatively new construct; the development and validation of instruments for engagement are also relatively recent. Below, we highlight a few different student-report surveys: the Student Engagement Measure (SEM) (Fredricks et al., 2003), the Motivation and Engagement Scale (MES; Martin, 2007), and the Engagement versus Disaffection with Learning-Student Report (EvsD) (Skinner et al., 2009), followed by an in-depth description of the SEI in the next section. See Fredricks et al., 2011 for a comprehensive review of measures.

Student Engagement Measure The SEM (Fredricks et al., 2003; Fredricks, Blumenfeld, Friedel, & Paris, 2005) is a student self-report paper-and-pencil rating scale that assesses behavioral, cognitive, and emotional aspects of engagement within the school setting. Fredricks et al. (2011) describe that the SEM was developed to be used for research on motivation and cognition. English and Spanish versions were developed and used with majority urban, low-income, Black and Hispanic 3rd through 5th grade students (Fredricks et al., 2005). Five items for behavioral engagement (e.g., attention, disciplinary incidents), six items for emotional engagement (e.g., interest in schoolwork, enjoyment), and eight items for cognitive engagement (e.g., self-regulation, value of learning) are rated on a 5-point Likert-type scale (1 = *never*, 5 = *all of the time*). Scale scores can be added and averaged for each engagement subtype. Adequate internal consistency, the 3-factor structure, and predictive validity have been supported in previous research (Fredricks et al., 2003; Fredricks et al., 2005). The rating scale is available in Fredricks et al. (2003, 2005) or can be obtained by contacting one of the developers, Dr. Fredricks.

Motivation and Engagement Scale The MES (Martin, 2007, 2009c) is an extensively researched rating scale with versions developed for elementary/middle school students, high school students, and college students. The underlying theoretical model developed by Martin (2007), the Motivation and Engagement Wheel, provides the basis for this rating scale. The MES assesses four factors of engagement with 11 subscales: adaptive cognition (self-belief, learning focus, and valuing school), impeding/maladaptive cognition (anxiety, failure avoidance, and uncertain control), adaptive behavior (persistence, planning, and study management), and maladaptive behavior (self-sabotage and disengagement). Each subscale contains four items. A 7-point Likert-type scale is used for the high school version (1 = *not at all true*, 7 = *strongly agree*) while a 5-point scale is used for the younger version.

Fredricks et al. (2011) summarize that the MES has been used for research on motivation and cognition, evaluation of interventions, diagnosis, monitoring at the student level, and monitoring teachers, schools, and/or districts. Various studies support the factor structure, construct and criterion validity, and reliability (internal consistency, test-retest) of the MES (Martin, 2007, 2009b). It is available for purchase for paper-and-pencil or online administrations (https://www.lifelongachievement.com/).

Engagement Versus Disaffection with Learning The EvsD (Skinner et al., 2009; Skinner, Wellborn, & Connell, 1990) was developed with both student- and teacher-report versions to assess behavioral and emotional engagement subtypes. The EvsD assesses components of a student motivational theory (Connell & Wellborn, 1991; Deci & Ryan, 1985) that emphasizes the ways in which contexts (e.g., teachers and classrooms) can support or thwart student self-perceptions (e.g., feelings of relatedness, competence, and autonomy), thus resulting in engagement or disengagement. Therefore, both engagement and disaffection (i.e., negative engagement) are assessed in the EvsD within the classroom setting with four subscales (Skinner et al., 2009): behavioral engagement is indicated by action initiation, effort, and persistence (with five items); behavioral disaffection includes passivity, withdrawal, and inattention (five items); emotional engagement is demonstrated through enthusiasm, interest, and enjoyment (six items); emotional disaffection includes boredom, disinterest, and frustration (nine items). The student-report scale uses a 4-point Likert-type scale (1 = *not at all true*, 4 = *very true*). With a sample of 3rd through 6th grade students in suburban rural schools, Skinner et al. (2009) used confirmatory factor analysis to support the 4-factor model, determined that the factors correlated in expected ways, and found fair internal consistency and test-retest reliability. This paper-and-pencil rating scale is available in the appendix of Skinner et al. (2009).

Student Engagement Instrument[1]

In a few places in this book, we described our work with Check & Connect and the realization that in order to successfully reengage students for school completion, we had to pay attention to more than the academic and behavioral standards of the school. Rather, successful school completion efforts required attention to what we later came to refer to as cognitive and affective engagement at school and with learning. Students' own perceptions are the most relevant means of gathering this information and thus, require self-report. With Check & Connect, we could easily

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[1]The paper-and-pencil versions of the Student Engagement Instrument are freely available for research and applied use with registration on the Check & Connect website at the University of Minnesota: http://checkandconnect.umn.edu/research/sei_register.html. Survey authors may receive royalties from a web-based application of the SEI.

access indicators of students' academic or behavioral engagement, which were useful for determining risk and monitoring students' levels of engagement, but we did not have a way to gather information about students' cognitive or affective engagement. Thus, we developed, refined, and later extended the SEI for this purpose. For these reasons, we describe the SEI as being based on the model of student engagement that grew out of Check & Connect (Chap. 1).

The SEI was developed following an extensive review of the literature for terms thought to be included in the engagement meta-construct (Fredricks et al., 2004), such as belonging, identification, and self-regulation (Appleton et al., 2006). Subsequently, items were written to represent these various dimensions of engagement. We piloted and revised items via focus groups with an ethnically diverse sample of 8th graders. The first study of the SEI employed a number of potential items ($n = 56$) that were completed on a 4-point Likert-type scale (1 = *strongly disagree*, 4 = *strongly agree*)[2] with a large, diverse group of 9th grade students in an urban school district in the Midwestern region of the United States. Exploratory and confirmatory factor analyses led to a 35-item survey that represented 6 factors, 3 each of cognitive and affective (psychological) engagement (Appleton et al., 2006; Table 3.1).

Studies have confirmed this factor structure of the SEI (Betts, Appleton, Reschly, Christenson, & Huebner, 2010; Reschly, Betts, & Appleton, 2014) and found (a) adequate internal consistency reliability (Appleton et al., 2006; Betts et al., 2010; Reschly et al., 2014); and (b) low-to-moderate significant correlations, in expected directions, with other indicators of school functioning and behavioral and academic engagement (Appleton et al., 2006; Reschly et al., 2014). A study by Betts et al. (2010) found evidence of measurement invariance across grades 6–12 and gender, indicating scores function similarly across grades and for boys and girls. There is also evidence of convergent and divergent validity with another measure of engagement and motivation (Reschly et al., 2014).

Several longitudinal, predictive studies provide what is probably the most compelling evidence for the importance of students' self-report of their engagement and

Table 3.1 Factors of the Student Engagement Instrument

Cognitive engagement	Affective engagement
Control and Relevance of Schoolwork (9 items)	Teacher-Student Relationships (9 items)
Future Goals and Aspirations (5 items)	Peer Support for Learning (6 items)
Intrinsic Motivation[a] (2 items)	Family Support for Learning (4 items)

Notes: Affective engagement was originally referred to as psychological engagement
[a]Intrinsic Motivation (Extrinsic Motivation) is frequently excluded from research with the SEI because of the small number of items in the scale, both of which are reverse-coded. In applied settings, various schools and districts often elect to keep these items in the survey

[2]Following the initial validation, subsequent studies often use a 5-point Likert-type scale, introducing a neutral midpoint (3 = *neither agree nor disagree*).

support the use of the SEI for this purpose. A common strategy in this type of research is to see whether the SEI (full score or scores on subscales, such as Future Goals and Aspirations) is predictive of outcomes such as high school graduation or college attendance after many other variables commonly associated with those outcomes are accounted for (e.g., socioeconomic status, achievement test scores, 8th grade math and language arts grades, attendance, disciplinary incidents). Studies have found that the SEI contributed unique variance in predicting "college ready" graduation from the 8th grade (Pearson, 2014) and high school dropout and on-time graduation from the 9th grade (Lovelace et al., 2017; Lovelace, Reschly, Appleton, & Lutz, 2014). Fraysier et al. (2019) extended predictions from SEI scores in 10th, 11th, and 12th grade cohorts relative to college enrollment and persistence through the first year. Together these studies indicate that students' self-reported cognitive and affective engagement is predictive of important academic outcomes across several years.

The SEI has also been examined in more practical ways, particularly with an eye for school-based applications. Lovelace et al. (2014) compared SEI scores among three groups of students: those with high and low achievement; between students identified with Emotional or Behavior Disorders (a higher risk disability group for dropping out) versus those with Speech and Language Impairment; and, among students exhibiting high behavioral disengagement in terms of absences and disciplinary infractions and those who were not behaviorally disengaged. Groups differed as expected (e.g., those with high behavioral disengagement reported lower cognitive and affective engagement than those who were not behaviorally disengaged).

Much of the work on reporting and practical application of the SEI has been conducted by Appleton and colleagues in the Gwinnett County Public Schools. Processes for data management, scoring, and reporting at the school- and district-levels are described in greater detail in Appleton, 2012 and Appleton and Silberglitt (2019). One example of the inclusion of cognitive and affective data in an EWS can be found in Fig. 3.2. We also consistently find that (a) SEI scores are significantly associated with attendance, behavior, and achievement for middle and high school students; (b) students' responses, on average, decline from fall to spring of each year; and (c) students in each subsequent grade report less engagement than those in lower grades (e.g., 10th graders are less engaged, on average, than 8th graders, who in turn are less engaged than 6th graders; Appleton & Reschly, 2019).

Extensions of the SEI

Given research that indicates student engagement is relevant for students from the first days of primary school through college, it follows that scholars and educators are interested in measuring student engagement across this span of schooling. As such, we have extended the SEI downward to elementary and upward to college.

Student Engagement Indicator	Historical Data		Formative Data		
Academic	*Last School Year*	*Last Semester*	*This Semester*	*Prior 5 Days*	*Recent 5 Days*
Assignment Completion Rate			▲	!	■
Assignment Success Rate			■	■	■
Class Grades (Count)	▲	▲	■	!	■
GPA	▲	▲	■	▲	■
Class Completing Rate			▲	▲	▲
Graduation Achievement Rate (GAR)[1]	■	■			
AKS Benchmark Assessments	■	▲			
GOM Benchmark Assessments (e.g., CBM, DIBELS Benchmarks)	■	▲	▲	!	■
Behavioral	*Last School Year*	*Last Semester*	*This Semester*	*Prior 5 Days*	*Recent 5 Days*
Class Attendance (Skips)	!	■	!	!	
School Punctuality (Tardies)	■	■	■	■	■
School Attendance (Absences)	■	■	■	■	■
Extracurricular Activity Participation	!	▲			
Semester Discipline Mark	!	▲	■	■	▲
Disciplinary Incidents Per Enrolled Day	!	▲	■	■	▲
Most Severe Disciplinary Disposition	▲	■	■	▲	▲
Typical Severity of Dispositions (Mean)	■	■	■	■	▲
Cognitive	*Trend*	*Last (Date)*			
SEI: Control and Relevance of School Work	▲	▲			
SEI: Future Aspirations and Goals	■	■			
SEI: Intrinsic Motivation	■	▲			
Affective	*Trend*	*Last (Date)*			
SEI: Family Support for Learning	▲	▲			
SEI: Peer Support for Learning	■	■			
SEI: Teacher Student Relationships	■	■			
SEI TOTAL: Student Cognitive & Affective Engagement	▲	▲			

Legend: ■ Low Risk ▲ Moderate Risk ! High Risk

Fig. 3.2 Inclusion of Cognitive and Affective Engagement in early warning system Example. (Appleton (2012). Reprinted with permission)

SEI-E and SEI-E2 The first downward extension of the SEI was intended for students in grades 3–5 (SEI-Elementary; SEI-E). A panel of engagement experts and the head of a district's school counseling department modified the original SEI items to ensure wording was developmentally appropriate for younger students (e.g., "Most of what is important to know you learn in school" was changed to "School is where I learn important things"; Carter, Reschly, Lovelace, Appleton, & Thompson, 2012). The SEI-E was piloted with a large, diverse sample of students in grades 3–5 and responses submitted to exploratory and confirmatory factor analyses. Instead of the expected 5-factor model (dropping the Intrinsic Motivation factor), 4-factors (24 items) better represented student responses for the SEI-E: Teacher–Student Relationships, Peer Support for Learning, Future Goals and Aspirations, and Family Support for Learning (Table 3.2). Some of the cognitive engagement items thought to represent students' perceptions of their control and relevance of their schoolwork did not function well with younger students; items cross-loaded with those about future goals and teacher–student relationships. We speculated that these items may be too abstract (e.g., conscientiousness, locus of control) for students of this age. Small and significant correlations were found between the SEI factors and other indicators of school functioning (e.g., attendance, behavior).

A similar process to the extension of the SEI to the SEI-E was followed for the downward extension of the SEI-E to grades 1 and 2 (SEI-Elementary 2; SEI-E2).

Table 3.2 Factor structure of the SEI-E and the SEI-E2

Cognitive engagement	Affective engagement
Future Goals and Aspirations (5 items)	Teacher–Student Relationships (9 items)
	Peer Support for Learning (6 items)
	Family Support for Learning (4 items)

Items were examined and language was modified, as needed, to ensure appropriateness for students of this age. The 24-item survey was piloted with a large, diverse group of students; responses were subjected to both exploratory and confirmatory factor analyses (Wright, Reschly, Hyson, & Appleton, 2019). Two response options were explored. For 1st grade students, a 3-point Likert-type scale option was used (1 = *no*, 2 = *maybe*, 3 = *yes)*. Half of the 2nd grade sample completed the SEI-E2 on this 3-point Likert-type scale, the other half completed it with the 5-point Likert-type scale (1 = *strongly disagree*, 5 = *strongly agree*). Recommendations from this pilot study were that the 3-point Likert-type scale functioned well for 1st graders; the 5-point Likert-type scale worked best for 2nd graders. Results indicated the same factor structure among the SEI-E and the SEI-E2 (Table 3.2). In addition, there were some small, significant correlations with measures of school functioning and engagement (e.g., attendance); results also indicated lower income students reported lower levels of cognitive and affective engagement as measured by the SEI-E2. In comparison to the SEI, less research has been conducted with the SEI-E and SEI-E2. Further research that examines measurement invariance of the SEI-E and SEI-E2, associations between stability of earlier and later student engagement, as well as longitudinal predictive validity of the measures is needed.

SEI-C Given the interest in and importance of the engagement construct at the college level, the SEI has also been adapted for use with college students (Student Engagement Instrument - College; SEI-C). Only minor changes in wording from the SEI were required (e.g., "teacher" to "professor"; Grier-Reed, Appleton, Rodriguez, Ganuza, & Reschly, 2012; Waldrop, Reschly, Fraysier, & Appleton, 2019). Research with the SEI-C has suggested both a 4-factor (Grier-Reed et al., 2012) and 5-factor model (Waldrop et al., 2019). Grier-Reed et al. removed the Control and Relevance of Schoolwork factor, similar to the SEI-E and the SEI-E2, whereas Waldrop et al. (2019) removed 6 items from the whole survey (for a total of 27) to maintain a good model fit with the 5-factors of the SEI. There is evidence of adequate to good internal consistency reliability for both models (Grier-Reed et al., 2012; Waldrop et al., 2019). In addition, Waldrop et al. (2019) found evidence of measurement invariance across online and paper-and-pencil surveys, suggesting that the SEI-C could be given either way. Waldrop et al. (2019) also found evidence of convergent and divergent validity with another measure of engagement and motivation for college students (MES-UC; Martin, 2009a). In addition, the SEI-C was associated with college GPA and career perceptions (Grier-Reed et al., 2012).

Summary Thus, there is evidence to suggest that four subscales (Teacher–Student Relationships, Peer Support for Learning, Future Goals and Aspirations, and Family

Support for Learning) and the total score on the SEI can be used to measure cognitive and affective engagement from 2nd grade through college. Our preliminary results indicated that for 1st grade students, the total score is more reliable than subscale scores. The Control and Relevance of Schoolwork subscale remains in the SEI for grades 6–12 and may also work with college-age students (Waldrop et al., 2019).

SEI-B One driver of interest in measuring student engagement is the link between measurement and intervention. Some indicators of student engagement, such as attendance, time on-task, homework completion, participation in class, may be used for both determination of risk and progress monitoring (e.g., homework completion rate may identify students at-risk for poor class performance and/or skill acquisition difficulties and be used to determine whether a selected intervention is working with a student or group of students). Because cognitive and affective engagement are internal, highly inferential, and typically measured via survey methodology, which may be more time-consuming given the number of items and designed to be given less frequently (e.g., once or twice per year), the question of sensitivity to change or use for progress monitoring assumes greater importance. For this purpose, we piloted a somewhat shorter version of the SEI (Student Engagement Instrument-Brief; SEI-B, 27 items) that aligned with the 5-factor model (27 items, excluding the Intrinsic Motivation items) with high school students. Results supported the factor structure of the reduced scale and provided evidence of longitudinal measurement invariance, which is necessary to interpret changes in engagement across time and provides support that changes in scores on the SEI-B represent changes in their engagement (Pinzone, Appleton, & Reschly, 2019).

Considerations and Promising Areas

Multiple considerations regarding the assessment of student engagement warrant discussion. As described throughout this volume, there are various interventions that target different subtypes of student engagement. Relatedly, educators should consider the importance of examining multiple subtypes of engagement. Studies indicate that subtypes of engagement are generally connected for students, but some may experience varied engagement levels based on subtype (Li & Lerner, 2011; Wang & Peck, 2013). For example, a student may demonstrate greater behavioral engagement than cognitive engagement. Understanding these differences through effective measurement should also facilitate the identification of interventions that may be most effective given a student's profile of engagement (Fredricks, Ye, Wang, & Brauer, 2019). That is, assessment indicating low affective engagement should result in the implementation of an intervention designed to improve affective engagement. Educators should also consider the comprehensiveness of interventions, as they may be more effective if they address engagement holistically rather

than single subtypes (Chap. 2). Altogether, interventions explored throughout this handbook should be aligned with assessments of engagement.

Similarly, some research describes engagement and disengagement as separate spectra rather than along one continuum (Reschly & Christenson, 2012). This idea is supported by research findings that students may demonstrate high engagement but also experience high levels of burnout (Salmela-Aro, Moeller, Schneider, Spicer, & Lavonen, 2016). Specifically, Salmela-Aro and colleagues identified four profiles in their person-centered analysis of high school students: engaged, engaged-exhausted, moderately/at-risk for burnout, and burned out. Although engagement and burnout were overall negatively correlated, as one might expect, students who were simultaneously engaged and burnt out were at a higher risk for mental health difficulties (e.g., depressive symptoms). This is a group which may not be identified as needing support by teachers as they may attain good grades, attend classes, etc. Assessing aspects of burnout or disaffection may help educators catch these students and provide them with much needed support. Educators should consider the potential utility of directly measuring both engagement and disengagement with their students. Although some measures of student engagement include aspects of disaffection (Skinner et al., 2009) or disengagement (Martin, 2007), more research and development of these types of measures is needed.

Another important consideration is determining the appropriateness of student engagement measures for different populations. As described within this chapter, some measures of student engagement lend themselves to certain age groups. This is particularly important given evidence of the developmental differences of engagement across grade levels, with engagement generally declining from elementary school to high school (Appleton & Reschly, 2019; Martin, 2009b; NRC, 2004). In addition, the required level of student engagement increases over time (e.g., more homework, more opportunities to participate in extracurricular activities). Thus, certain subtypes of engagement may be more or less important given a student's age. This was also demonstrated in the finding that aspects of cognitive engagement on the SEI did not function well with younger students as compared to older students (Carter et al., 2012); therefore, these higher-level or more complex aspects of engagement may be more important to assess with students in middle and high school compared to elementary students.

Various measures of student engagement also lend themselves to the individual, class, or school level. That is, educators must consider whether they are interested in assessing the engagement of a particular student (e.g., as part of an individual evaluation for special education) versus screening throughout a school. Some types of assessment are better for a given purpose; for example, direct observations are more time intensive and may be best used to evaluate individuals or classrooms rather than at the school level. School-wide affective/cognitive engagement is easier to capture through teacher-report or student self-report and would be more efficient for screening purposes, in addition to data already collected by schools on grades, behavior, and attendance such as through EWS.

Regarding screening, assessing student engagement holds implications for universal screening as a part of Multi-Tiered System of Support/Positive Behavioral

Interventions and Supports (MTSS/PBIS) schools and schools that use EWS. Although many schools already measure behavioral and academic student engagement variables, adding measures of cognitive and affective engagement to these systems may be beneficial. Some researchers argue that cognitive and affective engagement may precede academic and behavioral engagement (Reschly & Christenson, 2006, 2012), indicating that assessing and intervening with these internal aspects of engagement may be particularly important. In addition, longitudinal studies of student engagement suggest the importance of measuring student engagement at multiple time points; while many students experience fairly stable levels of student engagement over time, many experience variable levels of engagement across schooling (Janosz, Archambault, Morizot, & Pagani, 2008; O'Donnell, Lovelace, Reschly, & Appleton, 2019). These variable trajectories of engagement indicate that different students may benefit from intervention at different points in time and encourage regular screening (e.g., once to twice per year).

Conclusion

We hope that through this chapter, you have learned about the importance of measuring student engagement and the variety of ways indicators of academic, behavioral, and cognitive/affective engagement can be assessed. Although we highlight examples of specific observation schedules and rating scales, we encourage you to consider which types of assessments best fit the needs of your setting. As we described, most schools already collect some data on student engagement; it is just a matter of how these data are conceptualized and utilized in efforts to identify at-risk students in need of intervention. In the following chapters of this handbook, you will explore many different interventions that aim to improve students' engagement with school. Along with selecting and implementing interventions, consider their use in conjunction with assessment, whether to screen, monitor progress, and/or evaluate classrooms and schools.

References

Alberto, P. A., & Troutman, A. C. (2012). *Applied behavior analysis for teachers* (9th ed.). Boston: Pearson.

Appleton, J., Christenson, S. L., Kim, D., & Reschly, A. (2006). Measuring cognitive and psychological engagement: Validation of the Student Engagement Instrument. *Journal of School Psychology, 44*, 427–445. https://doi.org/10.1016/j.jsp.2006.04.002

Appleton, J. J. (2012). Systems consultation: Developing the assessment-to-intervention link with the Student Engagement Instrument. In S. L. Christenson, A. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement*. Boston: Springer.

Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools, 45*, 369–386. https://doi.org/10.1002/pits.20303

Appleton, J. J., & Lawrenz, F. (2011). Student and teacher perspectives across mathematics and science classrooms: The importance of engaging contexts. *School Science and Mathematics, 111*, 143–155. https://doi.org/10.1111/j.1949-8594.2011.00072.x

Appleton, J. J., & Reschly, A. L. (2019). *Using the Student Engagement Instrument: Measurement and reporting in schools.* Manusript in preparation.

Appleton, J. J., & Silberglitt, B. (2019). Student Engagement Instrument as a tool to support the link between assessment and intervention: A comparison of implementations in two districts. In J. Fredricks, A. Reschly, & S. L. Christenson (Eds.), *Handbook of student engagement interventions* (pp. 325–343). London: Elsevier.

Ardoin, S. P., & Sayeski, K. L. (2019). Assessing and promoting the choice of academic engaged time during reading instruction. In J. Fredricks, A. Reschly, & S. L. Christenson (Eds.), *Handbook of student engagement interventions* (pp. 135–150). London: Elsevier.

Attendance Works. (2013). *The attendance imperative: How states can advance achievement by reducing chronic absence.* Retrieved from www.attendanceworks.org/wordpress/wp-content/uploads/2013/09/AAM-Policy-Brief-Final-9.16.pdf

Balfanz, R., & Byrnes, V. (2019). Early warning indicators and intervention systems: State of the field. In J. Fredricks, A. Reschly, & S. Christenson (Eds.), *Handbook of student engagement interventions*. London: Elsevier.

Betts, J., Appleton, J. J., Reschly, A. L., Christenson, S. L., & Huebner, E. S. (2010). A study of the factorial invariance of the Student Engagement Instrument (SEI): Results from middle and high school students. *School Psychology Quarterly, 25*, 84–93. https://doi.org/10.1037/a0020259

Briesch, A. M., Chafouleas, S. M., & Riley-Tillman, T. C. (2016). *Direct Behavior Rating: Linking assessment, communication, and intervention*. New York: Guilford.

Carter, C., Reschly, A. L., Lovelace, M. D., Appleton, J. J., & Thompson, D. (2012). Measuring student engagement among elementary students: Pilot of the Elementary Student Engagement Instrument. *School Psychology Quarterly, 27*, 61–73. https://doi.org/10.1037/a0029229

Christenson, S. L., Reschly, A. L., Appleton, J. J., Berman, S., Spanjers, D., & Varro, P. (2008). Best practices in fostering student engagement. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology* (5th ed.). Bethesda, MD: National Association of School Psychologists.

Christenson, S. L., Reschly, A. L., & Wylie, C. (2012). *Handbook of research on student engagement*. New York: Springer.

Christenson, S. L., & Ysseldyke, J. E. (1989). Assessing student performance: An important change is needed. *Journal of School Psychology, 27*, 409–425. https://doi.org/10.1016/0022-4405(89)90017-4

Connell, J. P., & Wellborn, J. G. (1991). Competence, autonomy, and relatedness: A motivational analysis of self-system processes. In M. R. Gunnar & L. A. Sroufe (Eds.), *The Minnesota symposia on child psychology, Vol. 23. Self processes and development* (pp. 43–77). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cooper, H., Robinson, J. C., & Patall, E. A. (2006). Does homework improve academic achievement? A synthesis of research, 1987-2003. *Review of Educational Research, 76*, 1–62. https://doi.org/10.3102/00346543076001001

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.

Feldman, A. F., & Matjasko, J. L. (2005). The role of school-based extracurricular activities in adolescent development: A comprehensive review and future directions. *Review of Educational Research, 75*, 159–210. https://doi.org/10.3102/00346543075002159

Finn, J. D. (2006). *The adult lives of at-risk students: The roles of attainment and engagement in high school.* (NCES 2006–328). U.S. Department of Education,. Washington, DC: National Center for Education Statistics.

Finn, J. D., & Rock, D. A. (1997). Academic success among students at-risk for school failure. *Journal of Applied Psychology, 82*, 221–234. https://doi.org/10.1037/0021-9010.82.2.221

Finn, J. D., & Zimmer, K. S. (2012). Student engagement: What is it? Why does it matter? In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 97–131). New York: Springer. https://doi.org/10.1007/978-1-4614-2018-7_5

Fraysier, K., Reschly, A. L., & Appleton, J. J. (2019). *Predicting postsecondary enrollment and persistence with secondary student engagement data.* Manuscript submitted for publication.

Fredricks, J., McColskey, W., Meli, J., Mordica, J., Montrosse, B., and Mooney, K. (2011). *Measuring student engagement in upper elementary through high school: a description of 21 instruments.* (Issues & Answers Report, REL 2011–No. 098). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs.

Fredricks, J., Rescly, A. L., & Christenson, S. L. (Eds.). (2019). *Handbook of student engagement interventions: Working with disengaged youth.* London: Elsevier.

Fredricks, J. A. (2012). Extracurricular participation and academic outcomes: Testing the over-scheduling hypothesis. *Journal of Youth and Adolescence, 41*(3), 295–306. https://doi.org/10.1007/s10964-011-9704-0

Fredricks, J. A., Blumenfeld, P. C., Friedel, J., & Paris, A. (2003, March 12–13). *School engagement.* Paper presented at the Indicators of Positive Development Conference: Child Trends, Washington, DC

Fredricks, J. A., Blumenfeld, P. C., Friedel, J., & Paris, A. (2005). School engagement. In K. A. Moore & L. Lippman (Eds.), *What do children need to flourish?: Conceptualizing and measuring indicators of positive development.* New York: Kluwer Academic/Plenum Press.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*, 59–109. https://doi.org/10.3102/00346543074001059

Fredricks, J. A., & McColskey, W. (2012). The measurement of student engagement: A comparative analysis of various methods and student self-report instruments. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 763–782). New York: Springer.

Fredricks, J. A., Ye, F., Wang, M.-T., & Brauer, S. (2019). Profiles of school disengagement: Not all disengaged students are alike. In J. Fredricks, A. Reschly, & S. Christenson (Eds.), *Handbook of student engagement interventions* (pp. 31–44). Elsevier: London.

Gettinger, M., & Ball, C. (2008). Best practices in increasing academic engaged time. In A. Thomas & J. Grimes (Eds.), *Best Practices in School Psychology, V* (pp. 1043–1057). Bethesda, MD: National Association of School Psychologists.

Gettinger, M., & Walter, M. J. (2012). Classroom strategies to enhance academic engaged time. In S. L. Christenson et al. (Eds.), *Handbook of research on student engagement* (pp. 653–673). New York: Springer.

Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools, 30*(1), 79–90. https://doi.org/10.1002/1520-6807(199301)30:1<79::AID-PITS2310300113>3.0.CO;2-X

Grier-Reed, T., Appleton, J. J., Rodriguez, M., Ganuza, Z., & Reschly, A. L. (2012). Exploring the Student Engagement Instrument and career perceptions in college students. *Journal of Educational and Developmental Psychology, 2*, 85–96. https://doi.org/10.5539/jedp.v2n2p85

Hintze, J. M., Volpe, R. J., & Shapiro, E. S. (2002). Best practices in the systematic direct observation of student behavior. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology IV* (pp. 993–1006). Washington, DC: National Association of School Psychologists.

Irvin, L. K., Tobin, T. J., Sprague, J. R., Sugai, G., & Vincent, C. G. (2004). Validity of office discipline referral measures as indices of school-wide behavioral status and effects of school-wide behavioral interventions. *Journal of Positive Behavior Interventions, 6*, 131–147. https://doi.org/10.1177/10983007040060030201

Janosz, M., Archambault, I., Morizot, J., & Pagani, L. (2008). School engagement trajectories and their differential predictive relations to dropout. *Journal of Social Issues, 64*, 21–40. https://doi.org/10.1111/j.1540-4560.2008.00546.x

Kuncel, N. R., Credé, M., & Thomas, L. L. (2005). The validity of self-reported grade point averages, class ranks, and test scores: A meta-analysis and review of the literature. *Review of Educational Research, 75*, 63–82. https://doi.org/10.3102/00346543075001063

Lawson, M. A., & Masyn, K. E. (2015). Analyzing profiles, predictors, and consequences of student engagement dispositions. *Journal of School Psychology, 53*, 63–86. https://doi.org/10.1016/j.jsp.2014.11.004

Li, Y., & Lerner, R. M. (2011). Trajectories of school engagement during adolescence: Implications for grades, depression, delinquency, and substance use. *Developmental Psychology, 47*, 233–247. https://doi.org/10.1037/a0021307

Lovelace, M. D., Reschly, A. L., & Appleton, J. J. (2017). Beyond school records: The value of cognitive and affective engagement in predicting dropout and on-time graduation. *Professional School Counseling, 21*, 70–84. https://doi.org/10.5330/1096-2409-21.1.70

Lovelace, M. D., Reschly, A. L., Appleton, J. J., & Lutz, M. E. (2014). Concurrent and predictive validity of the Student Engagement Instrument. *Journal of Psychoeducational Assessment, 32*, 509–520. https://doi.org/10.1177/0734282914527548

Martin, A. J. (2007). Examining a multidimensional model of student motivation and engagement using a construct validation approach. *British Journal of Educational Psychology, 77*, 413–440. https://doi.org/10.1348/000709906x118036

Martin, A. J. (2009a). *Motivation and Engagement Scale – University/College (MES-UC): Test user manual*. Sydney, NSW: Lifelong Achievement.

Martin, A. J. (2009b). Motivation and engagement across the academic life span: A developmental construct validity study of elementary school, high school, and university/college students. *Educational and Psychological Measurement, 69*(5), 794–824. https://doi.org/10.1177/0013164409332214

Martin, A. J. (2009c). *The Motivation and Engagement Scale*. Sydney, NSW: Lifelong Achievement Group. Retrieved 3 July 2019 from http://www.lifelongachievement.com

Martinez, A., Coker, C., McMahon, S. D., Cohen, J., & Thapa, A. (2016). Involvement in extracurricular activities: Identifying differences in perceptions of school climate. *The Educational and Developmental Psychologist, 33*, 70–84. https://doi.org/10.1017/edp.2016.7

McIntosh, K., Frank, J. L., & Spaulding, S. A. (2010). Establishing research-based trajectories of office discipline referrals for individual students. *School Psychology Review, 39*, 380–394. Retrieved from http://search.ebscohost.com.proxy-remote.galib.uga.edu/login.aspx?direct=true&db=edsbl&AN=RN280997041&site=eds-live

National Association of School Psychologists. (2009). *School psychologists' involvement in assessment (Position Statement)*. Bethesda, MD: Author.

National Center on Safe Supportive Learning Environments. (2019). *School climate survey compendium*. Washington, DC: American Institutes for Research. https://safesupportivelearning.ed.gov/topic-research/school-climate-measurement/school-climate-survey-compendium.

National Research Council & the Institute of Medicine. (2004). *Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: National Academies Press.

O'Donnell, K. C., Lovelace, M. D., Reschly, A. L., & Appleton, J. J. (2019). *Longitudinal trajectories of student engagement: Predicting high school graduation and college attendance*. Manuscript under review.

Pearson. (2014). *Middle school indicators of college readiness*. Austin, TX: Center for College & Career Success, Pearson.

Pianta, R. C., & Nimetz, S. L. (1991). Relationships between children and teachers: Associations with classroom and home behavior. *Journal of Applied Developmental Psychology, 12*(3), 379–393. https://doi.org/10.1016/0193-3973(91)90007-Q

Pianta, R. C., & Stuhlman, M. W. (2004). Teacher-child relationships and children's success in the first years of school. *School Psychology Review, 33*, 444–458. https://doi.org/10.4135/9781412952491.n297

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*, 33–40. https://doi.org/10.1037/0022-0663.82.1.33

Pinzone, C. A., Appleton, J. J., & Reschly, A. L. (2019) *Longitudinal measurement invariance analyses of the Student Engagement Instrument –Brief Version*. Manuscript submitted for publication.

Reschly, A. L., Appleton, J. J., & Pohl, A. (2014). Best practices in fostering student engagement. In A. Thomas & P. Harrison (Eds.), *Best practices in school psychology: Student level services* (6th ed., pp. 37–50). Bethesda, MD: National Association of School Psychologists.

Reschly, A. L., Betts, J., & Appleton, J. J. (2014). An examination of the validity of two measures of student engagement. *International Journal of School and Educational Psychology, 2*, 106–114. https://doi.org/10.1080/21683603.2013.876950

Reschly, A. L., & Christenson, S. L. (2006). Prediction of dropout among students with mild disabilities: A case for the inclusion of student engagement variables. *Remedial and Special Education, 27*, 276–292. https://doi.org/10.1177/07419325060270050301

Reschly, A. L., & Christenson, S. L. (2012). Jingle, jangle, and conceptual haziness: Evolution and future directions of the engagement construct. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 3–19). Boston: Springer. https://doi.org/10.1007/978-1-4614-2018-7_1

Reschly, A. L., Pohl, A., Christenson, S. L., & Appleton, J. J. (2017). Engaging adolescents in secondary schools. In B. Schultz, J. Harrison, & S. Evans (Eds.), *School mental health services for adolescents* (pp. 45–77). New York: Oxford University Press.

Salmela-Aro, K., Moeller, J., Schneider, B., Spicer, J., & Lavonen, J. (2016). Integrating the light and dark sides of student engagement using person-oriented and situation-specific approaches. *Learning and Instruction, 43*, 61–70. https://doi.org/10.1016/j.learninstruc.2016.01.001

Shapiro, E. S. (1996). *Academic skills problems workbook*. New York: Guilford.

Shernoff, D. J., Csikszentmihalyi, M., Shneider, B., & Shernoff, E. S. (2003). Student engagement in high school classrooms from the perspective of flow theory. *School Psychology Quarterly, 18*(2), 158–176. https://doi.org/10.1521/scpq.18.2.158.21860

Skinner, E. A., Kindermann, T. A., & Furrer, C. J. (2009). A motivational perspective on engagement and disaffection: Conceptualization and assessment of children's behavioral and emotional participation in academic activities in the classroom. *Educational and Psychological Measurement, 69*, 493–525. https://doi.org/10.1177/0013164408323233

Skinner, E. A., Wellborn, J. G., & Connell, J. P. (1990). What it takes to do well in school and whether I've got it: The role of perceived control in children's engagement and school achievement. *Journal of Educational Psychology, 82*, 22–32. https://doi.org/10.1037/0022-0663.82.1.22

Sugai, G., Sprague, J. R., Horner, R. H., & Walker, H. M. (2000). Preventing school violence: The use of office discipline referrals to assess and monitor school-wide discipline interventions. *Journal of Emotional and Behavioral Disorders, 8*(2), 94–101. https://doi.org/10.1177/106342660000800205

Suldo, S. M., Parker, J. S., Shaunessy-Dedrick, E., & O'Brennan, L. M. (2019). Mental health interventions. In J. Fredricks, A. Reschly, & S. Christenson (Eds.), *Handbook of student engagement interventions* (pp. 199–216). Elsevier: London.

U.S. Department of Education, Office for Civil Rights. (2016). *2013–2014 civil rights data collection: A first look*. Washington, DC: U.S. Department of Education, Office for Civil Rights.

Voelkl, K. E. (1995). School warmth, student participation, and achievement. *Journal of Experimental Education, 63*, 127–138. https://doi.org/10.1080/00220973.1995.9943817

Voelkl, K. E. (2012). School identification. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 193–218). New York: Springer.

Volpe, R. J., DiPerna, J. C., Hintze, J. M., & Shapiro, E. S. (2005). Observing students in classroom settings: A review of seven coding schemes. *School Psychology Review, 34*, 454–474. Retrieved from https://scholarworks.umass.edu/education_faculty_pubs/197

Waldrop, D., Reschly, A. L., Fraysier, K., & Appleton, J. J. (2019). Measuring the engagement of college students: Administration format, structure, and validity of the Student Engagement Instrument-College. *Measurement and Evaluation in Counseling and Development, 52*, 90–107. https://doi.org/10.1080/07481756.2018.1497429

Wang, M. T., & Peck, S. (2013). Adolescent educational success and mental health vary across school engagement profiles. *Developmental Psychology, 49*(7), 1266–1276. https://doi.org/10.1037/a0030028

Wright, A., Reschly, A.L., Hyson, D., & Appleton, J. J. (2019). *Measuring student engagement in early elementary school*. Manuscript submitted for publication.

Ysseldyke, J., Burns, M., Dawson, P., Kelley, B., Morrison, D., Ortiz, S., … Telzrow, C. (2006). *School psychology: A blueprint for training and practice III*. Bethesda, MD: National Association of School Psychologists.

Zakszeski, B. N., Hojnoski, R. L., & Wood, B. K. (2017). Considerations for time sampling interval durations in the measurement of young children's classroom engagement. *Topics in Early Childhood Special Education, 37*, 42–53. https://doi.org/10.1177/0271121416659054

Chapter 4
Treatment Fidelity in School-Based Intervention

Lisa M. Hagermoser Sanetti and Hao-Jan Luh

Treatment Fidelity Defined

Treatment fidelity is generally defined as the degree to which an intervention is implemented as planned (Sanetti & Collier-Meek, 2015). It is also referred to as treatment integrity, intervention integrity, or procedural fidelity. As an umbrella term, treatment fidelity includes multiple dimensions (Sanetti & Kratochwill, 2009). Among these dimensions, three are widely agreed upon and have differentially predicted intervention outcomes: (a) *adherence*, what intervention components or steps were implemented; (b) *quality*, how well the intervention was delivered; and (c) *exposure*, how frequently or for how long the intervention was delivered (Sanetti & Kratochwill, 2009). All three dimensions are important, but adherence is often considered foundational, as quality and exposure are irrelevant if the intervention components or steps are not being implemented. Consider a classroom in which the teacher implements the Good Behavior Game (see Chap. 9). If the teacher implemented all components of the Good Behavior Game well, but only did so 2 days per week and interacted with students in a sarcastic manner, she may demonstrate adequate adherence, but inadequate quality and exposure. If the teacher implemented all of the components of the Good Behavior Game well, but only implemented them two times per week, she may demonstrate adequate adherence and quality, but inadequate exposure. If the teacher implemented all of the components of the Good Behavior Game daily, for the prescribed duration, but interacted with students in a sarcastic manner, she may demonstrate adequate adherence and exposure, but inadequate quality. If the teacher implemented most components of the Good Behavior Game well daily, but rarely delivered daily rewards, she may demonstrate inadequate adherence, but adequate exposure and quality.

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Each pattern of fidelity may indicate a need for different types of fidelity promotion supports and may result in different student outcomes. For example, it is possible that adequate adherence and quality but inadequate exposure may result in slower rates of student behavior change. Alternatively, adequate adherence and exposure but inadequate quality or inadequate adherence related to core components (e.g., daily rewards in Good Behavior Game) may result in declining student engagement with the intervention and low rates of student behavior change.

The assessment, evaluation, and promotion of treatment fidelity are the bridge between having an intervention plan and meeting the goal of improving student outcomes through intervention delivery. This chapter provides a brief overview of (a) the importance of treatment fidelity, (b) the current state of treatment fidelity in the field, (c) treatment fidelity assessment and evaluation, and (d) treatment fidelity promotion. Using this information to attend to treatment fidelity will greatly improve the likelihood of increasing students' academic, behavioral, affective, or cognitive engagement through the interventions described in subsequent chapters.

The Importance of Treatment Fidelity

Although the different patterns of fidelity may result in different student outcomes, overall, when implemented with inadequate treatment fidelity, interventions are likely to be less efficient or effective in producing positive student outcomes (Sanetti, Fallon, & Collier-Meek, 2013). As such, to make defensible decisions about intervention effectiveness, both student outcome and treatment fidelity data must be considered (Sanetti & Kratochwill, 2009). When only student outcome data are considered in decision-making, one of two data profiles will emerge: (a) student is on track to meet their goal or (b) student is not on track to meet their goal. Typically, the latter results in an assumption that the intervention is not effective or sufficient and a different, often more intensive, intervention being recommended. This is troubling because without treatment fidelity data, it is impossible to know if the student is not making progress because the intervention was (a) implemented adequately, but was not effective for the student or (b) not implemented adequately and the implementer requires additional support for the student to receive the intervention. Even when outcome data indicate a student is making progress, without treatment fidelity data, it is impossible to know if the intervention (a) is being implemented as planned or (b) is not being implemented fully and might be more efficient or effective if additional components or steps were implemented.

The importance of treatment fidelity data to making defensible decisions about intervention effectiveness has received more attention as more states and school districts have adopted Multi-tiered Systems of Support (MTSS; Zirkel & Thomas, 2010). To meet all learners' needs, this problem-solving approach incorporates universal screening of every student, tiers of evidence-based interventions, progress monitoring, and data-based decision-making (Freeman, Miller, & Newcomer, 2015). At the crux of MTSS is the notion that evidence-based interventions,

implemented as planned, are implemented at each tier and student response is monitored to identify whether students need more or less intensive intervention across time. As noted by Noell and Gansle (2006), even if all the aspects of an MTSS model are "… of the highest quality, it is still possible for the entire system to be a hollow shell producing meaningless outcomes. All that would be required is for the intervention not to be implemented" (p. 34).

Current Status of Treatment Fidelity in the Field

This statement is of considerable concern given the current state of treatment fidelity in the field. For example, in a recent survey of school psychologists, 100% of respondents indicated that it is important to include information on treatment fidelity, 98% agreed treatment fidelity is key to intervention evaluation, and 98% agreed it is important to provide treatment fidelity data when determining eligibility for special education (Cochrane, Sanetti, & Minster, 2019). Despite this widespread acceptance of treatment fidelity as essential to intervention evaluation, only 14% of school psychologists indicated that their MTSS problem-solving teams assess treatment fidelity "most of the time" and only 35% of school psychologists indicated that they assess treatment fidelity "most of the time" in their one-to-one consultation (Cochrane et al., 2019). This is concerning given that data consistently indicate educators struggle to implement interventions of all types (e.g., academic, Fuchs & Fuchs, 2017; behavioral, Codding, Livanis, Pace, & Vaca, 2008) and scopes (e.g., individual student, Sanetti, Collier-Meek, Long, Byron, & Kratochwill, 2015; classwide, Codding et al., 2008; schoolwide, Fuchs & Fuchs, 2017).

Together, these data suggest a considerable gap between our beliefs and knowledge about treatment fidelity and our practices. That is, interventions are adopted and we know treatment fidelity is important to their evaluation. Yet, regularly, student outcome data are collected and treatment fidelity data are not. Interventions are *presumed* to be implemented well, even though we know they are often not. The result of this presumption, of ignoring what we know to be true about implementation, is that we (a) are unable to identify implementers with inadequate treatment fidelity and provide promotion strategies and (b) assume that the lack of student progress is an indication that more intensive intervention is needed. It is time to bridge this implementation gap.

Treatment Fidelity Assessment and Evaluation

Most educators are accustomed to collecting student outcome data. However, as noted above, to make defensible decisions about intervention effectiveness, one has to also select one or more treatment fidelity assessment methods, develop and execute an assessment plan, and evaluate the data using a problem-solving approach.

Treatment Fidelity Assessment Methods There are three primary methods by which treatment fidelity is currently assessed: direct observation, permanent product review, and self-report (Sheridan, Swanger-Gagne, Welch, Kwon, & Garbacz, 2009). When *direct observation* is used to assess treatment fidelity, intervention implementation is observed and implementation of discrete intervention components is rated during or at the end of the observation session (see Fig. 4.1 for sample Good Behavior Game observation form). Across time, direct observation data can provide both session-level data (i.e., what percentage of intervention steps were implemented during a specific session—86% of Good Behavior Game steps were implemented as planned on Tuesday) and component-level data (i.e., over time, what percentage of sessions has each intervention component been implemented—over the past 2 weeks, reinforcement was provided on 50% of days). Direct observation can provide data on adherence, quality, and exposure. Although direct observation is typically highly recommended because it is the most direct method, it can be time and resource intensive (Sanetti & Collier-Meek, 2014, 2019). Additionally, it is likely not feasible to observe every step of intervention delivery if an intervention is implemented throughout a day (Sanetti & Collier-Meek, 2014, 2019).

Permanent product review can also be used to assess treatment fidelity when an intervention naturally generates implementation-related data such as self-monitoring charts (see Fig. 4.2 for sample Good Behavior Game permanent product review form). Educators can review these products to evaluate how many intervention steps were implemented. Compared with direct observation, this method is less obtrusive, more efficient, and includes data from each instance of implementation. That said, permanent product review is not applicable for all interventions, and even when applicable may not provide data on all intervention steps or components (Sanetti & Collier-Meek, 2019; Sheridan et al., 2009). Permanent product review can provide estimates of adherence and exposure, but often does not provide data on quality (Fig. 4.2).

Self-report can also be used to estimate treatment fidelity. For this method, the implementers use checklists or other rating forms to self-assess their fidelity to intervention steps or components (see Fig. 4.3 for sample self-report of Good Behavior Game fidelity). Self-report is time and resource efficient and can be used across numerous types of interventions. Implementers may also use the reports as a reminder to maintain treatment fidelity. Despite these benefits, however, data consistently indicate educators overestimate their fidelity. That said, emerging data suggest that characteristics of the self-report system can improve the accuracy of self-report. Specifically, data suggest that (a) providing training about how to complete the self-report form, (b) asking individuals to rate their fidelity for the current day as opposed to the past week or month, (c) having individuals rate discrete intervention steps or components as opposed to global questions about implementation, and (d) allowing individuals to indicate if they deviated from the intervention plan and why can increase self-report accuracy (Fallon, Sanetti, Chafouleas, Faggella-Luby, & Briesch, 2018; Sanetti & Kratochwill, 2011).

Rater: _____ Implementer: _____

Class: _____ Date: _____

Intervention Step*	Adherence			Quality		
	Implemented as Planned	Implemented w/ Deviation	Not Implemented	Good	Fair	Poor
State to the class that the GBG is beginning.	3	2	1		2	
Review the target behaviors with the class	3	2	1		2	
State the goal required for reinforcement.	3	2	1		2	
State the reinforcer available to winning teams.	3	2	1		2	
Make tally marks contingent upon inappropriate behavior	3 (within 10% of teacher)	2 (greater than 10% difference from teacher)	1 (teacher provided no tallies)	3	2	1
State group scores at the end of the game and announce the winner.	3	2	1		2	
Provide or withhold reinforcement to teams as necessary.	3	2	1		2	
Sum of each column:						
Overall sum	Adherence:			Quality:		

Tallies: [ ]

*GBG steps from Gresham, Dart, & Collins (2017)

Fig. 4.1 Sample direct observation form for Good Behavior Game

Rater: _____   Implementer: _____

Class: _____   Week of: _____

Intervention Step*	Permanent Product	M	Tu	W	Th	F
State the reinforcer available to winning teams.	Teacher written note of reinforcer available to winning team for the GBG session on GBG record sheet.	Y N	Y N	Y N	Y N	Y N
Make tally marks contingent upon inappropriate behavior.	Tally marks on GBG record sheet.	Y N	Y N	Y N	Y N	Y N
State group scores at the end of the game and announce the winner	Group scores and winner noted on GBG record sheet.	Y N	Y N	Y N	Y N	Y N
Total # of "Y"s						
Total # of intervention steps observed or applicable						
Percentage ("Total # Ys" / "Total # Intervention Steps") x 100=						

*GBG steps from Gresham, Dart, & Collins (2017)

Fig. 4.2 Sample permanent product review form for Good Behavior Game

Name: _____   **Class**: _____   **Date**: _____

Intervention Step*	Rating	
Stated to the class that the GBG is beginning.	Yes	No
Reviewed the target behaviors with the class	Yes	No
Stated the goal required for reinforcement.	Yes	No
Stated the reinforcer available to winning teams.	Yes	No
Made tally marks contingent upon inappropriate behavior	Yes	No
Stated group scores at the end of the game and announce the winner.	Yes	No
Provided or withheld reinforcement to teams as necessary.	Yes	No
Number of "Yeses"		
Percentage: ("Number of "Yeses" /7) x 100		

*GBG steps from Gresham, Dart, & Collins (2017)

Fig. 4.3 Sample teacher self-report for Good Behavior Game

Developing an Assessment Plan   There are many psychometrically sound, efficient measures available for monitoring students' progress across a range of outcomes (e.g., academic, behavior, social-emotional). In contrast, some intervention programs provide treatment fidelity measures (e.g., checklists that can be used for direct observation or self-report), but most do not. As such, in addition to choosing an appropriate measure of student outcomes, you will need to develop one or more methods for assessing treatment fidelity on your own, based on the options above. The treatment fidelity assessment methods chosen should be based on (a) the pros and cons of each method; (b) available resources (e.g., Do you have time to complete observations? Can you use technology to collect self-report data from implementers so you do not have to enter the data?); (c) dimensions of fidelity (e.g., if you are interested in quality, you may have to conduct observations; Fig. 4.1); (d) the type, intensity, and scope of intervention (e.g., Tier 1 vs. Tier 3 intervention; Sanetti & Collier-Meek, 2014). More specifically, when evaluating an intensive intervention or in situations in which high-stakes decisions are going to be made based on intervention effectiveness (e.g., student eligibility for special education), it is recommended that you utilize multiple assessment methods, collect data on multiple dimensions, and include direct observation on multiple occasions (Sanetti & Collier-Meek, 2019). In contrast, when evaluating a school-level intervention (e.g., school-wide positive behavior interventions and supports), a combination of self-report (e.g., student and staff report of behavior expectations and recognition system), sampled direct observation (e.g., observations across school settings), and permanent product review (e.g., behavior expectations posted), a few times per year may suffice to inform booster trainings. Finally, you will need to determine what will be considered "adequate" treatment fidelity. In research, 80% or higher adherence is typically considered adequate, but this is not an empirically derived cut score (Noell et al., 2005) and there are data to suggest that positive outcomes can be obtained with as little as 60% adherence (Durlack & DuPre, 2008). A rule of thumb is to consider student outcomes first—if the student is not

making progress, and there is room for improvement in treatment fidelity, support the implementer by providing implementation support strategies prior to increasing the intensity of the student's intervention.

Evaluating Data Using a Problem-Solving Approach Based on formative (i.e., ongoing) student outcome and treatment fidelity data, you can now make decisions regarding the implementation of and students' response to intervention. Student outcome data and treatment fidelity data can be integrated to result in four data profiles (see Sanetti & Collier-Meek, 2019). The first profile includes adequate treatment fidelity and expected student outcomes. Based on these results, you can continue implementing the intervention and keep tracking student outcomes as well as treatment fidelity. The second profile includes inadequate treatment fidelity and expected student outcomes. In this situation, other factors might have contributed to this result (e.g., home- or community-based intervention) or the core intervention components are being implemented sufficiently to result in student progress. Despite positive student progress, the low fidelity suggests that fidelity promotion supports may further increase intervention efficiency or effectiveness. The third profile includes adequate treatment fidelity and poor student outcomes. When this occurs, you might need to consider changing or intensifying the intervention. The fourth profile includes low treatment fidelity and poor student outcomes. In this situation, try to increase treatment fidelity using fidelity promotion supports before changing the intervention.

Treatment Fidelity Promotion

With the growing recognition of the importance of treatment fidelity and the consistent data indicating educators need ongoing support to implement interventions adequately, a wide range of treatment fidelity promotion supports have been developed and evaluated (Sanetti & Collier-Meek, 2015). These supports vary with regard to their intensity, and initial evaluations indicate not all teachers need the same level of treatment fidelity support. Rather, some teachers have been able to improve their treatment fidelity after a single support, whereas others need multiple supports or ongoing support (Myers, Simonsen, & Sugai, 2011; Sanetti & Collier-Meek, 2015). As such, scholars have recommended providing less intensive treatment fidelity promotion supports first, and increasing intensity as needed (Sanetti & Collier-Meek, 2015). One caveat to this recommendation is that if high-stakes decisions are being made based on student response to an intervention, or the intervention is being implemented to decrease a dangerous behavior (e.g., self-injurious behavior, physical aggression), it may be appropriate to provide intensive treatment fidelity promotion supports immediately.

Supports also vary relative to what they are designed to target. Some promotion supports target implementer skill (i.e., data indicate that the teacher may not have the requisite skills to implement the intervention as they have never done so), whereas other strategies target implementer performance of an already demonstrated skill (i.e., data indicate that the teacher can implement the intervention, but is not regularly doing so). Table 4.1 provides a brief description of treatment fidelity

Table 4.1 Treatment fidelity promotion strategies

Strategy	Description	Intensity	Skill focused	Performance focused
Direct training	Training that includes a didactic overview of the intervention, modeling of intervention implementation, implementer practice, and feedback (Sterling-Turner, Watson, & Moore, 2002)	Low	X	
Implementation planning	Logistical planning related to implementation of each intervention step followed by identification of anticipated implementation barriers and development of solutions to address barriers (Sanetti et al., 2015)	Low–moderate		X
Motivational interviewing/ consulting	Collaborative conversation in which the consultant works to strengthen the implementer's motivation and commitment to change using open-ended questions, change talk, reflexive listening, and summarizing (Rosengren, 2009)	Moderate		X
Participant modeling	In the intervention setting with the intervention recipient, the consultant models intervention implementation and the implementer practices with support and independently (Tschannen-Moran & McMaster, 2009)	Moderate	X	
Performance feedback	Verbal and/or graphic feedback regarding implementation. May include student outcomes, or additional components such as practice, prompting, or self-monitoring (Fallon, Collier-Meek, Maggin, Sanetti, & Johnson, 2015)	High		X
Role play	Using intervention scenarios, in the implementation setting, but outside school hours, the consultant models the intervention and then implementer practices the intervention and receives feedback (Trevisan, 2004)	Moderate	X	
Self-monitoring	A ratings scale or checklist of intervention steps or components completed by an implementer during or soon after implementation (Simonsen, Macsuga, Fallon, & Sugai, 2012)	Low–moderate		X

promotion supports that have been evaluated in school-based consultation and have detailed, step-by-step guides to support their use (see Sanetti & Collier-Meek, 2019).

As part of making defensible decisions about intervention effectiveness, it is recommended that you document (a) the assessment methods used, (b) the schedule of data collection and evaluation, (c) any treatment fidelity promotion supports provided, and (d) subsequent data collection and evaluation (see Sanetti & Collier-Meek, 2019, for sample forms). Doing so will facilitate (a) systematic, defensible data-based decision-making and (b) adequate record keeping aligned with evaluation expectations of MTSS and special education processes.

Summary

To help students make progress, it is essential that evidence-based interventions, such as those described in subsequent chapters, are delivered with adequate treatment fidelity. Yet, treatment fidelity is rarely assessed, despite data indicating educators regularly struggle to implement interventions consistently. Multiple methods for assessing and promoting treatment fidelity have been identified and user-friendly resources are available (see Sanetti & Collier-Meek, 2019). Thus, as you consider adopting any of the interventions described in subsequent chapters, consider how you will assess treatment fidelity and student outcomes, evaluate resulting data, and provide promotion supports if needed. By doing so, you can facilitate implementer success and promote student outcomes. You can bridge the implementation gap.

References

Cochrane, W., Sanetti, L. M. H., & Minster, M. (2019). School psychologists' beliefs and practices about treatment integrity in 2008 and 2017. *Psychology in the Schools, 56,* 295–306.
Codding, R. S., Livanis, A., Pace, G. M., & Vaca, L. (2008). Using performance feedback to improve treatment integrity of classwide behavior plans: An investigation of observer reactivity. *Journal of Applied Behavior Analysis, 41*, 417–422.
Durlack, J. A., & DuPre, E. P. (2008). Implementation matters: A review on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology, 41*, 327–350.
Fallon, L. M., Collier-Meek, M. A., Maggin, D. M., Sanetti, L. M. H., & Johnson, A. H. (2015). Is performance feedback an evidence-based intervention? A systematic review and evaluation of single-case research. *Exceptional Children, 8*, 227–246.
Fallon, L. M., Sanetti, L. M. H., Chafouleas, S. M., Faggella-Luby, M. N., & Briesch, A. M. (2018). Direct training to increase inter-rater agreement between observer's and teachers' self-report ratings of treatment integrity. *Assessment for Effective Intervention, 43*, 196–211.
Freeman, R., Miller, D., & Newcomer, L. (2015). Integration of academic and behavioral MTSS at the district level using implementation science. *Learning Disabilities: A Contemporary Journal, 13*, 59–72.
Fuchs, D., & Fuchs, L. S. (2017). Critique of the national evaluation of Response to Intervention: A case for simpler frameworks. *Exceptional Children, 83*, 255–268.

Myers, D., Simonsen, B., & Sugai, G. (2011). Increasing teachers' use of praise with a Response to Intervention approach. *Education and Treatment of Children, 34*, 35–59.

Noell, G. H., & Gansle, K. A. (2006). Assuring the form has substance: Treatment plan implementation as the foundation of assessing Response to Intervention. *Assessment for Effective Intervention, 32*, 32–39.

Noell, G. H., Witt, J. C., Slider, N. J., Connell, J. E., Gatti, S. L., Williams, K. L., . . . Duhon, G. J. (2005). Treatment implementation following behavioral consultation in schools: A comparison of three follow-up strategies. *School Psychology Review, 34,* 87–106.

Rosengren, D. B. (2009). *Building motivational interviewing skills: A practitioner workbook*. New York: The Guilford Press.

Sanetti, L., & Collier-Meek, M. (2015). Data-driven delivery of implementation supports in a multi-tiered framework: A pilot study. *Psychology in the Schools, 52*, 815–828.

Sanetti, L. M. H., & Collier-Meek, M. A. (2014). Increasing the rigor of treatment integrity assessment: An empirical comparison of direct observation and permanent product review methods. *Journal of Behavioral Education, 23*, 60–88.

Sanetti, L. M. H., Collier-Meek, M. A., Long, A. C. J., Byron, J. R., & Kratochwill, T. R. (2015). Increasing teacher treatment integrity of behavior support plans through consultation and implementation planning. *Journal of School Psychology, 53*, 209–229.

Sanetti, L. M. H., & Collier-Meek, M. C. (2019). *Supporting successful interventions in schools: Tools to plan, evaluate, and sustain effective implementation*. New York: Guilford Press.

Sanetti, L. M. H., Fallon, L. M., & Collier-Meek, M. A. (2013). Increasing teacher treatment integrity through performance feedback provided by school personnel. *Psychology in the Schools, 50*, 134–150.

Sanetti, L. M. H., & Kratochwill, T. R. (2009). Toward developing a science of treatment integrity: Introduction to the special series. *School Psychology Review, 38*, 445–459.

Sanetti, L. M. H., & Kratochwill, T. R. (2011). An evaluation of the treatment integrity planning protocol and two schedules of treatment integrity self-report: Impact on implementation and report accuracy. *Journal of Educational and Psychological Consultation, 21*, 284–308.

Sheridan, S. M., Swanger-gagne, M., Welch, G. W., Kwon, K., & Garbacz, S. A. (2009). Fidelity measurement in consultation: Psychometric issues and preliminary examination. *School Psychology Review, 38*, 476–495.

Simonsen, B., Macsuga, A. S., Fallon, L. M., & Sugai, G. (2012). The effects of self-monitoring on teachers' use of specific praise. *Journal of Positive Behavior Interventions, 15*, 5–15.

Sterling-Turner, H. E., Watson, T. S., & Moore, J. W. (2002). The effects of direct training and treatment integrity on treatment outcomes in school consultation. *School Psychology Quarterly, 17*, 47–77.

Trevisan, M. S. (2004). Practical training in evaluation: A review of the literature. *American Journal of Evaluation, 25*, 255–272.

Tschannen-Moran, M., & McMaster, P. (2009). Sources of self-efficacy: Four professional development formats and their relationship to self-efficacy and implementation of a new teaching strategy. *Elementary School Journal, 110*, 228–245.

Zirkel, P., & Thomas, L. (2010). State laws and guidelines for implementing RTI. *Teaching Exceptional Children, 43*, 60–73.

Part II
Academic Engagement

Chapter 5
Interventions to Enhance Academic Engagement

Amy L. Reschly

Vignette 1

Lucia is a quiet girl in the 3rd grade at Truman Elementary in a small city in the southeast. Her teacher describes her as sweet and well-behaved. She is well-liked by peers, but does not seem to have many close friends in the class. She and her two siblings live with her parents, although her father is away for weeks at a time for work. Lucia is the middle child; she is close to her brother and sister. She attends school regularly and her scores on standardized assessments are in the average range. Although not disruptive, Lucia does not seem to be on task during instruction, typically staring off in the distance. When prompted, she will pay attention for a few minutes and then drift off again. She completes some classwork independently, but does much better when paired with another student or in a group of students. Her teacher does not assign homework other than independent reading, which Lucia completes on the bus each day. However, her teacher is worried that Lucia's lack of engagement during instruction and with classwork is starting to interfere with her grades in the class and will become a bigger problem in the future.

Discussion: What are Lucia's strengths? In what ways is Lucia demonstrating engagement? In which subtype(s) of engagement does Lucia need improvement? In which indicators of academic engagement would intervention benefit Lucia? What strategies might you use to support Lucia's engagement?

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Vignette 2

John Michael, an 11th grader, is behind three credits for graduation. There are credit recovery options and teachers are encouraging him to attend, but he is apathetic toward school. His grade point average (GPA) is a C and his grades fluctuate, depending on personal interest for course content. He voices no interest in college or different postsecondary career options. A few of his friends plan to attend technical college and a few plan to work after school. He has a part-time job with a local car mechanic. He talks of owning his own auto body shop, a choice for which he claims does not require even a high school degree, much less technical schooling.

Discussion: What are John Michael's strengths? Which subtypes of engagement could be beneficial for promoting a high school degree? What strategies could be used to foster completion of coursework? What are major considerations for course selection in 12th grade?

What Is Academic Engagement?

Definition

Academic engagement may be thought of in terms of investment and participation in instruction, work, and academic tasks (Reschly, Appleton, & Pohl, 2014).

Indicators

How can you tell if a student is academically engaged? Unlike some other forms of engagement that are difficult to see, academic engagement is readily observed and measured. Indicators of academic engagement are typically available to school personnel in the form of time-on-task observations, homework completion rates, and the tracking of grades and credits earned (Table 5.1).

Why Is Academic Engagement Important?

Academic engagement is reliably and directly associated with student achievement and high school graduation. Based on our intervention work with Check & Connect, we separated academic engagement from behavioral engagement to facilitate the link between students' disengagement/engagement and our intervention strategies. We found that some students we worked with were improving in their attendance or in-school behavior, but not yet engaging with instruction and academic work, which

Table 5.1 Indicators of academic engagement

Broad indicators	Specific Indicators	Evidence that could be gathered
Academic engaged time	Engaged time or time-on-task	• % of time (intervals) in which individuals, groups, or the entire class is on task or engaged in learning
	Academic engaged time	• % of time (intervals) in which individuals, groups, or the entire class is engaged in learning; time during which learning occurs
Homework completion		• Missing assignments (% completion) • Completion accuracy
Grades and credits earned		• Course failures • Credits/Carnegie units earned each semester relative to the number required for graduation

was necessary for school completion efforts (Christenson & Reschly, 2010). In the following section, a description of each broad indicator of academic engagement and research supporting its importance is provided.

Academic Engaged Time

The amount of time that students spend engaged in academic activities is reliably and consistently associated with student achievement; more time translates to higher achievement (Gettinger & Ball, 2008). A relationship that is so clear and logical Carroll, a prominent scholar whose model of school learning is described below, noted, "It has always been a matter of some astonishment to me that I am credited with directing attention to time in learning, an exceedingly obvious variable that must have been on the minds of educators over the centuries and that has figured heavily in the work of theorists and experiments on learning" (p. 27, 1989).

Several types of variables have been used to describe time at school and engagement with academic tasks; distinctions among these are important for understanding research and targeting interventions to improve student performance. These variables include available instructional time, allocated instructional time, instructional time, engaged time, and academic engaged time (Gettinger & Walther, 2012).

• *Available time* refers to the time available for instruction. Available time may be represented by the number of days in the academic year or length of the school day; it is typically set by state or school district policies (Gettinger & Ball, 2008; Gettinger & Walther, 2012). Initiatives to extend the school year or the school day are becoming increasingly popular. These initiatives are frequently championed by those concerned with unfavorable international achievement comparisons between students in the United States and other industrialized nations (National Education Commission on Time and Learning [NECTL], 2005), disparities in opportunity to learn and educational outcomes between lower-income and middle- and upper-income students or the loss of academic skills following the extended summer vacation (e.g., National Summer Learning Association),

often referred to as summer slide. Arguments for extending the school year or school day are targeting the amount of time that is *available*, not necessarily how time is used.

- *Allocated instructional time*, or scheduled time, is the amount of time that is scheduled for instruction in a specific content area (Gettinger & Ball, 2008). For example, a 5th grade classroom may have scheduled 50 minutes per day for reading instruction, whereas a high school on a block schedule may have 90 minutes devoted in each block to each specific class (e.g., biology, algebra). Anyone who has ever been in a classroom, as a student or teacher, is aware that the time that is scheduled is different from the time that is actually used for instruction. Thus, allocated time may be divided into time that is instructional and noninstructional.

- *Instructional time/Noninstructional time* may be used to describe how scheduled or allocated time is used. Instructional time is the amount of allocated time actually used for instruction and learning, whereas noninstructional time is the time that is devoted to activities outside of the classroom and noninstructional tasks such as managing student behavior, distributing or collecting materials, and unscheduled interruptions (e.g., visitors, announcements; Gettinger & Miller, 2014). As Farbman (p.4, 2012) noted, "…*how* students and teachers spend their time matters as much as the *amount* of time they have to spend."

In considering instructional and noninstructional time, it becomes clear how important classroom management is to student learning. Well-managed and efficient classrooms have more time to devote to instruction. For the sake of illustration, consider two 4th grade teachers with 50 minutes allocated each day to mathematics instruction. Teacher A averages 45 minutes of instructional time in mathematics each day while Teacher B averages 35 minutes of instructional time. Over the course of 1 week, students in Teacher A's class will have received *50 additional minutes* of mathematics instruction compared to those in Teacher B's class. Over the course of a single 180-day academic year, students in Teacher A's class will have received *30 more hours* of mathematics instruction than students in Teacher B's class.

Of course, it is not just how allocated time is divided into instructional and noninstructional time that is important but also how instructional time is used. Instruction varies in relevance, quality, and the impact that it has on students' engagement with learning. Another concept that is important to consider is the variability or individual differences in the amount of time that is needed to learn between students. It is this concept that John Carroll brought to our attention with the publication of his Model of School Learning (1963). In this influential work, Carroll proposed five classes of variables related to student achievement, three of which could be expressed as time: Aptitude (time needed to learn), Opportunity to Learn (time allowed for learning), and Perseverance (time a student is willing to spend on learning, essentially student motivation). In this model, the Quality of Instruction (less quality equals more time needed to learn) and Ability to Understand Instruction (lower ability, more time required) were also thought to affect student learning (Carroll, 1989).

- *Engaged time and academic engaged time.* It is engaged time and academic engaged time that are most highly associated with student achievement (Gettinger & Walther, 2012). Engaged time may be thought of as the portion of instructional time during which students are on task or engaged in learning; this includes passive and active behaviors, such as attending to the teacher, completing work, note-taking, participating in relevant discussion, and so forth (Gettinger & Miller, 2014; Gettinger & Walther, 2012). Academic engaged time is a specific subset of engaged time that reflects the time during which learning occurs (i.e., time in relevant instruction that results in measurable learning; Gettinger & Miller, 2014).

A body of research that has come to be termed *process-product or process-outcome* research sought to delineate teaching behaviors and practices that were associated with gains in student achievement (Brophy, 1986). Many teaching practices identified through this research have become accepted standards of effective teaching, including how quality instruction is defined (e.g., smoothly delivered, paced, and leveled appropriately; active teaching), opportunities to learn, feedback and questioning delivered by the teacher, the association between classroom management and maximizing instructional time, and so forth (Brophy, 1986; Brophy & Good, 1986). In general, effective teaching practices are linked to higher achievement through the effect these practices have on students' engaged time (Gettinger & Walther, 2012). Thus, many of the intervention recommendations presented later in the chapter and in others in this book are centered on effective instruction and classroom management.

Homework Completion

Few topics in education engender debate in the way that homework does. In fact, there are seemingly weekly stories in a variety of news outlets about homework—whether students should or should not have assigned homework, how much homework is appropriate, anecdotes regarding whether parents, even well-educated ones, had enough knowledge to complete their children's homework, and so forth. Homework is defined as any assigned task intended to be completed outside of school hours (Cooper, 1989a). Although there is an indication that students also complete homework while in school (Keith, Diamond-Hallam, & Fine, 2004). A recent Pew Research Center survey indicated that the amount of time teens spend on homework has increased since the 1990s from 30 minutes/night to an hour a day on average (Livingston, 2019). Others report that the amount of homework assigned to younger children far exceeds time guidelines for grade level (Pressman et al., 2015).

There is a lot of variability in the purpose of homework (e.g., skill practice, family communication) and in the assigned tasks in terms of choice, deadlines, degree of individualization, and the social context in which the assignment is completed (e.g., with a group, parents; Cooper, Robinson, & Patall, 2006). In addition to potential academic benefits, homework may promote study habits, self-discipline, and

time management, as well as enhance family involvement and communication regarding a child's progress, among other things (Cooper, 1989a). Detractors note, however, that these potential nonacademic benefits are relatively untested in the literature (Hattie, 2009; Kohn, 2006). Frequently mentioned drawbacks to homework include the burden that is placed on parents for completion, students' stress and fatigue, family conflict surrounding homework, reduced time for other activities, thwarting students' intellectual curiosity (Kohn, 2006), and cheating (Cooper, 1989a).

At the heart of the homework debate, however, is whether homework completion is tied to academic achievement. This, too, is not without controversy. Harris Cooper has conducted two of the best-known meta-analyses of the homework literature. The first was of 120 studies published before 1986; the second of 50 studies published between the years of 1987 and 2003. Although there are some caveats, there is evidence to suggest a positive effect of homework on student achievement (Cooper, 1989a; Cooper et al., 2006). However, the relationship between homework and achievement varied as a function of student age wherein there is no or very little association for elementary students, a small association for junior high students, and a more moderate association for high school students (Cooper, 1989a). Amount of time is also a consideration. Positive effects of homework on achievement for high school students were not evident until at least 1 hour per week was reported, following this point a linear relationship existed between time and achievement up to the highest point on the scale, more than 2 hours per night. For junior high students, the positive association between homework and achievement was apparent at less than 1 hour per night but disappeared at the point students reported between 1 and 2 hours of homework per night (Cooper, 1989b in Cooper et al., 2006).

On the other hand, John Hattie's (2009) analysis of five meta-analyses of the association between homework and achievement noted the relatively small effect size, adding additional fuel to the homework debate. Hattie also discussed differences in the homework-achievement association for higher and lower ability students, with potentially damaging effects for lower ability students in terms of motivation, use of incorrect strategies, etc. Others have noted the weaknesses and design flaws in the homework research literature (Cooper, 1989a; Cooper et al., 2006; Kohn, 2006). Cooper argued that the research should not be taken to suggest elementary students do not benefit from homework or that there is no point at which students do too much homework (for high school students, no achievement benefits were found for more than 2 hours per night; Duke Today, 2006).

Regardless of one's view on homework—too much, not enough, that most is of poor quality—homework completion and accuracy rates provide an indication of how engaged a student is with the academic portion of their school lives. In most classes and across grade levels, homework comprises a significant portion of a student's grade. As discussed next, course grades, even in elementary and middle school, are frequently used indicators of whether students are on-track or off-track for high school graduation. When students are not completing their homework, their grades suffer and it may negatively affect achievement.

Satisfactory Course Completion (Middle School)/Credits Earned (High School)

In Chap. 2, we wrote about the roots of engagement in dropout theory and intervention. Dropout may be viewed as the most extreme form of disengagement from school, one that is preceded by less severe forms of withdrawal that are apparent over many years, even in the early elementary school grades. Indicators of academic performance, whether scores on a standardized test of reading achievement or course grades, provide an observable marker of students' academic engagement and success, as well as the student's trajectories toward either high school graduation or dropout. It is in this long-term developmental view that we understand that grades and test scores are both an outcome of interest at one point in time (e.g., end of 3rd grade) and also an indicator of engagement or disengagement on a path to a distal outcome (Reschly & Christenson, 2012).

The recent trend toward early warning systems (Balfanz & Byrne, 2019) capitalizes on these developmental trajectories through the delineation of benchmarks or warning indicators that designate whether a student is on-track, off-track, or perhaps at-risk with respect to high school completion or college readiness. These indicators are identified through predictive modeling techniques from data that are commonly available within school districts. It is noteworthy that course failures in mathematics or language arts in the sixth grade are highly predictive of failure to graduate from high school (Balfanz, Herzog, & MacIver, 2007). Thus, course failures in middle school are important indicators of academic engagement and student risk. Academic performance among elementary students, particularly in the area of reading, is also indicative of risk for high school dropout (see Chap. 2).

Another indicator that may be used independently or within an early warning system is the tracking of credits earned toward graduation. Each state sets a number of credits that must be completed in order to earn a high school diploma; credits are also commonly referred to as Carnegie units. In order to stay on track toward graduation, students must earn a certain number of credits each semester and academic year (Reschly et al., 2014). The tracking of credits—those that are earned out of the number of credits possible—provides a clear indication of students who are falling off track toward graduation and necessitates a quick response, connecting students to credit recovery options. A recent variation in the tracking of credits is the Total Quality Credits (TQC) measure, developed for use within the Milwaukee Public Schools (Carl, Richardson, Cheng, Kim, & Meyer, 2013). TQC is a continuous, linear measure, rather than a dichotomous one (i.e., on-, off-track) that reflects both a student's number of credits and their performance within core courses (credits earned x numerical representation of grade earned). Carl et al. (2013) identified the points on the TQC scale at which students were more likely to (a) drop out and (b) enroll in college.

How Can We Promote Academic Engagement?

Consistent with MTSS-RTI framework, interventions and strategies may be separated into school and classwide strategies and those that primarily target small groups or individuals. However, there is often clear overlap in the intervention targets and strategies that are used across levels. Thus, some interventions and strategies may differ only in terms of intensity and degree of individualization across levels. It should be noted that as with other types of engagement, there is overlap in strategies that promote academic engagement and those that promote behavioral and cognitive engagement.

At the end of the book, summary tables of strategies to promote each type of engagement may be found. Many strategies listed in the academic engagement table target increasing students' interactions and active involvement with learning, such as the use of smaller classes, small groups, or peer tutors. Two examples of peer tutoring programs, Peer Assisted Learning Strategies (PALS) and Classwide Peer Tutoring (CWPT), are described in Table 5.2 (see also Chap. 6). Peer tutoring is frequently used as an academic intervention, with benefits for students with and without disabilities across grade levels (e.g., Cook, Scruggs, Mastropieri, & Castro, 1985; Ginsburg-Block, Rohrbeck, & Fantuzzo, 2006). Research also suggests small-to-moderate collateral effects on increasing time-on-task and positive social behaviors and decreasing problem behaviors (Bowman-Perrott, Burke, Zhang, & Zaini, 2014). Other strategies described in the intervention table enhance students' academic engagement by supporting their basic needs for autonomy (e.g., providing choices), belonging (e.g., fostering positive teacher–student relationships), and competence (e.g., appropriately leveled materials and tasks so that students experience success).

Engaged Time

One of the primary means of addressing students' engagement with academic tasks and in instruction is through interventions and strategies that aim to improve or maximize how existing time is used (Gettinger & Walther, 2012; Reschly et al., 2014). According to Gettinger and Walther (2012), these interventions tend to fall into three broad categories: managerial strategies, instructional strategies, and student-mediated strategies (Table 5.3).

- Managerial strategies include things like establishing efficient classroom routines, including transition times, effective management of student misbehavior and off-task behavior, and active monitoring of students (Gettinger & Walther, 2012; Reschly et al., 2014). A number of resources exist for educators to support effective classroom management, such as the CHAMPS program (Sprick, 2009), BEST in Class (education.ufl.edu), My Teachingpartner (https://curry.virginia.edu/myteachingpartner), Classroom Check Up (http://classroomcheckup.org/), the Intervention Central website (www.interventioncentral.org), among others.

Table 5.2 Peer tutoring program examples

Peer Assisted Learning Strategies (PALS)[a]
Type of peer tutoring designed to supplement, not replace, traditional reading and mathematics curriculum
Implemented in K–6 grade classrooms across the United States
Sessions last 30–35 minutes; two to four times/week
Pairs of students work together as "coaches" and "players" to address specific skill problems; all students have the opportunity to play both roles
In reading, pairs focus on partner reading and retelling, paragraph shrinking, and prediction relay
In mathematics, activities are coaching and practice. The "Coach" models solving problems while the "Player" writes answers; the Coach explains and corrects errors. The practice portion of the session is a 5–10-minute activity to practice the skill from the coaching session.
Positive effects on reading achievement for students with different levels of achievement, learning disabilities, and English Language Learners (Fuchs et al., 2001; Fuchs, Fuchs, Mathes, & Simmons, 1997; Mathes, Howard, Allen, & Fuchs, 1998; Saenz, Fuchs, & Fuchs, 2005).
Mathematics effects are not as clear as those found in reading. Results appear positive for kindergarten students with different levels of achievement (Fuchs, Fuchs, & Karns, 2001) and high school students with learning disabilities in terms of computation skills (Calhoon & Fuchs, 2003)
Class Wide Peer Tutoring (CWPT)[b]
Type of peer tutoring designed to be integrated with existing curricula across content areas; for use primarily with drill and memorization tasks
Sessions last 30 minutes/day.
Students are placed in tutor–tutee pairs each week; students take turns in each role. Pairs are assigned to teams and earn points for correct answers daily and weekly.
Often paired with reinforcement strategies (e.g., lottery system, self-management; Kamps et al., 2008)
Gives students increased opportunities to practice and receive immediate feedback on skills initially taught by the teacher
Implemented across grade levels and with diverse groups of students in terms of socioeconomic, disability, and English Learner status across the United States
Positive effects have been found in reading (Kamps, Barbetta, Leonard, & Delquadri, 1994; Veerkamp, Kamps, & Cooper, 2007), social studies (Kamps et al., 2008), spelling (Burks, 2004; Greenwood et al., 1987), and mathematics (Allsop, 1997; Hawkins, Musti-Rao, Hughes, Berry, & McGuire, 2009). One study showed that classroom engagement and achievement benefits continued for a couple of years after the CWPT ended (Greenwood, Terry, Utley, Montagna, & Walker, 1993).

[a]Information drawn from IES What Works Clearinghouse PALS intervention reports (ies.ed.gov/ncee/wwc) and the PALS developers' website at Vanderbilt University (kc.vanderbilt.edu/pals). Manuals, materials, and training available from developers
[b]Information drawn from IES What Works Clearinghouse CWPT intervention reports (ies.ed.gov/ncee/wwc) and the Promising Practices Network (www.promisingpractices.net) Manual and charts distributed as *Together We Can* (Sopris; www.sopriswest.com). Software (CWPT Learning Management System) is also available. Training is available from Juniper Gardens Children's Project

Table 5.3 Gettinger and Walther's practices for maximizing academic engaged time

Managerial strategies	Instructional strategies	Student-mediated strategies
• Monitor student behavior • Minimize classroom disruptions and off-task behavior • Reduce transition time • Establish consistent and efficient classroom routines • Decrease class size and learning group sizes	Interactive teaching: • Focus on explicit learning objectives • Facilitate active student responding • Provide frequent feedback Instructional design: • Match instruction with students' abilities • Use multiple teaching methods • Deliver instruction at a quick, smooth, and efficient pace • Ensure that students understand directions	• Teach students to employ metacognitive and study strategies • Incorporate self-monitoring procedures into the classroom • Support students' self-management skills • Establish consistent classroom routines and structure • Have students set their own goals for learning • Use homework effectively to enhance student learning

From Gettinger, M. & Walther, M. J. (2012). Classroom strategies to enhance academic engaged time. In S.L. Christenson, A.L. Reschly, & C. Wylie (Eds.), Handbook of research on student engagement (pp. 653–673). Boston, Springer.

Many classroom management difficulties are successfully addressed through consultation with support personnel such as administrators, instructional coaches, behavioral specialists, and school psychologists (e.g., Codding & Smyth, 2009; Fallon, Collier-Meek, & Kurtz, 2019; Shernoff et al., 2016; Sprick, Knight, Reinke, Skyles, & Barnes, 2010).

- Instructional strategies to enhance academic engagement may be thought of in terms of applying the principles of effective instruction, which are drawn, in part, from the process-product research paradigm. Models of effective instruction have been described in the literature (e.g., Algozzine, Ysseldyke & Elliott 1997). Ysseldyke and Christenson (2002) identified 12 components related to effective instruction and support for learning in classroom environment. Clearly, some of these categories overlap with the effective classroom management and student-mediated strategies described in greater detail elsewhere in this section, as well as with strategies to promote cognitive engagement (Chap. 14). The Ysseldyke and Christenson (2002) Instructional Support for Learning components can be found in Table 5.4. In summary, good teaching is appropriately leveled for students, holds student attention, requires active participation, and includes frequent checks for understanding and the provision of feedback.

- Student-mediated strategies address students' cognitive engagement, self-regulation, and motivation, which in turn, affect students' academic engagement (Gettinger & Walther, 2012). Thus, these strategies and specific interventions are described in the Academic Engagement section summary as well as in Chap. 14 on cognitive engagement interventions. Self-monitoring interventions, a type of student-mediated strategies, are used extensively in the behavioral intervention literature (Briesch & Chafouleas, 2009). Self-monitoring interventions have

Table 5.4 Ysseldyke and Christenson's support for learning components

Instructional planning: Decisions are made about what to teach and how to teach the student. Realistic expectations are communicated to the student.

    Instructional match: The student's needs are assessed accurately, and instruction is matched appropriately to the results of the instructional diagnosis.

    Instructional expectations: There are realistic, yet high, expectations for both the amount and accuracy of work to be completed by the student, and these are communicated clearly to the student.

Instructional managing: Effective instruction requires managing the complex mix of instructional tasks and student behaviors that are part of every classroom interaction. This means making decisions that control and support the orderly flow of instruction. To do this, teachers make decisions about classroom rules and procedures, as well as how to handle disruptions, how to organize classroom time and space to be most productive, and how to keep classrooms warm, positive, and accepting places for the student with different learning preferences and performances.

    Classroom environment: The classroom management techniques used are effective for the student; there is a positive, supportive classroom atmosphere; and, time is used productively.

Instructional delivering: Decisions are made about how to present information, as well as how to monitor and adjust presentations to accommodate individual differences and enhance the learning of the student.

    Instructional presentation: Instruction is presented in a clear and effective manner; the directions contain sufficient information for the student to understand the kinds of behaviors or skills that are to be demonstrated; and, the student's understanding is checked.

    Cognitive emphasis: Thinking skills and learning strategies for completing assignments are communicated explicitly to the student.

    Motivational strategies: Effective strategies for heightening student interest and effort are used with the student.

    Relevant practice: The student is given adequate opportunity to practice with appropriate materials and a high success rate. Classroom tasks are clearly important to achieving instructional goals.

    Informed feedback: The student receives relatively immediate and specific information on his/her performance or behavior; when the student makes mistakes, correction is provided.

    Instructional evaluating: Effective instruction requires evaluating. Some evaluation activities occur during the process of instruction (i.e., when teachers gather data during instruction and use those data to make instructional decisions). Other evaluation activities occur at the end of instruction (e.g., when the teacher administers a test to determine whether a student has met instructional goals).

    Academic engaged time: The student is actively engaged in responding to academic content; the teacher monitors the extent to which the student is actively engaged and redirects the student when the student is unengaged.

    Adaptive instruction: The curriculum is modified within reason to accommodate the student's unique and specific instructional needs.

    Progress evaluation: There is direct, frequent measurement of the student's progress toward completion of instructional objectives; data on the student's performance and progress are used to plan future instruction.

    Student understanding: The student demonstrates an accurate understanding of what is to be done and how it is to be done in the classroom.

From Ysseldyke and Christenson (2002). Reprinted with permission of authors

been used to target both academic performance and conduct-related behaviors (Fantuzzo & Polite, 1990). These interventions have also been adapted for class-wise use (e.g., Chafouleas, Sanetti, Jaffrey, & Fallon, 2012; Hoff & Ervin, 2013). Self-monitoring interventions commonly include self-observation and recording (Briesch & Chafouleas, 2009). Goal setting, graphing, and reinforcement for improvement or a particular level of performance may also be included.

Homework Completion

Cooper (1989) described several factors that may influence students' homework performance: exogenous factors (e.g., student ability, motivation, study habits, grade level), characteristics of the assignment (e.g., skill area, purpose, amount, deadlines, amount of choice), classroom factors (e.g., provision of material, facilitation with suggestions, links), follow-up factors (e.g., feedback, grading, use in class, incentives), and home-community factors (e.g., other time commitments, home environment, family involvement). Thus, interventions may have many targets, such as those addressing what Sheridan (2009) termed input variables (e.g., structure and intentionality of assignments, instructional quality), output variables (e.g., quality and quantity of work completed), process variables (e.g., home–school communication), and ecological variables (e.g., addressing setting characteristics to facilitate homework completion). Interestingly, interventions have tended to focus on students and families, rather than teachers' skills, in addressing homework difficulties (Bryan & Burstein, 2004). Homework interventions are frequently implemented to target individual students who are having difficulty; however, interventions may also be implemented at the school- or classroom-level (e.g., Theodore et al., 2009). Resources and programs for homework completion are found in Table 5.5.

Examples of strategies in homework completion may include (a) establishing district or school-level guidelines regarding the amount and purpose of homework and encouraging coordination among teachers, (b) working with teachers to ensure the appropriateness and purpose of assignments, (c) collaborating with families regarding communication, management, and routines to support homework, and/or (d) developing individual student interventions to address assignment recording, completion, and accuracy.

It may also be necessary to determine whether the lack of completion is due to a skill or performance deficit. Or in other words, whether the student chooses not to do the work or whether he/she does not know how to do it, a distinction sometimes referred to as can't do/won't do (Vanderheyden, 2014). A "can't do" problem indicates the need for additional academic support before a student falls farther behind, while a "won't do" problem indicates a different type of support may be needed (e.g., behavioral, motivational). Another area for intervention consideration is study skills. Study skills may be considered independently or as part of homework completion. These skills represent internal self-regulation as well as behavioral strategies and tactics. Additional information can be found in Chap. 14.

Table 5.5 Specific interventions and resources for homework completion

Homework, organization, and planning skills (HOPS)[a]
Combination of evidence-based interventions to address materials organization and homework management, time management and planning, and self-monitoring and maintenance of these new skills. Interventions are paired with a reward system.
16, 20-minute sessions intended to be completed during the school day; a companion intervention manual is available for parents.
For use in elementary, middle, and high school
Intended for students with organization and time management difficulties, including those with attention disorders.
Studies suggest positive gains in materials organization and homework management (Langberg, Epstein, Becker, Girio-Herrera, & Vaughn, 2012; Langberg, Epstein, Urbanowicz, Simon, & Graham, 2008), as well as GPA (Langberg et al., 2008).
Family–school success (FSS[b]*)*
Enhance family involvement via homework interventions, family–school relationships, and child educational functioning (i.e., academic engagement, productivity).
Designed for students with ADHD (attention-deficit/hyperactivity disorder) (combined and inattentive types)
Grades 2–6; there is also an FSS-EE (early elementary) for kindergarten and 1st grade students
12 weekly sessions (6 parent group sessions + children's group, 4 individualized family sessions, 2 school-based consultations). Educational components of the intervention include: Conjoint Behavioral Consultation, daily behavior report cards (+reinforcement and goal setting), and behavioral homework interventions (e.g., contingency management and reinforcement).
Initial positive results in terms of family involvement, family–school relationships, parenting behaviors, and homework performance (Power et al., 2012).
Sanity savers for parents: Tips for tackling homework[c]
Designed for parents; the program is comprised of evidence-based strategies to train parents in effective homework management practices. The program addresses managing the environment, motivation, communicating with the school, tutoring strategies, and the transition from parent- to student-managed homework time.
5-week training sequence

[a]Information drawn from the publisher's website (www.nasponline.org) and the HOPS intervention manual (Langberg, 2011). Manual and accompanying parent manual are available for purchase from the National Association of School Psychologists. See also Chap. 7
[b]Information drawn from Mautone et al. (2012) and Power et al. (2012)
[c]Part of the University of Utah Homework Partners series. Information drawn from Jensen, Sheridan, Olympia, and Andrews (1994)

Credits Earned: Academic and Behavioral Interventions

A common theme throughout this book is the importance of early intervention to address students' academic and behavioral difficulties before students fall farther behind, miss more material or fail to learn topics to mastery, behavior difficulties become more entrenched and severe, and students becoming increasingly disengaged from school and learning, making intervention efforts that much more difficult. Elementary-age students do not receive credits toward high school graduation, but academic difficulties that are not addressed in these early grades perpetuate and

become more significant academic issues in middle and high school. The same is true of early behavioral difficulties; and of course, there is often a co-occurrence of academic and behavioral problems. It is the proverbial chicken and egg. Many of the strategies mentioned in this chapter and others and listed in intervention tables throughout the book describe academic and behavioral interventions. However, there are many evidence-based academic interventions that are beyond the scope of this volume. We recommend the Institute of Education Sciences' (IES) What Works Clearinghouse as a starting point for specific intervention programs to address a variety of academic problems (e.g., teaching fractions, reading comprehension, and writing to elementary students, preschool mathematics instruction) and as a way to evaluate the extent of the intervention evidence with specific populations (e.g., English Language Learners, students with disabilities) (ies.ed.gov/ncee/wwc).

One common method of ensuring that students are on-track for graduation includes credit recovery. The U.S. Department of Education defined credit recovery as, "a strategy that encourages at-risk students to re-take a previously failed course required for high school graduation and earn credit if the student successfully completes the course requirements" (p. 1, DOE, 2018). Of course efforts to promote school completion must include options for retaking courses and high stakes exit examinations. However, caution is warranted (Reschly & Christenson, 2019). Most credit recovery is delivered online (71%; DOE, 2018) and the IES What Works Clearinghouse did not find any research with credit recovery that met criteria for review (IES, 2015). Thus, we must ensure that (a) students demonstrate appropriate mastery of course material, and (b) courses relate to diploma options and adequately prepare students for success beyond high school (see DePaoli, Balfanz, Atwell, & Bridgeland, 2018).

Conclusion

Academic engagement is an important and visible indicator of a student's engagement at school and with learning. Arguably, it is the subtype of engagement that is most clearly connected to educators' daily activities and observations. Educators know of, and the research supports, the strong association between academic engagement and achievement. This subtype of engagement is highly influenced by the school and classroom contexts, most notably how time-directed toward learning is used in- and outside of school. Thus, it is not surprising that ensuring time is used wisely, as well as accommodating the time individuals need to learn and succeed, is a main focus of educators' and interventionists' efforts in this area. Unlike some other dimensions of student engagement, indicators of academic engagement are observable and/or readily accessed from school data files. Indicators such as course failures and credits earned are useful for predictive purposes (e.g., risk of failing to graduate). As such, these are often included in early warning systems. On the other hand, engaged time and homework completion are useful for indicating risk as well as serving as appropriate targets of intervention at universal (e.g., improving instruc-

tion and management to improved engaged time) and more intensive levels (e.g., determining risk and evaluating effects of interventions such as PALS or HOPS (Homework, Organization, and Planning Skills)).

References

Algozzine, B., Ysseldyke, J., & Elliott, J. (1997). *Strategies and tactics for effective instruction* (2nd ed.). Sopris West, Longmont, CO.

Allsop, D. H. (1997). Using ClassWide Peer Tutoring to teach beginning algebra problem-solving skills in heterogeneous classrooms. *Remedial and Special Education, 18*, 367–379. https://doi.org/10.1177/074193259701800606

Balfanz, R., & Byrnes, V. (2019). Early warning indicators and intervention systems: State of the Field (pp. 45–54) In J. Fredricks, A. Reschly, & S. Christenson (Eds.). Handbook of student engagement interventions. Elsevier: London.

Balfanz, R., Herzog, L., & MacIver, D. J. (2007). Preventing student disengagement and keeping students on the graduation path in urban middle-grades schools: Early identification and effective interventions. *Educational Psychologist, 42*, 223–235.

Bowman-Perrott, L., Burke, M., Zhang, N., & Zaini, S. (2014). Direct and collateral benefits of peer tutoring on social and behavioral outcomes: A meta-analysis of single-case research. *School Psychology Review, 43*, 260–285.

Briesch, A. M., & Chafouleas, S. M. (2009). Review and analysis of literature on self-management interventions to promote appropriate classroom behaviors (1988-2008). *School Psychology Quarterly, 24*, 106–118. https://doi.org/10.1037/a0016159

Brophy, J. (1986). Teacher influences on student achievement. *American Psychologist, 41*, 1069–1077. https://doi.org/10.1037/0003-066X.41.10.1069

Brophy, J., & Good, T. (1986). Teacher behavior and student achievement. In M. Wittrock (Ed.), *Third handbook of research on teaching* (pp. 328–375). New York, NY: Macmillan.

Bryan, T., & Burstein, K. (2004) Teacher-selected strategies for improving homework completion. Remedial and Special Education, 19, 263–275. https://doi.og/10.1177/074193259801900502

Burks, M. (2004). Effects of ClassWide Peer Tutoring on the number of words spelled correctly by students with LD. *Intervention in School and Clinic, 39*, 301–304. https://doi.org/10.1177/10534512040390050701

Calhoon, M. B., & Fuchs, L. S. (2003). The effects of Peer-Assisted Learning Strategies and Curriculum-Based Measurement on the mathematics performance of secondary students with disabilities. *Remedial and Special Education, 24*, 235–245.

Carl, B., Richardson, J. T., Cheng, E., Kim, E., & Meyer, R. H. (2013). Theory and application of early warning systems for high school and beyond. *Journal of Education for Students Placed at Risk, 18*, 29–49. https://doi.org/10.1080/10824669.2013.745374

Carroll, J. B. (1963). A model of school learning. *Teachers College Record, 64*, 723–733.

Carroll, J. B. (1989). The Carroll model: A 25-year retrospective and prospective view. *Educational Researcher, 18*, 26–31.

Chafouleas, S. M., Sanetti, L. M. H., Jaffrey, R., & Fallon, L. M. (2012). An evaluation of a class-wide intervention package involving self-management and a group contingency on classroom behavior of middle school students. *Journal of Behavioral Education, 21*, 34–57. https://doi.org/10.1007/s10864-011-9135-8

Christenson, S. L., & Reschly, A. L. (2010). Check & Connect: Enhancing school completion through student engagement. In E. Doll & J. Charvat (Eds.), *Handbook of prevention science* (pp. 327–348). New York, NY: Routledge – Taylor and Francis.

Codding, R. S., & Smyth, C. A. (2009). Using performance feedback to decrease transition time and examine collateral effects on academic engagement. *Journal of Educational and Psychological Consultation, 18*, 325–345. https://doi.org/10.1080/10474410802463312

Cook, S. B., Scruggs, T. E., Mastropieri, M. A., & Castro, G. C. (1985). Handicapped students as tutors. *Journal of Special Education, 19*, 483–492. https://doi.org/10.1177/002246698501900410

Cooper, H. (1989a). Synthesis of research on homework. *Educational Leadership, 47*, 85–91.

Cooper, H. (1989b). *Homework*. White Plains, NY: Longman.

Cooper, H., Robinson, J. C., & Patall, E. A. (2006). Does homework improve academic achievement? A synthesis of research, 1987-2003. *Review of Educational Research, 76*, 1–62. https://doi.org/10.3102/00346543076001001

DePaoli, J. L., Balfanz, R., Atwell, M. N., & Bridgeland, J. (2018). *Building a grad nation: Progress and challenge in raising high school graduation rates*. Baltimore, MD: Civic Enterprises, Every Graduates Center/Johns Hopkins University.

Department of Education. (2018). *Issue brief: Credit recovery*. Washington, DC: Office of Planning, Evaluation, and Policy Development, Policy and Program Studies Service, U.S. Department of Education.

DukeToday. (2006, March 7). Duke study: Homework helps students succeed in school as long as there isn't too much. *Duke Today*. Retrieved from: today.duke.edu/2006/03/homework.html

Fallon, L. M., Collier-Meek, M. A., & Kurtz, K. D. (2019). Feasible coaching supports to promote teachers' classroom management in high-need settings: An experimental single case design study. School Psychology Review, 48, 3–17. https://doi.org/10.17105/SPR-2017-0135.V48-1

Fantuzzo, J. W., & Polite, K. (1990). School-based, behavioral self-management: A review and analysis. *School Psychology Quarterly, 5*, 180–198. https://doi.org/10.1037/h0090612

Farbman, D. (2012). *The case for improving and expanding time in school: A review of key research and practice*. Boston, MA: National Center on Time and Learning. https://files.eric.ed.gov/fulltext/ED534894.pdf

Fuchs, D., Fuchs, L. S., Mathes, P. G., & Simmons, D. C. (1997). Peer-Assisted Learning Strategies: Making classrooms more responsive to diversity. *American Educational Research Journal, 34*, 174–206. https://doi.org/10.3102/00028312034001174

Fuchs, D., Fuchs, L. S., Thompson, A., Al Otaiba, S., Yen, L., Yang, N. J., & Braun, M. (2001). Is reading important in reading-readiness programs? A randomized field trial with teachers as program implementers. *Journal of Educational Psychology, 93*, 251–267.

Fuchs, L. S., Fuchs, D., & Karns, K. (2001). Enhancing kindergartners' mathematical development: Effects of Peer Assisted Learning Strategies. *The Elementary School Journal, 101*, 495–510.

Gettinger, M., & Ball, C. (2008). Best practices in increasing academic engaged time. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology V* (pp. 1043–1075). Bethesda, MD: National Association of School Psychologists.

Gettinger, M., & Miller, K. (2014). Best practices in increasing academic engaged time. In P. Harrison & A. Thomas (Eds.), *Best practices in school psychology: Student-level services*. Bethesda, MD: National Association of School Psychologists.

Gettinger, M., & Walther, M. J. (2012). Classroom strategies to enhance academic engaged time. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 653–673). Boston, MD: Springer.

Ginsburg-Block, M. D., Rohrbeck, C. A., & Fantuzzo, J. W. (2006). A meta-analytic review of social, self-concept, and behavioral outcomes of peer-assisted learning. *Journal of Educational Psychology, 98*, 732–749. https://doi.org/10.1037/0022-0663.98.4.732

Greenwood, C. E., Terry, B., Utley, C. A., Montagna, D., & Walker, D. (1993). Achievement, placement, and services: Middle school benefits of ClassWide Peer Tutoring used at the elementary schools. *School Psychology Review, 22*, 497–516.

Greenwood, C. R., Dinwiddie, G., Bailey, V., Carta, J. J., Dorsey, D., Kohler, F. W., … Schulte, D. (1987). Field replication of ClassWide Peer Tutoring. *Journal of Applied Behavior Analysis, 20*, 151–160. https://doi.org/10.1901/jaba.1987.20-151

Hattie, J. (2009). *Visible learning: a synthesis of over 800 meta-analyses relating to achievement*. London; New York: Routledge, 2009.

Hawkins, R. O., Musti-Rao, S., Hughes, C., Berry, L., & McGuire, S. (2009). Applying a randomized interdependent group contingency component to ClassWide Peer Tutoring for multiplication fact fluency. *Journal of Behavioral Education, 18*, 300–318. https://doi.org/10.1007/s10864-009-9093-6

Hoff, K. E., & Ervin, R. A. (2013). Extending self-management strategies: The use of a class-wide approach. *Psychology in the Schools, 50*, 151–164. https://doi.org/10.1002/pits.21666

Jensen, W. R., Sheridan, S. M., Olympia, D., & Andrews, D. (1994). Homework and students with learning disabilities and behavior disorders: A practical, parent-based approach. *Journal of Learning Disabilities, 27*, 538–548. https://doi.org/10.1177/002221949402700901

Kamps, D. M., Barbetta, P. M., Leonard, B. R., & Delquadri, J. (1994). ClassWide Peer Tutoring: An integration strategy to improve reading skills and promote peer interactions among students with autism and general education peers. *Journal of Applied Behavior Analysis, 27*, 49–61. https://doi.org/10.1901/jaba.1994.27-49

Kamps, D. M., Greenwood, C., Arreaga-Mayer, C., Veerkamp, M. B., Utley, C., Tapia, Y., … Bannister, H. (2008). The efficacy of ClassWide Peer Tutoring in middle schools. *Education and Treatment of Children, 31*, 119–152.

Keith, T. Z., Diamond-Hallam, C., & Fine, J. G. (2004). Longitudinal effects of in-school and out-of-school homework on high school grades. *School Psychology Quarterly, 19*, 187–211. https://doi.org/10.1521/scpq.19.3.187.40278

Kohn, A. (2006). The homework myth: Why our kids get too much of a bad thing. Cambridge, MA: De Capo Life Long Books.

Langberg, J. M. (2011). *Homework, Organization, and Planning Skills (HOPS) interventions*. Bethesda, MD: National Association of School Psychologists.

Langberg, J. M., Epstein, J. N., Becker, S. P., Girio-Herrera, E., & Vaughn, A. J. (2012). Evaluation of the Homework, Organization, and Planning Skills (HOPS) intervention for middle school students with Attention Deficit Hyperactivity Disorder as implemented by school mental health providers. *School Psychology Review, 41*, 342–364.

Langberg, J. M., Epstein, J. N., Urbanowicz, C. M., Simon, J. O., & Graham, A. J. (2008). Efficacy of an organization skills intervention to improve the academic functioning of students with Attention-Deficit/Hyperactivity Disorder. *School Psychology Quarterly, 23*, 407–417. https://doi.org/10.1037/1045-3830.23.3.407

Livingston, G. (2019). *The way U.S. teens spend their time is changing, but differences between boys and girls persist*. FACTANK: News in the numbers, Pew Research Center. www.pewresearch.org/fact-tank/2019/02/20/the-way-u-s-teens-spend-their-time-is-changing-but-differences-between-boys-and-girls-persist/

Mathes, P. M., Howard, J. K., Allen, S. H., & Fuchs, D. (1998). Peer-Assisted Learning Strategies for first-grade readers: Responding to the needs of diversity. *Reading Research Quarterly, 33*, 62–94. https://doi.org/10.1598/rrq.33.1.4

Mautone, J. A., Marshall, S. A., Sharman, J., Eiraldi, R. B., Jawad, A. F., & Power, T. J. (2012). Development of a family-school intervention for young children with Attention Deficit Hyperactivity Disorder. *School Psychology Review, 41*, 447–466.

National Education Commission on Time and Learning. (2005). *Prisoners of time: Report of the National Commission on Time and Learning*. Washington, DC.

Power, T. J., Mautone, J. A., Soffer, S. L., Clarke, A. T., Marshall, S. A., Sharman, J., … Jawad, A. F. (2012). A family-school intervention for children with ADHD: Results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 80*, 611–623. https://doi.org/10.1037/a0028188

Pressman, R. M., Sugarman, D. B., Nemon, M. L., Desjarlais, J., Owens, J. A., & Schettini-Evans, A. (2015). Homework and family stress: With consideration of parents' self confidence, educational level, and cultural background. *The American Journal of Family Therapy, 43*, 297–313. https://doi.org/10.1080/01926187.2015.1061407

Reschly, A. L., Appleton, J. J., & Pohl, A. (2014). Best practices in fostering student engagement. In A. Thomas & P. Harrison (Eds.), *Best practices in school psychology: Student level services* (6th ed., pp. 37–50). Bethesda, MD: National Association of School Psychologists.

Reschly, A. L., & Christenson, S. L. (2012). Jingle, jangle, and conceptual haziness: Evolution and future directions of the engagement construct. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 3–19). Boston, MD: Springer. https://doi.org/10.1007/978-1-4614-2018-7_1

Reschly, A. L. & Christenson, S. L. (2019, September). Lowering the high school dropout rate: Lessons from the research (PDK Primer #2). Arlington, VA: Phi Delta Kappa.

Saenz, L. M., Fuchs, L. S., & Fuchs, D. (2005). Peer-Assisted Learning Strategies for English language earners with learning disabilities. *Exceptional Children, 71*, 213–247. https://doi.org/10.1177/001440290507100302

Sheridan, S. M. (2009). Commentary: Homework interventions for children with attention and learning problems: Where is the "home" in "homework?" School Psychology Review, 38, 334–338.

Shernoff, E. S., Frazier, S. L., Martinez-Lora, A. M., Lakind, D., Atkins, M. S., Jakobsons, L., … Patel, D. A. (2016). Expanding the role of school psychologists to support early career teachers: A mixed-method study. *School Psychology Review, 45*, 226–249. https://doi.org/10.17105/spr45-2.226-249

Sprick, R. (2009). *CHAMPS: A proactive & positive approach to classroom management*. Eugene, OR: Ancora.

Sprick, R., Knight, J., Reinke, W., Skyles, T. M., & Barnes, L. (2010). *Coaching classroom management: Strategies & tools for administrators & coaches* (2nd ed.). Eugene, OR: Ancora.

Theodore, L. A., Dioguardi, R. J., Hughes, T. L., Aloiso, D., Carlo, M., & Eccles, D. (2009). A class-wide intervention for improving homework performance. *Journal of Educational and Psychological Consultation, 19*, 275–299. https://doi.org/10.1080/10474410902888657

VanDerHeyden, A. M. (2014). Best practices in can't do/won't do academic assessment. In P. L. Harrison & A. Thomas (Eds.), *Best practices in school psychology: Data-based and collaborative decision making*. Bethesda, MD: National Association of School Psychologists.

Veerkamp, M. B., Kamps, D. M., & Cooper, L. (2007). The effects of ClassWide Peer Tutoring on the reading achievement of urban middle school students. *Education and Treatment of Children, 30*, 21–51.

Ysseldyke, J. E., & Christenson, S. L. (2002). *FAAB: Functional Assessment of Academic Behavior: Creating successful learning environments*. Longmont, CO: Sopris West.

Chapter 6
Peer-Assisted Learning Strategies (PALS): A Validated Classwide Program for Improving Reading and Mathematics Performance

Douglas Fuchs, Lynn S. Fuchs, and Rebecca Abramson

The best thing about PALS is being respectful to people that may not be as strong a reader as you. My reading improved during PALS. In PALS, when your partner makes a mistake, you're taught how to encourage him to do it again. Also you can tell him 'good job' when he does good after he rereads the sentence. I really hope we can do PALS again because it was really fun.

—Merri, a second grader.

In this chapter, we provide an overview of Peer-Assisted Learning Strategies, widely known as PALS, a suite of validated, universal-tier programs, conducted by the classroom teacher in the general education classroom, with the primary goal of improving reading and mathematics outcomes for all learners in the general education classroom. In this chapter, we begin by describing PALS's purpose, structure, and goal, as well as the processes by which PALS is designed to accomplish that goal. Then we explain PALS's essential components and describe what research studies tell us about the effects of PALS on reading and math achievement and on social standing. Next, we explain considerations for implementing and draw conclusions.

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Purpose, Structure, Goal, and Processes for Accomplishing That Goal

PALS is used as a supplement to the adopted core reading or mathematics program. With PALS, the teacher organizes her class of students in pairs to work together 2–4 times per week for 20–30 minutes per session. Pairs work on a highly structured set of activities that provide guided instruction and practice on academic content, including foundational-level skills and higher-order strategies.

The goal is to establish a classroom routine that benefits students' academic learning and that encourages productive academic behavior and supports socio-emotional growth via two related processes. First, intensive one-to-one peer interactions permit many opportunities for students to ask and respond to questions, to receive immediate corrective feedback, to experience high doses of academically engaged time, and to participate in constructive, supported peer-to-peer social interactions. The second process by which PALS improves outcomes is by establishing a routine classroom structure by which teachers can differentiate instruction. With the PALS structure, teachers assign different pairs to simultaneously work on different levels of text or different mathematics skills, sometimes using varying levels of scaffolds or supports.

Essential PALS Components

PALS Manuals and Training

A different PALS manual is provided for each grade within each content area (reading vs mathematics). Manuals explain the structure of the PALS program for that content area/grade. They also provide the necessary materials for implementing PALS, as well as detailed, scripted lessons for the classroom teacher to use in training her class to conduct PALS in a productive and orderly fashion. As procedures/activities are taught, they are incorporated into the PALS sessions. New activities are gradually added as students gain experience with the previously introduced activities. Training is completed over 4–6 weeks, depending on grade/content area. For information on obtaining PALS manuals, go to www.peer-assistedlearningstrategies.net.

Coach and Player Roles

The teacher pairs the students in her class to place a higher-performing student with a lower-performing student. Pairs are reassigned every 2 weeks in Math PALS, and every month in Reading PALS. Tables 6.1a and 6.1b shows procedures for pairing

Table 6.1a Reading pairing scheme

Pair	First coach	First player
A	Student 1	Student 10
B	Student 2	Student 11
C	Student 3	Student 12
D	Student 4	Student 13
E	Student 5	Student 14
F	Student 6	Student 15
G	Student 7	Student 16
H	Student 8	Student 17
I	Student 9	Student 18

Table 6.1b Math pairing scheme

Pair	First coach	First player
A	Student 1	Student 18
B	Student 2	Student 17
C	Student 3	Student 16
D	Student 4	Student 10
E	Student 5	Student 11
F	Student 6	Student 12
G	Student 7	Student 13
H	Student 8	Student 14
I	Student 9	Student 15

students, which is based on the teacher's rank ordering of the students' skill level. This procedure differs in reading and math.

Also, in Reading PALS, one student in each pair is designated first reader, the other as second reader; students reverse roles halfway through each activity. In math PALS, the students are referred to as Coach and Player; students switch roles halfway through the Coaching component (see Table 6.2b). For ease of communication in this overview, we refer to the "tutor" role as Coach and to the "learner" role as Player. The Coach helps the Player work step by step through the lesson's activities, structuring the Player's thinking via guided questions and providing corrective feedback for each error and praise for correct responding.

The PALS program is explicitly scripted for the Coach and the Player so students have clear guidelines for their roles in the learning process (see Fig. 6.1 for how explicit feedback is structured, using as an example the Paragraph Shrinking Activity in PALS Reading at Grades 2–6). Typically, in PALS Reading, the higher-performing student starts as Player and the lower-performing student as Coach. This permits the higher-performing student to model correct reading for the lower-performing student. In PALS Math, the higher-performing student begins as Coach to model correct execution of the procedure or strategy and to model productive methods for giving feedback and providing strong explanations.

Fig. 6.1 Illustration of the PALS reading paragraph shrinking activity

PALS Motivation and Behavior Management

PALS incorporates a point system designed to maintain motivation and encourage positive pair interactions and productive academic behavior. Pairs are responsible for awarding each other points in each PALS lesson for correct responses to problems and questions. They record points on a pre-numbered score card. At the end of each session, the teacher identifies the pair who earned the most points that day; that pair collected the PALS folders. To create both a competitive and cooperative motivational framework, teachers assign pairs to two teams. At the end of each week, the teacher sums up each team's points, and the class applauds the winning team.

Teacher's Role

In PALS, the teacher conducts the PALS training lessons during the first 4–6 weeks. Then, as PALS is implemented, she oversees each session. She announces the start of the PALS lesson and directs students to move to sit next to partners (using a simple, quiet procedure taught during training). At grades K-1, she next conducts a scripted overview of the lesson, in which the day's focus, skill, or strategy is explained, and she provides whole-class practice on that lesson's paired activities. During all paired activities, regardless of grade, the teacher circulates to answer student questions, listen to pairs, and provide help or feedback as needed, and award bonus points to pairs for strong PALS interactions and explanations. The teacher also announces times at which students to switch PALS activities and roles, and she closes out the session by praising groups for strong PALS interactions or explanations and by attending to total point earned that day or week.

PALS Activities, Content, Session Duration, and Number of Lessons

PALS shares a basic organizational structure across the grades and across reading and mathematics. However, the activities differ by grade level and content area. Tables 6.2a and 6.2b outlines the activities by content area and grade. Tables 6.3a and 6.3b outlines the content, duration of lessons, and number of lessons addressed by for reading by grade within reading versus math.

Summary of PALS Research

Scores of studies have been conducted examining PALS efficacy on students' reading and mathematics outcomes, as well as the effects on the social standing of students with disabilities who participate in PALS. In Table 6.4, we provide references

Table 6.2a PALS reading activities

Grade	Instruction		Activities per session
K	Teacher-led instruction and paired activities	1	Sound play: This teacher-directed activity provides phonological awareness and decoding instruction and introduces the lesson's activities.
		2	Lesson: The class practices this activity together; then the activity is practiced in Coach/Player pairs. The higher-performing student starts as the Coach, but the pair switches roles halfway through. Activities include grapheme-phoneme correspondence, sight word recognition, decoding, and reading sentences with fluency.
		3	Partner reading: This activity is introduced about halfway through the program and is completed in pairs with teacher-selected texts matched to instructional level of the lower-performing student in each pair. Higher-performing students read text first; then lower-performing students re-read.
1	Teacher-led instruction and paired activities	1	Hearing sounds and sounding out: This teacher-directed activity provides phonological awareness and decoding instruction and introduces the lesson's activities.
		2	Paired lesson: Activities are completed in the Coach/Player pairs. The higher-performing student always starts as Coach; halfway through each session, students switch roles. Activities include grapheme-phoneme correspondence, decoding, sight word recognition, and passage reading fluency.
		3	Speed game: This activity is completed individually, while the teacher leads the session. Students read words in the Sight Words or Stories activity as quickly as possible for 30 seconds three times. The goal is to read more words the second or third trial.
		4	Partner reading: This activity, which is introduced about halfway through the program, is completed in pairs with teacher-selected texts matched to the instructional level of the lower-performing student in each pair. Higher-performing students read text first; then lower-performing students re-read.
2–6	Paired activities	1	Partner reading: With teacher guidance, pairs select text to match lower-performing students' instructional levels. Higher-performers read first, while lower performers corrects errors. Halfway through, they switch roles.
		2	Retell: Lower performers re-tell what was read during Partner Reading; higher-performers provide corrective feedback.
		3	Paragraph shrinking: Higher-performer reads a paragraph. The lower-performing student asks Paragraph Shrinking questions; the higher-performing student answers questions; the lower-performing student provides corrects errors. They continue through paragraphs until the teacher announces it's time to switch roles, as pairs continue on to new paragraphs.
		4	Prediction relay: Higher-performers make a prediction, read half a page, and say whether the prediction came true, while lower-performers correct reading errors, ask Prediction Relay questions, and provide corrective feedback. They continue through half-pages until the teacher announces it's time to switch roles, as pairs continue on to new paragraphs.

Table 6.2b PALS math activities

Grade	Instruction		Activities per session
K-1	Teacher-led instruction and paired activities	1	Classwide skill introduction/review: The teacher introduces or reviews a skill, as she introduces the game board for that lesson. The teacher takes this time to review important concepts or terminology and helps the students understand how each pair will use game board to structure the pair's practice on that lesson's skill.
		2	Paired practice: Students break into pairs and work on their game boards, taking turns as Coach and Player.
2–6	Paired activities	1	Coaching: Students take turn coaching each other in highly structure ways, using guided worksheets
		2	Practice: Students individually complete a timed practice sheet. At the end of the 5 minutes, pairs of students switch practice papers and check each other's work.

Table 6.3a PALS reading program details

Grade level	First coach/ player	Lessons	Skills addressed	Minutes per lesson	Days per week
K	Lower/higher	72	Phonological awareness, grapheme-phoneme correspondence, decoding, sight word recognition, reading fluency	25–30	3–4
1	Lower/higher	70	Grapheme-phoneme correspondence, decoding, sight word recognition, reading fluency	40–45	3–4
2–6	Lower/higher	12	Reading fluency, reading comprehension strategies (summarizing, retelling, predicting)	35–45	3–4

for a sample of PALS studies. This bibliography is limited to research conducted by the Fuchs Research Team. It is important to note, however, that studies have been conducted by numerous faculty across the United States, Canada, Iceland, Britain, Finland, Norway, as well as other countries.

In a typical efficacy study, classrooms are randomly assigned to PALS versus non-PALS conditions. Across conditions, the core program is the same. The difference is that in the "experimental" condition, PALS is conducted during part of the core instructional block (usually substituting for independent work time). In this way, total instructional time is held constant across PALS and non-PALS conditions.

In each classroom, the researchers identify a subset of students for pre- and post-testing in the study. The sample systematically includes students with learning disabilities as well as other students who at the start of the year demonstrate low academic performance, those with average performance, and students with high performance in the relevant academic domain. The researchers administer pretests and posttests of academic performance to these research participants. In some

Table 6.3b PALS math program details

Grade level	First coach/ player	Lessons	Skills addressed		Minutes per lesson	Days per week
K	Higher/lower	32	Number recognition, number magnitude, number principles, adding and subtracting concepts and operations		20	2
1	Higher/lower	36	Number concepts, principles, magnitude, addition and subtraction concepts and procedures, place value, missing addends		20	3
2	Higher/lower	68	*Calculations:* adding basic facts, adding with and without regrouping, subtracting basic facts, subtracting with and without regrouping	*Applications:* applied computation, charts and graphs, counting, fractions, measurement, money, number concepts, names of numbers, word problems	30	2
3	Higher/lower	84	*Calculations:* adding, subtracting, multiplying basic facts, multi-step multiplication, dividing basic facts	*Applications:* applied computation, charts and graphs, counting, decimals, fractions, measurement, money, number concepts, number names, word problems	30	2
4	Higher/lower	88	*Calculations:* adding, subtracting, multiplying basic facts, multiplying, dividing basic facts, dividing, adding and subtracting fractions	*Applications:* area and perimeter, charts and graphs, decimals, fractions, grid reading, measurement, number concepts, number names, word problems	30	2

Table 6.3b (continued)

Grade level	First coach/ player	Lessons	Skills addressed		Minutes per lesson	Days per week
5	Higher/lower	76	*Calculations:* adding, subtracting, multiplying, dividing, reducing/renaming fractions, adding and subtracting fractions, adding and subtracting decimals	*Applications:* applied computation, charts and graphs, geometry, decimals, fractions and factors, measurement, money, numeration, word problems	30	2
6	Higher/lower	80	*Calculations*: adding, subtracting, multiplying, dividing with whole numbers, common fractions, and decimals	*Applications:* applied computation, charts and graphs, geometry, measurement, numeration, percentages, proportions, ratios and probability, variables, word problems	30	2

studies, the researchers also administer measures of students' social standing in the classroom.

Findings favor the academic learning of students in PALS classrooms improves over students in control classrooms. This is true for all four learner types: students with learning disabilities, as well as other students who began the year with low, average, or high levels of academic performance. Thus, PALS appears to benefit all types of student learners. Additionally, students with learning disabilities are better known, are better liked, and have more friends in PALS classrooms than in non-PALS classrooms.

Considerations for Implementing PALS

High-quality and experienced trainers are available to help states, districts, or schools learn how to implement PALS. This can be accomplished in 1-day training session or multi-day workshops (depending on how many academic areas and grade

Table 6.4 Illustrative PALS studies and overview articles from the Fuchs Research Team

Reading PALS
Rafdal, B. H., McMaster, K. L., McConnell, S. R., Fuchs, D., & Fuchs, L. S. (2011). The effectiveness of kindergarten Peer-Assisted Learning Strategies for students with disabilities. *Exceptional Children, 77*, 299–316.
Kearns, D. M., Fuchs, D., McMaster, K. L., Saenz, L., Fuchs, L. S., Yen, L., Meyers, C., Stein, M., Compton, D., Berends, M., & Smith, T. M. (2010). Factors contributing to teachers' sustained use of kindergarten Peer-Assisted Learning Strategies. *Journal of Research on Educational Effectiveness, 3*, 315–343.
Saenz, L., McMaster, K., Fuchs, D., & Fuchs, L. S. (2007). Peer-Assisted Learning Strategies in reading for students with different learning needs. *Journal of Cognitive Education and Psychology, 6*, 395–410.
McMaster, K. L., Fuchs, D., & Fuchs, L. S. (2007). Promises and limitations of Peer-Assisted Learning Strategies in reading. *Learning Disabilities: A Contemporary Journal, 5*, 97–112.
McMaster, K. L., Fuchs, D., & Fuchs, L. S. (2006). Research on Peer-Assisted Learning strategies: Peer mediation's promise and limitations. *Reading and Writing Quarterly, 22*, 5–25.
Fuchs, D., & Fuchs, L. S. (2005). Peer-Assisted Learning Strategies: Promoting word recognition, fluency, and comprehension in young children. *Journal of Special Education, 39*, 34–44.
Dion, E., Fuchs, D., & Fuchs, L. S. (2005). Differential effects of Peer-Assisted Learning Strategies on students' social preference and friendship making. *Behavioral Disorders, 30*, 421–429.
Fuchs, D., Fuchs, L. S., Mathes, P. G., & Martinez, E. A. (2002). Preliminary evidence on the social standing of students with learning disabilities in PALS and No-PALS classrooms. *Learning Disabilities Research and Practice, 17*, 205–215.
Fuchs, D., Fuchs, L. S., Thompson, A., Yen, L., Al Otaiba, S., Nyman, K., Svenson, E., Yang, N., Prentice, K., Kazdan, S., & Saenz, L. (2001). Teachers and researchers collaborating to extend Peer-Assisted Learning Strategies to kindergarten and high school. *Remedial and Special Education, 22*, 15–21.
Fuchs, D., Fuchs, L. S., Al Otaiba, S., Thompson, A., Yen, L., McMaster, K. N., Svenson, E., & Yang, N. (2001). K-PALS: Helping kindergartners with reading readiness: Teachers and researchers in partnership. *Teaching Exceptional Children, 33*(4), 76–80.
Fuchs, D., Fuchs, L. S., & Burish, P. (2000). Peer-Assisted Learning Strategies: An evidence-based practice to promote reading achievement. *Learning Disabilities Research and Practice, 15*, 85–91.
Fuchs, L. S., Fuchs, D., Kazdan, S., & Allen, S. (1999). Effects of Peer-Assisted Learning Strategies in reading with and without training in elaborated help giving. *Elementary School Journal, 99*, 201–220.
Fuchs, D., Fuchs, L. S., Mathes, P., & Simmons, D. (1997). Peer-Assisted Learning Strategies: Making classrooms more responsive to student diversity. *American Educational Research Journal, 34*, 174–206.
Math PALS
Saenz, L., Fuchs, L. S., & Fuchs, D. (2005). Effects of Peer-Assisted Learning Strategies on English language learners: A randomized controlled study. *Exceptional Children, 71*, 231–247.
Calhoon, M. B., & Fuchs, L. S. (2003). The effects of peer-assisted learning strategies and curriculum-based measurement on the mathematics performance of secondary students with disabilities. *Remedial and Special Education, 24*, 235–245.
Fuchs, L. S., Fuchs, D., Yazdian, L., & Powell, S. R. (2002). Enhancing first-grade children's mathematical development with Peer-Assisted Learning Strategies. *School Psychology Review, 31*, 569–584.

(continued)

Table 6.4 (continued)

Fuchs, L. S., Fuchs, D., & Karns, K. (2001). Enhancing kindergarten children's mathematical development: Effects of Peer-Assisted Learning Strategies. *Elementary School Journal, 101*, 495–510.

Fuchs, L. S., Fuchs, D., Karns, K., Yazdian, L., & Powell, S. (2001). Creating a strong foundation for mathematics learning with Kindergarten Peer-Assisted Learning Strategies. *Teaching Exceptional Children, 33*, 84–87.

Stecker, P. M., Fuchs, L. S., & Fuchs, D. (2000). Enhancing interactions during dyadic learning in mathematics. *Swiss Journal of Educational Sciences, 22*, 467–480.

Fuchs, L. S., Fuchs, D., & Kazdan, S. (1999). Effects of Peer-Assisted Learning Strategies on high-school students with serious reading problems. *Remedial and Special Education, 20*, 309–318.

Fuchs, L. S., Fuchs, D., Hamlett, C. L., & Karns, K. (1998). High-achieving students' interactions and performance on complex mathematical tasks as a function of homogeneous and heterogeneous pairings. *American Educational Research Journal, 35*, 227–268.

Fuchs, L. S., Fuchs, D., Hamlett, C. L., Phillips, N. B., Karns, K., & Dutka, S. (1997). Enhancing students' helping behavior during peer-mediated instruction with conceptual mathematical explanations. *Elementary School Journal, 97*, 223–250.

Fuchs, L. S., Fuchs, D., Karns, K., Hamlett, C. L., Dutka, S., & Katzaroff, M. (1996). The relation between student ability and the quality and effectiveness of explanations. *American Educational Research Journal, 33*, 631–664.

Fuchs, L. S., Fuchs, D., Hamlett, C. L., Phillips, N. B., & Karns, K. (1995). General educators' specialized adaptation for students with learning disabilities. *Exceptional Children, 61*, 440–459.

Fuchs, L. S., Fuchs, D., Phillips, N. B., Hamlett, C. L., & Karns, K. (1995). Acquisition and transfer effects of classwide Peer-Assisted Learning Strategies in mathematics for students with varying learning histories. *School Psychology Review, 24*, 604–620.

Fuchs, L. S., Fuchs, D., Bentz, J., Phillips, N. B., & Hamlett, C. L. (1994). The nature of student interactions during peer tutoring with and without prior training and experience. *American Educational Research Journal, 31*, 75–103.

levels are being adopted), and schools can arrange for trainers to provide follow-up observations and corrective feedback to ensure optimal implementation.

School personnel should also be mindful that to achieve strong engagement, ensure optimal effects on reading and math, and enhance students' social standing, teachers must allocate the time needed to carefully prepare their students to implement PALS according to plan and that teachers must implement PALS according to the designated schedule. Once classrooms are trained in using PALS, teachers need to be vigilant in keeping students in motivating text of appropriate difficulty (for grades 2–6 Reading PALS) and in attending to photocopying demands (for keeping Math PALS filled with the required materials). Also, although the vast majority of children easily learn how to be helpful, kind learning partners, teachers should be prepared for the occasional student who requires special attention to maintain appropriate PALS behavior. This can sometimes require an individualized behavioral contract or dedicated use of the most proficient and understanding classroom peers to serve as these students' partners.

Conclusions

PALS is a classroom-based intervention with strong evidence for strengthening reading and math outcomes, achieving strong engagement, and enhancing students' social standing improving. PALS can be used to supplement a broad array of core programs and, as shown in research, PALS provides an academic "safety-net" for students who require additional structured practice to achieve reading and math benchmarks. Teachers and students alike enjoy using PALS. Teachers report that PALS is easy to implement. Students report that PALS is fun, and the level of student engagement in PALS classrooms is notable. Due to its demonstrated effects within high-quality randomized control trials, its affordability, and its ease of use, PALS has become a very popular educational innovation, used widely throughout the United States, and it has been translated into a variety of languages for implementation in many countries across the globe.

Resources/for More Information

PALS manuals, which provide all materials for implementing PALS (except library reading material) and scripted lessons for teachers to prepare classrooms to implement PALS) are available for kindergarten, grade 1, and grades 2–6 in reading and in math. For information on obtaining PALS manuals, go to www.peerassistedlearningstrategies.com or contact lynn.a.davies@vanderbilt.edu. The website also provides additional information on PALS as well as manuals for conducting validated supplementary, small-group reading and math interventions.

Chapter 7
The Homework, Organization, and Planning Skills (HOPS) Intervention

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The HOPS intervention focuses specifically on helping students develop and implement effective systems for materials organization, planning, and time-management surrounding homework completion and test preparation. This is because homework, organization, and planning skills are important mechanisms through which students learn and engage in school (Ramdass & Zimmerman, 2011; Wang & Holcombe, 2010). Further, effective use of these skills is strongly associated with academic achievement (Bikic, Reichow, McCauley, Ibrahim, & Sukhodolsky, 2017; Cooper, Robinson, & Patell, 2006; DiPerna & Elliott, 2002; Mega, Ronconi, & De Beni, 2014; Zimmerman, 2002). In the research and popular literature, organization and planning skills go by many different names, which unfortunately lead to confusion about the best way for schools and practitioners to promote these abilities. Accordingly, this section begins with an attempt to define the core constructs targeted by the HOPS intervention, and how they relate to other commonly used terms. We then move on to a description of how the HOPS intervention targets these skills and provide a brief review of the evidence base for the intervention. This section concludes with future directions, focusing on the potential for the HOPS intervention to be implemented and evaluated using a tiered, response-to-intervention approach.

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Terminology

Organization, time-management, and planning skills are commonly discussed within the context of executive functions (EF) and self-regulation (Hofmann, Schmeichel, & Baddeley, 2012; Nigg, 2017). Indeed, a cursory search of the research literature will reveal the presence of largely separate, and independently developing, interventions targeting executive function, self-regulation, and organization and planning skills (Blair & Diamond, 2008; Diamond & Lee, 2011; Jacob & Parkinson, 2015). It is our view that it is critical for schools to understand the differences in these terms so that they can make informed choices about intervention implementation. In a world with limited resources, implementing separate interventions for executive function, self-regulation, and organization and planning skills in a single school is not feasible or necessary. However, it is important to acknowledge that there is a fair bit of disagreement in how these terms are defined, and the information below represents only one viewpoint (see Hofmann et al., 2012; Jurado & Rosselli, 2007, for a more in-depth discussion).

Executive Function

The broadest of the aforementioned terms is executive function (EF). EF is an umbrella term that broadly refers to the cognitive processes necessary to complete goal-directed behavior (Anderson, 2002; Pennington & Ozonoff, 1996). Included under the EF umbrella is an array of processes such as inhibition, working memory, self-monitoring of behavior, and organization and planning abilities (Nigg, 2017). EF has become a hot topic in the research literature, with thousands of studies published in the last 10 years alone. This is partly because it is undeniable that EF abilities are highly predictive of important functional outcomes such as academic, emotional, and interpersonal functioning (Best, Miller, & Naglieri, 2011; Blair & Razza, 2007; Riggs, Jahromi, Razza, Dillworth-Bart, & Mueller, 2006). However, given the broad nature of EF, lack of clarity in construct definitions, and disagreement on the best methods for measuring EF (Jurado & Rosselli, 2007; Miyake et al., 2000; Toplak, West, & Stanovich, 2013), it is our stance that stating that an intervention targets EF is misleading. No single intervention teaches students to simultaneously inhibit behavior, shift between tasks, control emotions, improve working memory and the ability to self-initiate tasks, and also teaches organization and planning skills. Recognizing the broad nature of EF, some researchers have chosen to focus more narrowly on self-regulation.

Self-Regulation

Self-regulation is typically considered an integral aspect of EF, and is defined as the ability to voluntarily control behavior and emotions to facilitate the pursuit of long-term goals (Baumeister & Heatherton, 1996; Nigg, 2017). This admittedly sounds very similar to the definition of EF, but is different, in that self-regulation refers to the application of skills. For example, children with Attention-Deficit/Hyperactivity Disorder (ADHD) often possess certain skills (e.g., social skills), but lack the ability to self-monitor and regulate their behavior and emotions sufficiently to use the skills in certain situations (Rosen et al., 2014; Wheeler Maedgen & Carlson, 2000). This would be considered a self-regulation or inhibition problem rather than a skills deficit. Similar to EF, self-regulation is a broad construct that theoretically can be applied to a variety of different behaviors such as emotional control and organization and planning behaviors (e.g., Cole, Martin, & Dennis, 2004; Rueda, Posner, & Rothbart, 2004). It remains to be seen whether a single intervention can broadly teach students to self-regulate, whereby the self-regulation skills would apply across a variety of different behaviors and contexts.

Organization, Time-Management, and Planning Skills

As is implied in the name, the HOPS intervention specifically focuses on students' use of organization and planning skills as applied to the core academic tasks of homework completion and studying for tests. As such, these skills are certainly aspects of EF, and a large part of the intervention curriculum focuses on teaching students to monitor and self-regulate these skills. Referring specifically to homework, organization, and planning skills, rather than calling HOPS an EF or self-regulation intervention, is intended to provide schools with a clear understanding of what the intervention does—and does not—target. The HOPS intervention focuses specifically on these skills for several reasons. First, like it or not, homework is one of the main ways schools seek to engage students in learning, and homework completion is therefore essential for academic success. That is not to say that students cannot learn without completing homework, but rather, that in the current context, homework completion is inexorably associated with academic outcomes such as grade point average (Cooper et al., 2006). Second, despite the fact that organization and planning skills are essential components of academic success, many schools do not formally teach these skills, at least in the way they teach math or reading. The HOPS intervention is designed to provide schools with a feasible framework for teaching these skills. Third, organization, planning, and time-management skills are important life skills that directly impact multiple domains of functioning, and will continue to do so long term (e.g., occupational success). Homework, although disliked by many families and students and a frequent source of conflict at home

(Allison & Schultz, 2004), does provide a unique opportunity for students to learn to effectively use organization and time-management skills.

Description of HOPS

The core premise underlying the HOPS intervention is that if we specifically define and tell students what to do, rather than assuming that they know and waiting for them to fail, many more students will reach their full academic potential. Unfortunately, the status quo is to assume that by middle school, students understand how to record assignments and tests in their planners and in what detail, devise a system for transferring materials to and from school, sort and file school papers, break assignments and studying into smaller manageable pieces, plan for when to complete school activities, and balance school and extracurricular activities. Stop and think about that assumption; is it realistic? How many adults do you know who continue to struggle with these skills beyond secondary school and into the work environment? If you accept the assertions that organization and planning skills are not automatically learned, and that these skills are important for engaging students in school, the question becomes "How can schools prioritize and teach these skills?" The first step in this process is defining exactly what is meant by organization, planning, and time-management skills so that clear, specific, and developmentally appropriate goals can be established.

The HOPS intervention defines what an organized binder, bookbag, and locker looks like and provides those specific definitions as criteria on checklists. The HOPS intervention also defines what it means to plan ahead and to manage time effectively and provides those criteria on a checklist. The criteria recommended in the HOPS intervention are by no means the only way to define organization and planning skills, and schools are free to add or edit the criteria. The critical piece is acknowledging that some sort of definition is necessary so that expectations are clear and do not vary across teachers/classrooms. The checklists allow teachers and counselors to quickly evaluate whether or not the behavior was demonstrated (i.e., criteria are answered "yes or no"). This provides the framework for monitoring, tracking progress, goal setting, and reinforcing students' use of homework, organization, and planning skills.

The frequency with which checklists are completed, and whether rewards or consequences are applied, depends upon the student's level of impairment. For most students, a universal approach where the school defines organization and planning expectations for all students and has homeroom teachers evaluate the use of these skills once or twice per month will be sufficient. In other words, for the majority of students, simply telling them exactly what is expected (e.g., what level of detail is recorded in a planner) and monitoring progress will lead more students to uniformly and efficiently apply organization and planning skills. For some students, additional instruction may be necessary, and contingencies may be needed to increase motivation. This can be accomplished by delivering HOPS in a small group format, where

students meet weekly with a counselor or teacher for a semester. This format may be appropriate for students who are not formally diagnosed or identified (e.g., 504 or IEP), but whose academic performance is suffering due to low rates of homework completion.

Some students truly have deficits in their understanding of organization and planning skills and in their ability to self-monitor and regulate those skills. Students with ADHD would fall into this category because difficulties with organization and planning are core characteristics of the disorder (American Psychiatric Association, 2013). For these students, a 1:1 counselor to student model with caregiver involvement is often necessary. Given the severity of the deficits present in these students, the HOPS manual recommends that intervention meetings are initially twice per week and then move to once per week. The move to once per week coincides with an increased focus on teaching students to self-regulate their own organization and planning behaviors. Students create visual prompts that get posted in their lockers and at home, reminding them to check their materials. They also receive a self-management checklist, on which to self-evaluate a few of the most important criteria (e.g., no loose papers in the bookbag or binder). At this point, contingencies are applied both for the student coming to session and having met the checklist criteria, and also for completion of the self-management checklist. It is important to note that the HOPS intervention was designed with feedback from school administration, counselors, and psychologists. Accordingly, even in the 1:1 model, for feasibility and resource reasons, all meetings with the student are 20 minutes or less. The HOPS intervention was designed with students with ADHD in mind. As such, the intervention manual focuses primarily on the 1:1 delivery model but also briefly describes the small group and universal approaches. The manual also describes how schools could take a tiered, or response to intervention approach.

The HOPS intervention also includes two meetings between the School Mental Health (SMH) provider and then SMH in subsequent uses. The purpose of these meetings is to promote generalization of skills use to the home setting and across time. During the first meeting, caregivers work with the SMH provider to develop a plan for feasibly and consistently monitoring homework and organizational skills at home. During the second meeting, the SMH provider helps the parent troubleshoot and add a rewards system if necessary. SMH providers may also work to facilitate generalization of skills use across time by incorporating checklist completion into students' IEP and 504 plans.

Outcomes Associated with HOPS

To date, the 1:1 model of the HOPS intervention has been evaluated in one open trial (no control group; Langberg et al., 2011), one small randomized controlled trial (RCT; Langberg, Epstein, Becker, Girio-Herrera, & Vaughn, 2012), and was recently evaluated as compared to an active control group (another intervention of equal dose) in a large RCT (Langberg et al., 2018). The recently completed RCT was the

largest study of the HOPS intervention to date ($N = 260$ middle school students with ADHD) and unique because HOPS was compared to an intervention called Completing Homework by Improving Efficiency and Focus (CHIEF), which focuses on providing students with behavioral support during homework completion. Small group HOPS has been evaluated in one small RCT (Langberg, Epstein, Urbanowicz, Simon, & Graham, 2008), with the groups implemented in an after-school program. All of this work has taken place with middle school students with ADHD. For each of these studies, outcome measurement has consisted of (1) mechanisms of change (i.e., do students improve on the organization and time-management skills checklists administered at each meeting?); (2) parent ratings of homework problems, organization and planning skills; (3) teacher ratings of homework problems, organization, and planning skills; and (4) more objective academic outcomes such as grade point average (GPA).

Across all of the studies completed to date, students have uniformly made large gains in binder, bookbag, and locker organization according to the checklists and have also recorded more homework assignments accurately and in sufficient detail (e.g., see Langberg, Epstein, Urbanowicz, et al., 2008; pp. 413–414, figures with these data). In addition, across all studies, parent ratings of homework, organization, and planning skills have shown large and significant improvements (average Cohen's *d* effect size approximately 0.8–1.29). Importantly, improvements on the checklists and parent ratings have been sustained at follow-up assessments in multiple studies. In contrast, participants have made negligible to moderate gains according to middle school teacher ratings of these same constructs. For example, in the most recent RCT (Langberg et al., 2018), HOPS participants as a group did not improve on teacher ratings of homework problems but did make moderate effect size improvements on teacher ratings of organization ($d = 0.55$). Finally, in multiple studies, HOPS participants have demonstrated some improvement in grade point average (GPA), with small-to-moderate effect sizes.

Predictors and Moderators of Outcomes

Three studies to date have evaluated predictors or moderators of response to the HOPS intervention (Breaux, Langberg, Molitor et al., 2018; Langberg et al., 2018; Langberg, Becker, Epstein, Vaughn, & Girio-Herrera, 2013). A range of predictors and moderators have been evaluated, including achievement scores, intelligence, ADHD and Oppositional Defiant Disorder (ODD) symptoms, and executive function (EF) abilities. In addition, organization and planning skills from the HOPS checklists and the counselor-student therapeutic alliance have been evaluated as predictors. In Langberg et al. (2013), ADHD symptom severity, the therapeutic alliance as rated by the student, and binder organization criteria were the three most powerful predictors of outcomes, with associations in the expected directions. In the final model, student adherence to the criteria on the binder organization checklist significantly predicted outcomes above and beyond the therapeutic alliance and

ADHD symptoms. Nevertheless, the importance of the therapeutic alliance is noteworthy, and was recently confirmed in a large study of HOPS (Breaux, Langberg, McLeod et al., 2018). Many students with ADHD will not consistently use the HOPS skills unless external motivators or contingencies are provided. It is important to remember that a strong bond with the SMH provider or teacher implementing the intervention can serve as a powerful external motivator. Praise and attention from the SMH provider is in essence no different than providing points or other material rewards. Finally, the Langberg et al. (2018) moderation analyses revealed that participants with more severe psychopathology and behavioral dysregulation (e.g., more severe ODD symptoms) did significantly better with the HOPS intervention as compared to the CHIEF intervention, according to both parent and teacher ratings of homework and organization.

Future Directions

As noted above, HOPS could be implemented using a tiered or response to intervention approach. In such a model, it would be useful to evaluate markers of improvement or lack of improvement that could be used to determine whether students require more intensive intervention (e.g., small group or 1:1). One option would be to use the HOPS intervention checklists and if students fail to reach a certain threshold (e.g., 80% on binder organization checklist by week 4 of the program), then they would be moved into small group HOPS. An alternative would be to more directly use a school-related metric, such as percentage of homework assignments turned in. For example, students might be moved from small group HOPS to individual HOPS if they continue to turn in fewer than 75% of their assignments on-time. This type of study would also provide important information about the cost-effectiveness of the HOPS intervention. Specifically, each intervention tier is associated with the use of more resources, largely in the form of personnel/counselor time and effort. Currently, it is unknown what percentage of students respond to universal HOPS, what percent would need to move onto small group, and what percent would require individually administered HOPS. These types of data would allow schools to fully understand the cost of broadly implementing the HOPS intervention relative to the outcomes produced.

Conclusion

In summary, the HOPS intervention is based upon the idea that organization and planning skills are important for engaging students in the learning process and that we do students a disservice by not specifically teaching these skills. Developmentally, organization and planning skills become relevant during the late elementary period, and are critical for academic success throughout secondary school. Homework is a

major component of most school curricula, and students who struggle with homework are less likely to feel engaged in school and to be motivated to excel academically. Likewise, students who are not taught how to plan ahead and to prepare for tests may perform poorly and fail to demonstrate their full academic potential. The HOPS intervention is designed to provide students with the skills they need to more actively engage in the school setting and learning process.

For additional information on the HOPS intervention, manuals are available for SMH providers and for parents that outline specific strategies and procedures for teaching homework, organization, and planning skills. Chapters from the HOPS parent's guide are often used by SMH providers as handouts that serve to engage parents in supporting school-based intervention efforts. Both the SMH provider manual and parent's guide are available through the National Association of School Psychologists (NASP) website.

References

Allison, B. N., & Schultz, J. B. (2004). Parent-adolescent conflict in early adolescence. *Adolescence, 39*(153), 101.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

Anderson, P. (2002). Assessment and development of executive function (EF) during childhood. *Child Neuropsychology, 8*(2), 71–82.

Baumeister, R. F., & Heatherton, T. F. (1996). Self-regulation failure: An overview. *Psychological Inquiry, 7*(1), 1–15.

Best, J. R., Miller, P. H., & Naglieri, J. A. (2011). Relations between executive function and academic achievement from ages 5 to 17 in a large, representative national sample. *Learning and Individual Differences, 21*(4), 327–336.

Bikic, A., Reichow, B., McCauley, S. A., Ibrahim, K., & Sukhodolsky, D. G. (2017). Meta-analysis of organizational skills interventions for children and adolescents with Attention-Deficit/Hyperactivity Disorder. *Clinical Psychology Review, 52*, 108–123.

Blair, C., & Diamond, A. (2008). Biological processes in prevention and intervention: The promotion of self-regulation as a means of preventing school failure. *Development and Psychopathology, 20*(03), 899–911.

Blair, C., & Razza, R. P. (2007). Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child Development, 78*(2), 647–663.

Breaux, R. P., Langberg, J. M., Molitor, S. J., Dvorsky, M. R., Bourchtein, E., Smith, Z. R., & Green, C. D. (2018). Predictors and trajectories of response to the Homework, Organization, and Planning Skills (HOPS) intervention for adolescents with ADHD. *Behavior Therapy, 50*(1), 140–154. https://doi.org/10.1016/j.beth.2018.04.001.

Breaux, R. P., Langberg, J. M., McLeod, B. D., Molitor, S. J., Smith, Z., Bourchtein, E., & Green, C. (2018). The importance of therapeutic processes in school-based psychosocial treatment of homework problems in adolescents with ADHD. *Journal of Consulting and Clinical Psychology*. 86(5), 427–438. https://doi.org/10.1037/ccp0000300.

Cole, P. M., Martin, S. E., & Dennis, T. A. (2004). Emotion regulation as a scientific construct: Methodological challenges and directions for child development research. *Child Development, 75*(2), 317–333.

Cooper, H., Robinson, J. C., & Patall, E. A. (2006). Does homework improve academic achievement? A synthesis of research. *Review of Educational Research, 76*(1), 1–62.

Diamond, A., & Lee, K. (2011). Interventions shown to aid executive function development in children 4 to 12 years old. *Science, 333*(6045), 959–964.

DiPerna, J. C., & Elliott, S. N. (2002). Promoting academic enablers to improve student achievement: An introduction to the mini-series. *School Psychology Review, 31*(3), 293–297.

Hofmann, W., Schmeichel, B. J., & Baddeley, A. D. (2012). Executive functions and self-regulation. *Trends in Cognitive Sciences, 16*(3), 174–180.

Jacob, R., & Parkinson, J. (2015). The potential for school-based interventions that target executive function to improve academic achievement: A review. *Review of Educational Research, 85*(4), 512–552.

Jurado, M. B., & Rosselli, M. (2007). The elusive nature of executive functions: A review of our current understanding. *Neuropsychology Review, 17*(3), 213–233.

Langberg, J. M., Becker, S. P., Epstein, J. N., Vaughn, A. J., & Girio-Herrera, E. (2013). Predictors of response and mechanisms of change in an organizational skills intervention for students with ADHD. *Journal of Child and Family Studies, 22*(7), 1000–1012.

Langberg, J. M., Dvorsky, M. R., Molitor, S. J., Bourchtein, E., Eddy, L. E., Smith, Z. R., … Eadeh, H. M. (2018). Overcoming the research-to-practice gap: A randomized trial with two brief homework and organization interventions for students with ADHD as implemented by school mental health providers. *Journal of Consulting and Clinical Psychology, 86*(1), 39–55. https://doi.org/10.1037/ccp0000265

Langberg, J. M., Epstein, J. N., Becker, S. P., Girio-Herrera, E., & Vaughn, A. J. (2012). Evaluation of the Homework, Organization, and Planning Skills (HOPS) intervention for middle school students with ADHD as implemented by school mental health providers. *School Psychology Review, 41*(3), 342.

Langberg, J. M., Epstein, J. N., Girio-Herrera, E., Becker, S. P., Vaughn, A. J., & Altaye, M. (2011). Materials organization, planning, and homework completion in middle-school students with ADHD: Impact on academic performance. *School Mental Health, 3*(2), 93–101.

Langberg, J. M., Epstein, J. N., & Graham, A. J. (2008). Organizational-skills interventions in the treatment of ADHD. *Expert Review of Neurotherapeutics, 8*(10), 1549–1561.

Langberg, J. M., Epstein, J. N., Urbanowicz, C. M., Simon, J. O., & Graham, A. J. (2008). Efficacy of an organization skills intervention to improve the academic functioning of students with attention-deficit/hyperactivity disorder. *School Psychology Quarterly, 23*(3), 407.

Langberg, J. M., Vaughn, A. J., Williamson, P., Epstein, J. N., Girio-Herrera, E., & Becker, S. P. (2011). Refinement of an organizational skills intervention for adolescents with ADHD for implementation by school mental health providers. *School Mental Health, 3*(3), 143–155.

Mega, C., Ronconi, L., & De Beni, R. (2014). What makes a good student? How emotions, self-regulated learning, and motivation contribute to academic achievement. *Journal of Educational Psychology, 106*(1), 121–131.

Miyake, A., Friedman, N. P., Emerson, M. J., Witzki, A. H., Howerter, A., & Wager, T. D. (2000). The unity and diversity of executive functions and their contributions to complex "frontal lobe" tasks: A latent variable analysis. *Cognitive Psychology, 41*(1), 49–100.

Nigg, J. T. (2017). Annual Research Review: On the relations among self-regulation, self-control, executive functioning, effortful control, cognitive control, impulsivity, risk-taking, and inhibition for developmental psychopathology. *Journal of Child Psychology and Psychiatry, 58*(4), 361–383.

Pennington, B. F., & Ozonoff, S. (1996). Executive functions and developmental psychopathology. *Journal of Child Psychology and Psychiatry, 37*(1), 51–87.

Ramdass, D., & Zimmerman, B. J. (2011). Developing self-regulation skills: The important role of homework. *Journal of Advanced Academics, 22*(2), 194–218.

Riggs, N. R., Jahromi, L. B., Razza, R. P., Dillworth-Bart, J. E., & Mueller, U. (2006). Executive function and the promotion of social–emotional competence. *Journal of Applied Developmental Psychology, 27*(4), 300–309.

Rosen, P. J., Vaughn, A. J., Epstein, J. N., Hoza, B., Arnold, L. E., Hechtman, L., … Swanson, J. M. (2014). Social self-control, externalizing behavior, and peer liking among children with ADHD-CT: A mediation model. *Social Development, 23*(2), 288–305.

Rueda, M. R., Posner, M. I., & Rothbart, M. K. (2004). Attentional control and self-regulation. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation: Research, theory, and applications* (pp. 283–300). New York, NY: Guilford Press.

Toplak, M. E., West, R. F., & Stanovich, K. E. (2013). Practitioner Review: Do performance-based measures and ratings of executive function assess the same construct? *Journal of Child Psychology and Psychiatry, 54*(2), 131–143.

Wang, M. T., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement, and academic achievement in middle school. *American Educational Research Journal, 47*(3), 633–662.

Wheeler Maedgen, J., & Carlson, C. L. (2000). Social functioning and emotional regulation in the attention deficit hyperactivity disorder subtypes. *Journal of Clinical Child Psychology, 29*(1), 30–42.

Zimmerman, B. J. (2002). Achieving academic excellence: A self-regulatory perspective. In *The pursuit of excellence through education* (pp. 85–110). Routledge, New York, NY.

Part III
Behavioral Engagement

Chapter 8
Interventions to Enhance Behavioral Engagement

Kathleen King

Vignette 1

Natalie is an 8th grade student at Fairbanks Middle School, a rural middle school in the Southwest. She is an athlete who has enjoyed playing on local recreation soccer teams since early childhood. Natalie has played on her school's soccer team since 6th grade, along with many of her friends, and attends practice after school most days. Natalie has never had any academic issues, and has been an A or B student her entire academic career. When asked, she states that she does not have a favorite subject in school. Recently, Natalie has begun to skip classes during the day to go to the corner convenience store with her friends. When she goes to class, she uses her cell phone against school policy to play games and text her friends. Natalie has also started sleeping during class instead of completing classwork. When redirected, she becomes defiant and argues with her teachers. Her behaviors have resulted in several office discipline referrals and detentions. These detentions cause Natalie to miss soccer practice and her coach has threatened to make Natalie sit out during games until she "stops acting out." In an 8th grade student support team meeting, her teachers discussed how Natalie is engaging in these behaviors several days per week and in all academic subjects.

Discussion: What are Natalie's strengths? In what ways is Natalie demonstrating engagement? In which subtype(s) of engagement does Natalie need improvement? How do Natalie's behaviors relate to affective and cognitive engagement? In which indicators of behavior engagement would intervention benefit Natalie? What strategies might you use to support Natalie's engagement?

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Vignette 2

Xavier is a 1st grade student at Creekside Primary School, located in a mid-sized city in the Northeast. Xavier is the third child in his family to have Mrs. Dubin as his teacher. Mrs. Dubin loved teaching Xavier's older brother and sister and was happy to see his name on her class roster. Very shortly after the school year began, however, Xavier started engaging in maladaptive behaviors that Mrs. Dubin feels ineffective in managing. During whole group instruction, such as calendar review, Xavier frequently crawls away from the group to the math centers where he plays with blocks and other toys. Mrs. Dubin typically responds to this behavior by redirecting Xavier back to the group activity, which often results in Xavier crying, screaming, and refusing to move. When phone calls to his mother fail to calm him down, Xavier is removed from the classroom to the "calm down room" where he remains until he states he is ready to return to the classroom. Reading and math curriculum-based measures indicate that Xavier is at minimal risk for academic difficulties, and Mrs. Dubin reports that he is often the first student to complete independent seat work.

Discussion: What are Xavier's strengths? In what ways is Xavier demonstrating engagement? In which subtype(s) of engagement does Xavier need improvement? In which indicators of behavior engagement would intervention benefit Xavier? What strategies might you use to support Xavier's engagement?

What Is Behavioral Engagement?

Definition

Behavioral engagement includes both student conduct and involvement in learning and school-related activities (Fredricks, Blumenfeld, & Paris, 2004). This definition can be expanded to include appropriate classroom behaviors and participation in classroom and extracurricular activities (Reschly, Pohl, Christenson, & Appleton, 2017).

Indicators

There are many observable ways in which students can demonstrate behavioral engagement. Monitoring these indicators of behavioral engagement can be helpful in detecting early risk, as well as tracking progress of students receiving intervention. Students who attend school regularly are prepared for and actively participate in classroom activities, and refrain from behaviors that would result in disciplinary action are thought to show good behavioral engagement. The broad indicators of

Table 8.1 Indicators of behavioral engagement

Broad indicators	Specific indicators	Evidence that could be gathered
Attendance	• Absences • Tardies • Truancy	• Review of central office and classroom attendance records • Percent of days present and on time relative to number enrolled
Behavior incidents	• Suspensions • Office referrals • Detention	• Discipline records maintained by teachers and central office • Number and severity of incidents
Participation	• Preparation • Classroom participation • Extracurricular participation	• Direct observation during instructional time • Teacher report of preparedness, including all necessary materials • Percent of time on task • Ratio of student response to opportunities to respond • Student, school, or parent report of involvement in extracurricular activities

behavioral engagement are student attendance, behavior incidents, and participation in classroom and school activities. The specific indicators of behavioral engagement, such as skipping class and suspensions, are easily observable and of common concern among teachers and parents (See Table 8.1).

Both Natalie and Xavier are showing indicators of behavioral engagement problems that are likely concerning to their teachers and parents. However, both have strengths that can inform intervention efforts. Xavier shows engagement with certain class activities (e.g., independent seatwork), but not others (e.g., whole group instruction). His behavior escalation is causing him to spend time out of the classroom, which results in decreased behavioral engagement. Given that Xavier's teacher has expressed concern in her ability to manage his behavior, intervention efforts would likely focus on teacher training in preventative classroom management techniques.

Natalie's situation is more complicated, as she is showing signs of concern across many areas of engagement. As a likely first step, school personnel will want to look more closely at why Natalie is skipping class, sleeping in class, and not meeting behavioral expectations. On the surface, it may seem as though Natalie's problems are behavioral; however, all possible causes of behavior and lack of engagement should be examined before deciding on an intervention strategy. A plausible explanation for her lack of engagement may be that she is feeling that her classes are irrelevant or that she is not seeing how her classes connect with her future goals. Another possible explanation for her behavior is that she is not getting enough sleep at night. Though Natalie is not engaged in classroom participation and is skipping class, she has strong engagement in extracurricular activities, which will be helpful when planning intervention efforts. Intervention efforts for Natalie might include incentive systems for attending and participating in class, goal-setting, or self-regulation interventions to increase cognitive engagement, and interventions targeting sleep habits.

Natalie's situation is a good reminder of the interconnectedness of the subtypes of engagement (i.e., behavioral, cognitive, and affective). For Natalie and others like her, behavioral engagement may be influenced by cognitive and affective engagement (Reschly & Christenson, 2006). For these students, it may be that problems with cognitive or affective engagement went unnoticed and preceded the more observable issues with behavior engagement. Thus, the scope of intervention efforts should be broad.

Why Is Behavioral Engagement Important?

Behavioral engagement has implications for both academic achievement and behavioral functioning. Student success in school is often characterized by high school completion. Though other aspects of student engagement have important outcomes and implications, behavioral engagement is the area of engagement most predictive of school dropout (Archambault, Janosz, Fallu, & Pagani, 2009; Reschly & Christenson, 2006). Indeed, dropout prevention has become a topic of major research attention in the past few decades; however, there are many other outcomes associated with behavioral engagement that are also of interest to schools, including academic achievement, risk-taking behaviors, and student well-being.

Behavioral engagement is often the explanatory factor of student success. Students who come to class prepared, participate in class work, and refrain from being disruptive are the most resilient (academically successful school completers), despite the presence of other risk factors (Finn & Rock, 1997). For students with significant learning, behavioral, and emotional problems, engagement is even more important (Reschly & Christenson, 2006). The following sections will discuss the important outcomes related to each indicator of behavioral engagement.

Attendance

Attendance, typically defined as number of days present and on-time for school, is highly predictive of many important outcomes, including academic achievement (Gottfried, 2009) and school dropout (Alexander, Entwisle, & Horsey, 1997). Students who regularly miss school miss important instruction, which may be related to the academic achievement deficits seen in children with poor attendance. These attendance-related academic skills deficits are even more pronounced among Latino children and those from low SES households (Chang & Romero, 2008). The link between attendance and academic achievement has been established at all grade levels, with absences having a more negative effect on academic performance than tardies (Morrissey, Hutchison, & Winsler, 2014). Students with chronic absenteeism (defined as missing 10% or more school days) consistently have poorer reading and math scores than their peers, and new research suggests that simply being in

the same elementary class as students who are chronically absent is associated with academic decline (Gottfried, 2019). Teachers of students who are chronically absent must monitor missed content and assignments of those students while continuing to teach to the other students, which may explain the collateral effects of absenteeism. Even excused absences (like those accompanied by a doctor's note when a student is sick) are included in chronic absence research, as they result in the same negative outcomes as unexcused absences.

As students age, attendance, tardies, and skipping become more of their own responsibility and less of their parent's. Kindergarten students are almost entirely dependent on their parents to get them out the door and to school on time, whereas high school students may choose not to go to school at all, with or without their parent's knowledge. Studies of truancy and skipping classes have found predictable negative outcomes, both academic and behavioral. For one, truancy has been used as a reliable risk indicator of substance abuse among adolescents (Hallfors et al., 2002; Henry, 2007), with students who skip school and class having the unsupervised opportunity to engage in substance use. Some research has suggested that attendance may be related to emerging or existing mental health issues among children and adolescents (DeSocio & Hootman, 2004). Academic outcomes of truancy are similar to those of general attendance, with a greater amount of school missed relating to greater academic deficits.

In addition to academic deficits, absenteeism is also related to school dropout. In turn, school dropout is associated with many negative outcomes, making it a concern of parents, administrators, and communities. It is well documented that students who do not complete high school are not sufficiently prepared to contribute to the labor market, earn significantly less money over a lifespan than graduates, are more likely to engage in high-risk behaviors, are more likely to be incarcerated, and have poorer physical health (Rumberger, 2011). Graduation rates vary dramatically by location and study, but the disproportionate nature of dropout cannot be denied. Although the U.S. has recently recorded its highest on-time graduation rate of 84.6% (NCES, 2019), there are large differences across states and regions of the country, as well as among students of various racial-ethnic backgrounds, students with disabilities, those with Limited English Proficiency, and from lower socioeconomic circumstances (Education Week, 2019).

As a malleable contributing factor of engagement, attendance deserves significant attention. The link between attendance and dropout can be identified early in one's school career, but research suggests that as absenteeism compounds throughout middle and high school, the risk of dropout increases. Attendance in early elementary school is reliably predictive of eventual dropout, with each absence in first grade (over 10), increasing the likelihood of dropout by 5% (Alexander et al., 1997). When absenteeism significantly increases at the start of middle school, students are much more likely than their peers to never graduate from school (Roderick, 1993). Moreover, middle school attendance has been found to be more predictive of eventual dropout than behavior grades, academic failures, and suspensions (Balfanz, Herzog, & Mac Iver, 2007).

More broadly, frequent absences interfere with school-based relationships, including those with teachers and peers. When students are not present in school, they are missing important opportunities for social engagement (see Chapters 2 and 12). It is also important to understand that attendance is a necessary, but not sufficient, component of student engagement (Reschly & Christenson, 2019). Students who are absent are missing opportunities to engage in all aspects of school culture; however, simply having students attend school is only one part of the broader construct of engagement. Many students who attend school every day are not fully engaged. All of the engagement strategies discussed in this book rely on regular student attendance. Thus, strategies that encourage school attendance are of importance beyond the construct of behavioral engagement.

Behavior Incidents

Behavior problems in schools are concerning for many reasons. First, the presence of early behavior problems is indicative of later, more severe behavioral difficulties. Second, behavior problems in schools are traditionally met with punitive and exclusionary (rather than positive and preventative) disciplinary reactions, such as time out, suspension, and expulsion (e.g., out-of-school suspension for talking back to a teacher). These practices often serve to further alienate children from school, remove them from academic settings for a length of time, perpetuate a cycle of academic failure, and are consistently linked to school dropout (Fabelo et al., 2011; Marchbanks III et al., 2015). Third, there is a well-established link between academic and behavioral success, with students struggling in either one of those areas being much more likely to develop problems in the other over time (Hinshaw, 1992).

For students displaying problematic behaviors, both the short-term and long-term outcomes are negative. In the short term, students who engage in maladaptive or disruptive behaviors in the classroom are likely to experience peer and teacher rejection and academic underachievement. In the long-term, these students are more likely to experience academic failure, grade retention, poor attendance, disciplinary incidents, school dropout, and adult criminality (Loeber et al., 1993; Tremblay et al., 1992).

Traditionally, when children misbehave in the classroom, academic instruction stops while the teacher attends to the misbehavior. If the behavior continues, the student is likely to be removed from the classroom. Often students are sent to the office (i.e., office discipline referral [ODR]) where the incident is entered into a tracking system and an administrator talks to the child, calls the child's parents, or has the child sit and wait before reentering the classroom. This process is disruptive to the school and time-consuming for both teachers and administrators.

Data regarding the ODR process are among the more readily-available sources of behavioral data schools keep and they are helpful in detecting patterns and identifying areas for improvement. These data can be useful to schools in determining

time, location, and severity of behavioral incidents. The overall number of ODR, as well as the reason (e.g., fighting or gang offenses), is strongly predictive of future behavioral incidents (McIntosh, Frank, & Spaulding, 2010). Studies of suspension data indicate that each subsequent suspension a student receives in 9th grade increases the likelihood of dropout (Balfanz et al., 2014). Suspension is also related to school attendance and academic grades, as students who are suspended are not allowed to attend school for a time and are missing valuable instruction during the suspension.

Finally, behavior incidents are inextricably linked to academic outcomes. Although the exact course of the development of concurrent academic and behavioral success is unknown, and likely varies by student, the degree of the relationship is clear. Students who struggle academically are much more likely to struggle behaviorally, and vice versa (Hinshaw, 1992). Much of the research in this area focuses on reading deficits, specifically (Berger, Yule, & Rutter, 1975); however, the relationship between behavior problems and academic deficits extends to all areas of academics (Nelson, Benner, Lane, & Smith, 2004; Reid, Gonzalez, Nordness, Trout, & Epstein, 2004). For students with concurrent academic and behavioral deficits, outcomes are significantly more negative than for students with deficits in either area alone (Darney, Reinke, Herman, Stormont, & Ialongo, 2013). Academic skills deficits of students with severe emotional and behavioral problems tend to worsen over time and have been found to eventually fall below those of students with learning disabilities (Anderson, Kutash, & Duchnowski, 2001).

Positive behavior interventions and support (PBIS) literature consistently studies the impact of ODR on academic achievement (via PBIS implementation), with results suggesting that a reduction in ODR leads to an increase in academic achievement (Lassen, Steele, & Sailor, 2006). In addition to immediate classroom achievement, maladaptive classroom behaviors in elementary school have been found to be predictive of end-of-year failure on statewide achievement tests (King, Rivera Gonzales, & Reinke, 2018). Altogether, classroom behavior problems are strongly linked to negative social, behavioral, and academic outcomes for children. Additionally, the traditional handling of these behaviors, with exclusionary and punitive tactics, further perpetuates behavioral disengagement. Negative school behaviors, like all the other indicators in this book, are malleable. Many evidence-based interventions are discussed later in the chapter.

Participation

Students participate in schools in many ways, both within and outside of the classroom. Classroom participation includes paying attention to instruction and responding to opportunities to participate (e.g., offering a response to a teacher question). In fact, a convincing body of research suggests that the more opportunities to respond a teacher provides during an instructional period, the more on-task and engaged

students are with that lesson (Sutherland, Alder, & Gunter, 2003). Another important aspect of classroom participation is being prepared for class, with materials ready when instruction begins.

Studies have consistently found a positive relationship between classroom participation and academic outcomes (Fredricks et al., 2004), with students who are on-task and engaged in classroom instruction demonstrating higher levels of academic achievement. In contrast, students who engage in disruptive behaviors and are classified by their teachers as having discipline problems are more likely to have academic difficulties. Moreover, students who are withdrawn or inattentive in class demonstrate even weaker academic performance than those students who are disruptive (Finn, Pannozzo, & Voelkl, 1995).

As with the other indicators of behavioral engagement, participation is also associated with high school dropout. Although difficult to disentangle the individual indicators of behavioral engagement, studies have found that students who participate less in school activities (among other risk factors, including discipline problems and poor homework completion) are at a higher risk of dropout (Ekstrom, Goertz, Pollack, & Rock, 1986). Participation in extracurricular activities may be a protective factor for some students, including those at academic risk, by increasing the likelihood of high school completion.

In addition to dropout prevention, participation in extracurricular activities, including clubs, sports, and student governance, has been found to have several other positive outcomes for students (Feldman & Matjasko, 2005; Finn & Rock, 1997). The benefits of extracurricular participation include promotion of positive connections with schools and social interaction with peers, opportunities to interact positively with responsible adults, and development of individual talents, skills, and interests (Gilman, Meyers, & Perez, 2004). Students who participate in extracurricular activities experience positive academic outcomes, including higher academic achievement, as well as behavioral and social-emotional adjustment benefits. For example, participation in extracurricular activities is associated with less sexual activity in girls, reduced rates of substance use, higher self-esteem, less social isolation, and reduced delinquent behavior (Feldman & Matjasko, 2005).

In 1989, Finn proposed a participation-identification model, which indicated multiple subtypes of engagement in the dropout process (e.g., affective, behavioral, and cognitive), and identifies three levels of participation. Level-one participation, typically the only kind of participation found in early grades, is characterized by students attending to teacher requests and responding to teacher questions. At level two, which develops as students mature, students begin to initiate dialogue with teachers and engage in schoolwork activities before and after class (e.g., homework). Finally, at level-three participation, students engage in the school environment outside of coursework (e.g., clubs, sports, and other extracurricular activities; Finn, 1989).

According to Finn's model, a lack of class participation in early grades leads to academic failure, which subsequently leads to emotional withdrawal and feeling disconnected from school. This cycle repeats, as students who are feeling discon-

nected participate less in extracurricular school activities and experience even greater school failure. Ultimately, these students drop out from school in a process that, according to this model, began with poor class participation in early grades (Finn, 1989).

Dropout is a gradual process, beginning long before students leave school for good. Behavioral engagement is one of the predictors (along with lack of credit progress toward graduation, failing grades, and grade retention) of eventual school dropout. Importantly, engagement (along with all indicators provided in this chapter) is an alterable variable, meaning that intervention can be implemented to enhance behavioral engagement and thus reduce the likelihood of dropout.

How Can We Promote Behavioral Engagement?

Early intervention is critical when students begin to show problems with indicators of behavioral engagement. The research presented in this chapter, and others in this book, widely indicates that early disengagement is linked to later academic deficits and maladjustment. Furthermore, engagement patterns in early grades are important to the establishment of later student engagement; thus, parents, teachers, and school psychologists should strive to establish early patterns of positive behavioral engagement.

Behavioral engagement may be the only area in which a student is struggling, but it is often the case that students are showing signs of difficulty with more than one area of engagement. Though the intervention ideas presented here are designed specifically for promoting behavioral engagement, through school attendance and positive classroom behaviors, schools are encouraged to select interventions that address all areas of student need. For example, promoting positive classroom management skills of teachers will likely impact both the behavioral and academic engagement of students. Likewise, counseling and mentoring are indicated as effective interventions for promoting affective engagement, as well as behavioral engagement.

General Behavioral Engagement Interventions

Many simple interventions and intervention packages have been found to affect behavioral engagement broadly, impacting multiple indicators. Indeed, the appeal of many targeted behavioral interventions is the adaptability to a variety of different behaviors. For instance, behavioral goals can be written to increase attendance, improve class participation, and reduce disruptive behaviors, all using the same basic behavioral principles. As teachers and school psychologists have always known, identifying what students are willing to work for (i.e., reinforcers) is an important component of promoting positive behaviors.

Universal Intervention Ideas

School-wide positive behavior interventions and supports (SWPBIS; see Chap. 10) is one such broad intervention that employs many intervention techniques and behavioral principles. As described in more detail in a later chapter, SWPBIS is a systems-change process whereby school-based teams develop behavioral expectations for students across all areas of the school building. This set of expectations is then explicitly taught to all students, who are reinforced when they meet the expectations. SWPBIS relies on several basic behavioral principles, such as teaching behavior expectations and specific praise, to prevent problem behaviors and promote positive behaviors. For our purposes, SWPBIS is considered a broad behavioral engagement intervention because it impacts several indicators of behavioral engagement, including school attendance, classroom participation, and behavioral incidents. At the elementary level, implementation of SWPBIS has been found to significantly reduce out of school suspensions and office discipline referrals (Bradshaw, Mitchell, & Leaf, 2010). Similarly, when implemented with fidelity at the high school level, SWBPIS programming reduces office discipline referrals and increases attendance (Freeman et al., 2016), thereby indirectly reducing dropout.

Targeted Intervention Ideas

Reinforcement-Based Individual Interventions Many of the targeted intervention ideas for specific indicators of behavioral engagement rely on basic behavioral principles; thus, they can be adapted to address most individual needs. Reinforcement-based individual interventions, for example, are developed with students and teachers to provide reinforcement when a student engages in desired behaviors. Because of the broad nature of this definition, the student behavior can be nearly any area in which the student is struggling, including arriving to class on time, respecting peers and teachers, and remaining on-task during lessons, to name a few.

Behavioral intervention plans, typically developed through consultation or as part of a problem-solving team, often include a determination of the function (or cause) of the behavior (e.g., student engaging in frequent disruptions to gain teacher attention), and identification of potential reinforcers (i.e., something the student will work for). Determining the function of a behavior is particularly helpful in selecting a specific intervention. For example, in Vignette 1, Natalie is most likely skipping class and sleeping during lessons as a way of avoiding schoolwork. It would be ill advised to develop an intervention plan where Natalie is "punished" for sleeping behavior by being suspended (which would allow to her to further avoid schoolwork). Alternatively, allowing Natalie to earn a break from schoolwork only after engaging in a desired level of participation would likely increase her attendance and class participation while giving Natalie something desirable to work toward.

There are many relevant factors to consider when developing individualized behavior plans. First, these plans are not only for students in special education, though they are often used with this population because of the time and resources involved in the process. Reinforcement-based plans can be developed for any student, regardless of special education status, as a way of increasing desired behavior or reducing problem behavior (Scott et al., 2004). Second, determining the function of specific behaviors, through functional behavior assessment, is considered "best practice" in developing individualized behavior plans for any student, and is mandated when students receive special education services in the area of behavior (Erchul & Martens, 2010). Functional behavioral assessment in schools is comprised of (a) indirect assessment (via interview, rating scales, and questionnaires); (b) direct assessment (via observation); and (c) development of hypothesis of function (Erchul & Martens, 2010). Hypotheses of function should then be used to inform the selection of interventions. Third, careful and thoughtful selection of reinforcers is critical to the success of a reinforcement-based plan. Often, including the student in the selection of the reinforcers is helpful in determining what they value, as not all children desire adult attention or extra computer time. Fourth, reinforcement schedules can and should be altered as necessary to ensure success. For younger children, more frequent reinforcement (in some cases, multiple times per day) is necessary to keep them motivated to engage in the desired behavior.

Behavioral Contracting Behavioral contracting is a process whereby a teacher and student meet individually to develop a contract outlining student behavior change in the classroom. The contract developed as part of this process clearly outlines both student and teacher responsibilities and expectations, and is agreed upon by both parties before signing. The contract can include increasing a desired behavior (e.g., class participation), decreasing a behavior (e.g., disruptive behavior), and multiple behaviors at once. When used most effectively, the contract includes specific descriptions of the desired behaviors, with rewards for meeting contract goals and consequences for failing to meet goals. A meta-analysis of available behavior contract research found the intervention to be moderately effective in addressing problem behavior in the classroom. Furthermore, like many interventions targeting student behaviors, positive academic outcomes were also observed (Bowman-Perrott, Burke, de Marin, Zhang, & Davis, 2015).

Daily Behavior Report Cards This variation of individual behavior plans includes a summary of student behavior that is communicated with parents daily. Typically, daily behavior report cards (DBRCs) are paired with an existing behavior plan and can be used as the progress-monitoring component of the intervention. When used alone, DBRCs work to reinforce students who are seeking attention through their behaviors, as this intervention includes both teacher and parent attention. This intervention should be based on the principles of reinforcement discussed above (Volpe & Fabiano, 2013).

Attendance

Though a simple search of attendance interventions yields many results, there is a dearth of interventions designed to specifically improve attendance that have a strong, convincing evidence base. Despite the fact that few attendance-focused interventions meet the rigor and standards to be considered evidence-based, an improvement in attendance is often a positive outcome of other evidence-based school-wide interventions, including Positive Behavior Interventions and Supports (PBIS). Additionally, attendance can be included as a behavioral objective in many individual behavioral interventions, including reinforcement-based interventions, behavioral contracts, and Check in/Check out (see Chap. 11). Before schools can begin to intervene, they must assess the scope of absenteeism of their students. By frequently monitoring attendance data, especially for children who are chronically absent, schools can gauge the extent of absenteeism and determine if universal or more targeted interventions are necessary.

Universal Intervention Ideas

Poverty, and issues related to low socioeconomic status, including housing and food insecurity, lack of transportation, safety concerns, and chronic physical and mental health issues, is a key factor in absenteeism. Students of color and those with disabilities are also disproportionally affected by attendance issues (Chang & Romero, 2008). Other contextual factors related to school attendance include size of school and living distance from school, as students who go to smaller schools closer to their homes are more likely to attend school regularly (Epstein & Sheldon, 2002). General intervention ideas should consider all these contextual factors when designing programming.

One broad area of intervention that works within the contextual factors of chronic absenteeism is creating strong family–school–community partnerships that build positive relationships between schools and important stakeholders. Implementing a system in which the school regularly, clearly, and effectively communicates to families the importance of attending school every day, including phone calls home and explanation of school attendance policies has been found to significantly improve school attendance (Epstein & Sheldon, 2002). Schools should work with community officials and families to overcome the barriers to school attendance, like lack of transportation and food by ensuring students have access to these services either through community or school sources (Chang & Jordan, 2011).

Universal incentive programs are also helpful in promoting good attendance. With reinforcement-based systems, which can vary widely, students are encouraged to be on time for school, every day, and are given some sort of incentive or reward for doing so. For example, some teachers and schools award students with classroom or building "points" per day of on-time attendance. These points can be tied to broader classroom management or school-wide initiatives (like PBIS) or they can

be used independently to earn attendance-specific rewards. Attendance rewards can be just about anything. Some schools recognize student attendance with a certificate at school-wide assemblies. Other schools may choose to have special "attendance assemblies" where students with acceptable attendance are invited to attend fun-filled assemblies where they challenge their teachers and peers to games, listen to music, have treats, or are entered into drawings for prizes.

Targeted Intervention Ideas

Contextual factors need to be considered on the individual basis, as well. Understanding what specific barriers families face is essential when planning intervention strategies to improve attendance. Frequent communication with families is one way to assess their needs. Contacting families when students are absent can be a general intervention (e.g., a letter sent home after the second absence) or targeted (e.g., a visit to homes of chronically absent students). Social workers are helpful agents who can work with individual families to overcome attendance barriers. These professionals are well suited to the task of coordinating community and school agencies to provide resources for families (Chang & Romero, 2008). Check & Connect, which uses frequent home–school communication, has been found to be an effective intervention for decreasing absence when introduced in the middle grades (Guryan et al., 2016).

School-based, targeted intervention ideas related specifically to attendance often rely on the principles of reinforcement-based individual interventions described previously. For example, an individual behavior plan can include a goal and reinforcement for a student arriving at class on time. Other ways schools can improve school attendance for individual children include reducing anonymity (or the feeling that students will not be missed if they do not attend school), assigning a truant officer to work with students and families, and referring students to the school counselor (Epstein & Sheldon, 2002).

Behavior Incidents

An intervention approach for reducing behavioral incidents in schools is often two-fold – with interventions designed to alter the way in which school personnel respond to student misbehavior, and others designed to prevent or reduce the problematic behaviors. The first area is addressed with consequence manipulations, such as eliminating exclusionary school discipline practices and providing fair and consistent consequences for misbehavior.

To address the second area of intervention, use of positive, proactive classroom management strategies (i.e., specific praise, teaching behavior expectations, providing more opportunities for students to respond during instruction) is indicated as an effective means of preventing student misbehavior. Implementation of positive

classroom behavior management techniques has been linked to a variety of positive outcomes, including less disruptive classroom behavior, higher student achievement, increased student engagement, and more academic instructional time (Reinke, Herman, & Stormont, 2013; Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008). Recent meta-analyses of various positive classroom management interventions have found large effects for the use of universal interventions to reduce problem behaviors in the classroom (Chaffee, Briesch, Johnson, & Volpe, 2017). Positive effects have been found for general, broad interventions, including self-management (Briesch & Briesch, 2016) and group contingencies (Maggin, Johnson, Chafouleas, Ruberto, & Berggren, 2012), as well as more specific, targeted interventions, like the Good Behavior Game (Bowman-Perrott, Burke, Zaini, Zhang, & Vannest, 2016; Chap. 9), behavior contracting (Bowman-Perrott et al., 2015), and peer management (Dart, Collins, Klingbeil, & McKinley, 2014).

The overlap between behavioral and academic engagement interventions cannot be ignored, as many interventions designed to increase behavioral engagement (e.g., the Good Behavior Game; Barrish, Saunders, & Wolf, 1969) have the additional result of increasing academic engagement. The overlap is undeniably helpful, as it is often necessary to increase both behavioral and academic engagement, although the mechanism may not yet be fully explained or understood (i.e., does increasing academic engagement subsequently increase behavioral engagement?).

Universal Intervention Ideas

Praise Providing praise is a simple, yet effective classroom management strategy that can be readily used by teachers across all grade levels. Studies dating back to the 1960s have evaluated the effects of varying types of praise, with findings indicating that using praise increases positive interactions between teachers and students and has profound effects on student outcomes (Flanders & Havumaki, 1960). Teachers who deliver high amounts of praise experience lower off-task and disruptive behaviors from their students (Sutherland, Wehby, & Copeland, 2000), and increase their students' intrinsic motivation and feelings of competency (Cameron & Pierce, 1994). As such, praise may be another example of the interconnectedness of engagement subtypes, as it appears that praise increases behavioral engagement by way of improving affective and cognitive engagement.

Praise can be delivered verbally, as an approving statement (e.g., "Nice work, Jayden!"), or nonverbally, as a gesture (e.g., a literal pat on the back or thumbs up). Additionally, praise can be categorized as specific or general, with specific yielding more significant positive results (Brophy, 1985). Specific praise is distinguished from general praise because it identifies the behavior for which the student is being praised. Teacher praise is considered specific when explicit feedback for the desired student behavior is provided (e.g., "I like the way my students are sitting quietly at their desks!"). General praise typically consists of a broad statement of approval and can be directed at groups or individuals (e.g., "Excellent job, class!"). Nonverbal gestures, like applause and high fives, are usually considered forms of general praise.

Provide Classroom Management Training to Teachers Unfortunately, the majority of general education teachers have received little to no training in working with students with emotional and behavioral difficulties (Wagner et al., 2006). Teacher training programs spend relatively little time instructing future teachers in the principles of effective classroom management, and only a small percentage of teachers feel adequately trained in this area (Wagner et al., 2006). Not surprisingly, Reinke, Stormont, Herman, Puri, and Goel (2011) found that only 4% of teachers in their sample felt that they had the knowledge or skills necessary to meet their students' mental health needs. In another study, both general and special education teachers reported that their biggest training deficit was in the area of problem behavior intervention (Pindiprolu, Peterson, & Berglof, 2007).

Schools can seek to remedy the lack of teacher training and self-efficacy in classroom management by providing continued professional development to new and more experienced teachers. One way to do this is by adopting programs like PBIS, responsive classroom, and Incredible Years (to name a few; see Incredible Years section below) that support positive classroom management behaviors of teachers. Other training opportunities include general professional development in a traditional format, state or national workshops, and professional conferences. It should be noted that the use of coaching and performance feedback are also effective ways of increasing teacher classroom management practices (Reinke et al., 2014; Sanetti, Chafouleas, Fallon, & Jaffrey, 2014).

Teach, Model, and Expect Good Behavior Another positive strategy to improve student behavior is to explicitly teach students the behavioral expectations within specific settings. Teaching behavioral expectations includes providing students with explicit descriptions of appropriate behavior, modeling examples and nonexamples of the behavior, practicing the behavior with students, and providing feedback (e.g., praise) for the behavior (Carter & Pool, 2012). Programs like PBIS include the teaching, modeling, and practicing of expected behavior as a basic early component.

The Color Wheel (Skinner & Skinner, 2008) is another technique that can be used to teach students behavior expectations. The Color Wheel is a class-wide intervention in which the teacher sets different student behavior expectations for different class activities (e.g., silent reading versus indoor recess). Students are taught the different sets of expectations and practice adhering to those rules before the system is implemented. Once implemented, the teacher moves the wheel throughout the day to indicate the expectations for that time period. For example, when the wheel is on red, students are expected to be silent while awaiting further instruction, whereas the green position allows students to freely interact with peers (Skinner, Scala, Dendas, & Lentz, 2007).

Increasing Opportunities to Respond Teachers who carefully control the pacing of instruction find that they can maximize student engagement and on-task behavior. One way to do this is by inviting students to respond to a question in verbal, written, or gestural form, also known as an opportunity to respond (OTR). Correct responses are followed by teacher praise. Increasing the rate of response opportunities has

been found to improve student performance in the areas of reading and math (Skinner, Belfiore, Mace, Williams-Wilson, & Johns, 1997). Beyond the academic benefits, higher rates of OTR result in increased engagement (Carnine, 1976) and decreased disruptive behavior among students (West & Sloane, 1986). By requiring all students to write responses on white boards and displaying them in unison, instead of calling on a single student to provide the answer to a question, teachers increase the opportunity for individual student responses. Other methods of increasing opportunities to respond include eliciting group choral responses, prompting, and simply asking questions more frequently.

Good Behavior Game   The Good Behavior Game (GBG; see Chap. 9) is a class-wide intervention that has been found to reduce disruptions and increase on-task behaviors (Barrish et al., 1969). In the traditional format of the game, the class is divided into two groups that compete to engage in the fewest number of behavioral infractions. Prior to the implementation of the game, the teacher describes a list of inappropriate behaviors that will cause a group to earn a point if observed. During the game, if any member of a group engages in an undesired behavior, the group earns a point. Two scoring procedures can be used for the game. Either the group with the lowest number points at the end of the game wins, or any group that meets a pre-specified point criterion wins the reward.

More recently, changes have been made to the game to make it a positive versus punitive intervention. In a modified version of the game, rules can be written in the positive, instead of the negative, and groups can earn points by engaging in positive behaviors. For example, instead of "Do not interrupt the teacher," which is how the rule would be written in the traditional format of the game, the rule could read "Raise your hand and wait to be called on." When students engage in these positive behaviors, they earn points for their team. At the end of the game, the team with the most points (i.e., greatest display of desired behaviors) wins. The winning team earns a desired reward such as special privileges (e.g., extra recess time and front of the lunch line).

The GBG has been implemented (with and without modifications) and studied since the 1970s, with consistently positive results. In a recent meta-analysis of the GBG, Bowman-Perrott et al. (2016) found large effects for the use of the game in reducing problem behaviors in the classroom. Moderator analysis indicated that the game was most effective for students with or at risk for emotional and behavioral problems, and in reducing off-task/disruptive behaviors (rather than increasing positive behaviors; Bowman-Perrott et al., 2016).

Incredible Years   Developed by Webster-Stratton and her research colleagues at the University of Washington, the Incredible Years program is a comprehensive intervention package with child, teacher, and parent components (Webster-Stratton & Hammond, 1997; Webster-Stratton, Reid, & Hammond, 2004). As part of the training, preschool and early elementary students participate in the Dinosaur School program, where they receive two to three lessons per week designed to build social and emotional skills. This can be combined with parent training that focuses on

positive discipline practices. Incredible Years teacher training, which can be applied through older elementary years, consists of positive classroom management training and encourages relationship building with students.

Incredible Years can be intensive in time and cost. As standard administration of the intervention, two trained interventionists are present. Training of interventionists consists of a 3-day workshop, followed by video review by Incredible Years trainers. However, Incredible Years has been recognized by the What Works Clearinghouse (U.S. Department of Education, Institute of Education Sciences, 2011) as an effective intervention for both social and externalizing behavior outcomes.

Targeted Intervention Ideas

Early Risers   This prevention-based intervention has home and school components for children demonstrating early behavior difficulties, including aggression and disruptive behavior. At school, children are taught social emotional skill building and receive individual behavior plans to address problem behaviors in the classroom. The parent component of the intervention includes group parent training sessions focusing on positive discipline practices and individual home visits to address any other areas of need. This intervention has been found to have positive effects on academic achievement and social outcomes.

Check In/Check Out   Check In/Check Out (CICO; see Chap. 11) is a targeted intervention designed to support students in meeting behavioral goals by providing adult attention and positive reinforcement. When students are participating in the CICO intervention, they begin their day by meeting with their CICO coordinator to briefly discuss goals for the day (usually aligned with school-wide behavioral expectations) and set point goals. Students then carry a point card with them to each of their classes, where teachers rate and provide feedback on student behavior. At the end of the day, students return to the CICO coordinator to review their point sheet. If they met the pre-specified point goal, they receive a reward. Students take the point cards home to be signed by parents each evening. The point sheet used during the intervention serves as a method of progress monitoring, as it is a permanent product of points earned per day.

Participation

The broad indicator of participation includes both class participation and extracurricular participation. Increasing student participation in class may be achieved with classroom management strategies, such as increasing opportunities to respond, as described earlier, as well as promoting affective and cognitive engagement.

Increasing student participation in extracurricular activities may be somewhat more nuanced, as children have many different interests and strengths. School personnel can work to connect students to extracurricular activities that are tied to those strengths and interests.

Universal Intervention Ideas

There are several potential barriers that prevent children from participating in extracurricular activities, including a) some activities require expertise or specific knowledge (e.g., music, sports, and language); b) some activities require nomination or status (e.g., student council); c) some activities require minimal academic performance (e.g., requiring 2.0 GPA to participate in after-school sports); and d) financial costs associated with participation (particularly impacting students of low SES; Mahoney & Cairns, 1997). Schools need to be aware of these barriers and actively work to confront them. One way schools are addressing these concerns is by sponsoring a variety of "club" sports (e.g., kickball), vocational clubs (e.g., Future Business Leaders), academic clubs (e.g., Harry Potter book club), and other extracurricular opportunities for students with varied interests to get involved. As schools face increasing budget cuts, some have resorted to charging for participation in after-school sports (Fieldman, 2011), which effectively prevents students from lower SES families from participating. Utilizing sports fundraisers, pursuing corporate donors, and applying for after-school sports grants are ways schools can supplement sports budgets, eliminating the barriers some students face. Similar methods may be used to raise funds to offset fees and provide transportation associated with other school activities.

As mentioned, many general interventions for increasing class participation involve affective and cognitive engagement (as discussed in other chapters of this book). When students feel connected to their teachers and see value in class content, they are more likely to participate in class. However, there are also behavioral interventions to address the indicators of class participation, such as increasing student opportunities to respond. As discussed earlier, increasing the rate of student response reduces class disruption (Armendariz & Umbreit, 1999), but this method also improves student class participation (Sutherland & Wehby, 2001). There are several methods for increasing student response, including group choral responding and student response via dry-erase boards. For example, a teacher may say, "Everyone together. What is 4 plus 4?" and the class would respond "8" as a group. Alternatively, the teacher may say, "Write your answer on your board. What is 4 plus 4? Now everyone hold up your boards and show me your answers." When students know a response is expected from everyone, as opposed to student volunteers or teacher selection of one student to respond, they are more likely to engage in class content and anticipate the next response opportunity. Research supports optimal rate of opportunities to respond as 4 to 6 per minute of instruction (CEC, 1987).

Targeted Intervention Ideas

Targeted interventions for extracurricular participation should include eliminating specific barriers for specific students. For example, if a family is struggling to get required physical examinations for their two children so they can join a sports team, a school social worker may coordinate physicals through community health services. Likewise, the teacher sponsor of the debate team may arrange with a family to drop their student off at home after club meetings to eliminate the transportation barrier. Finally, a coach may find a tutor for a student athlete to help bring up her GPA to eligible levels.

Targeted behavioral interventions for class participation may include reinforcement-based strategies where students are rewarded for bringing the required materials to class or responding to teacher prompts for participation. Most of the strategies provided for behavioral incident indicators above can be modified to include class participation. At the beginning of this chapter, we introduced you to Xavier, a student who struggles with class participation at times. Working with a behavior specialist or school psychologist, his teacher may find it helpful to develop an individual behavior plan for Xavier. Once a significant motivator is identified, Xavier can be rewarded for sitting in his spot on the carpet and responding to teacher prompts during circle time.

Summary

Behavioral engagement, or student involvement in learning and school activities, is evidenced by several indicators, including attendance, behavior incidents, and participation. Students who attend school regularly are prepared for and participate in class, and engage in prosocial behaviors that are thought to be demonstrating good behavioral engagement. Behavioral engagement is important, as it relates to both academic success and dropout. As one might expect, students who regularly miss school, who do not participate in class, or who engage in disruptive behavior in the classroom are likely to miss important instructional content and begin to struggle academically. Students with poor behavioral engagement are also at a much higher risk of eventual dropout. There are many reasons why students do not complete school, and the process is a series of choices over the course of time; however, behavioral engagement is a strong, common predictor of dropout. General and targeted interventions for behavioral engagement typically begin with the removal of barriers preventing engagement and include reinforcement of engaged behaviors. A summary of intervention strategies may be found in Table 8.2. Behavioral engagement is also closely related to the other subtypes of engagement, including cognitive and affective, and intervention efforts should be coordinated across all areas of student concern.

Table 8.2 Behavioral engagement interventions

Behavior Engagement	
Tier	Strategy description
Universal	• Ensure safe and respectful school climate.
	• Reinforce student and staff attendance.
	• Provide social incentives for good attendance.
	• Create and promote positive school-based behavior practices.
	• Eliminate ineffective punitive practices, such as OSS
	• Provide classroom management training to teachers
	• Train and encourage teachers to use praise
	• Use proactive instead of reactive behavior management
	• Teach, model, and expect good behavior
	• PBIS
	• Good Behavior Game
	• Advertise and encourage student participation in clubs, sports, and governance.
	• Eliminate barriers to participation in extracurricular activities (fees, transportation, levels of competition, and limited number of opportunities).
	• Provide frequent opportunities for students to respond during class.
Individualized	• Reinforcement-based individual interventions
	• Daily behavior report cards
	• Behavioral Contracting
	• Check In/Check Out
	• Mentoring and Counseling
	• Check & Connect
	• Early Risers

References

Alexander, K. L., Entwisle, D. R., & Horsey, C. S. (1997). From first grade forward: Early foundations of high school dropout. *Sociology of Education, 70*, 87–107. https://doi.org/10.2307/2673158

Anderson, J. A., Kutash, K., & Duchnowski, A. J. (2001). A comparison of the academic progress of students with EBD and students with LD. *Journal of Emotional and Behavioral Disorders, 9*(2), 106–115. https://doi.org/10.1177/106342660100900205

Archambault, I., Janosz, M., Fallu, J. S., & Pagani, L. S. (2009). Student engagement and its relationship with early high school dropout. *Journal of Adolescence, 32*(3), 651–670. https://doi.org/10.1016/j.adolescence.2008.06.007

Armendariz, F., & Umbreit, J. (1999). Using active responding to reduce disruptive behavior in a general education classroom. *Journal of Positive Behavior Interventions, 1*(3), 152–158. https://doi.org/10.1177/109830079900100303

Balfanz, R., Bridgeland, J. M., Fox, J. H., DePaoli, J. L., Ingram, E. S., & Maushard, M. (2014). Building a grad nation: Progress and challenge in ending the high school dropout epidemic. Annual Update 2014. *Civic Enterprises*. Retrieved from http://www.civicenterprises.net/MediaLibrary/Docs/17548_BGN_Report_finalfull.pdf

Balfanz, R., Herzog, L., & Mac Iver, D. J. (2007). Preventing student disengagement and keeping students on the graduation path in urban middle-grades schools: Early identification and effective interventions. *Educational Psychologist, 42*(4), 223–235. https://doi.org/10.1080/00461520701621079

Barrish, H. H., Saunders, M., & Wolf, M. M. (1969). Good Behavior Game: Effects of individual contingencies for group consequences on disruptive behavior in a classroom 1. *Journal of Applied Behavior Analysis, 2*(2), 119–124. https://doi.org/10.1901/jaba.1969.2-119

Berger, M., Yule, W., & Rutter, M. (1975). Attainment and adjustment in two geographical areas: II—The prevalence of specific reading retardation. *The British Journal of Psychiatry, 126*(6), 510–519. https://doi.org/10.1192/bjp.126.6.510

Bowman-Perrott, L., Burke, M. D., de Marin, S., Zhang, N., & Davis, H. (2015). A meta-analysis of single-case research on behavior contracts: Effects on behavioral and academic outcomes among children and youth. *Behavior Modification, 39*(2), 247–269. https://doi.org/10.1177/0145445514551383

Bowman-Perrott, L., Burke, M. D., Zaini, S., Zhang, N., & Vannest, K. (2016). Promoting positive behavior using the Good Behavior Game: A meta-analysis of single-case research. *Journal of Positive Behavior Interventions, 18*(3), 180–190. https://doi.org/10.1177/1098300715592355

Bradshaw, C. P., Mitchell, M. M., & Leaf, P. J. (2010). Examining the effects of Schoolwide Positive Behavioral Interventions and Supports on student outcomes: Results from a randomized controlled effectiveness trial in elementary schools. *Journal of Positive Behavior Interventions, 12*(3), 133–148. https://doi.org/10.1177/1098300709334798

Briesch, A. M., & Briesch, J. M. (2016). Meta-analysis of behavioral self-management interventions in single-case research. *School Psychology Review, 45*(1), 3–18. https://doi.org/10.17105/spr45-1.3-18

Brophy, J. E. (1985). Teacher-student interaction. In J. B. Dusek (Ed.), *Teacher expectancies* (pp. 303–328). Hillsdale, NJ: Erlbaum.

Cameron, J., & Pierce, W. D. (1994). Reinforcement, reward, and intrinsic motivation: A meta-analysis. *Review of Educational Research, 64*(3), 363–423. https://doi.org/10.2307/1170677

Carnine, D. W. (1976). Effects of two teacher-presentation rates on off-task behavior, answering correctly, and participation. *Journal of Applied Behavior Analysis, 9*(2), 199–206. https://doi.org/10.1901/jaba.1976.9-199

Carter, D. R., & Pool, J. L. (2012). Appropriate social behavior: Teaching expectations to young children. *Early Childhood Education Journal, 40*(5), 315–321. https://doi.org/10.1007/s10643-012-0516-y

Chaffee, R. K., Briesch, A. M., Johnson, A. H., & Volpe, R. J. (2017). A meta-analysis of class-wide interventions for supporting student behavior. *School Psychology Review, 46*(2), 149–164. https://doi.org/10.17105/spr-2017-0015.v46-2

Chang, H. N., & Jordan, P. W. (2011). Tackling chronic absence starting in the early grades: What cities can do to ensure every child has a fighting chance to succeed. *National Civic Review, 100*(4), 6–12. https://doi.org/10.1002/ncr.20078

Chang, H. N., & Romero, M. (2008). *Present, Engaged, and Accounted for: The Critical Importance of Addressing Chronic Absence in the Early Grades.* New York: National Center for Children in Poverty. Retrieved from http://www.nccp.org/publications/pdf/text_837.pdf

Council for Exceptional Children. (1987). *Academy for effective instruction: Working with mildly handicapped students*. Reston, VA: Author.

Darney, D., Reinke, W. M., Herman, K. C., Stormont, M., & Ialongo, N. S. (2013). Children with co-occurring academic and behavior problems in first grade: Distal outcomes in twelfth grade. *Journal of School Psychology, 51*(1), 117–128. https://doi.org/10.1016/j.jsp.2012.09.005

Dart, E. H., Collins, T. A., Klingbeil, D. A., & McKinley, L. E. (2014). Peer management interventions: A meta-analytic review of single-case research. *School Psychology Review, 43*(4), 367–384. https://doi.org/10.17105/spr-14-0009.1

DeSocio, J., & Hootman, J. (2004). Children's mental health and school success. *The Journal of School Nursing, 20*(4), 189–196. https://doi.org/10.1177/10598405040200040201

Education Week. (2019, January 29). *Data: U.S. graduation rates by state and student demographics*. Retrieved from https://www.edweek.org/ew/section/multimedia/data-us-graduation-rates-by-state-and.html.

Ekstrom, R. B., Goertz, M. E., Pollack, J. M., & Rock, D. A. (1986). Who drops out of high school and why? Findings from a national study. *Teachers College Record, 87*(3), 356–373.

Epstein, J. L., & Sheldon, S. B. (2002). Present and accounted for: Improving student attendance through family and community involvement. *The Journal of Educational Research, 95*(5), 308–318.

Erchul, W. P., & Martens, B. K. (2010). *School consultation: Conceptual and empirical bases of practice*. Springer Science & Business Media.

Fabelo, T., Thompson, M. D., Plotkin, M., Carmichael, D., Marchbanks, M. P., & Booth, E. A. (2011). *Breaking schools' rules: A statewide study of how school discipline relates to students' success and juvenile justice involvement*. New York: Council of State Governments Justice Center. Retrieved from https://knowledgecenter.csg.org/kc/system/files/Breaking_School_Rules.pdf

Feldman, A. F., & Matjasko, J. L. (2005). The role of school-based extracurricular activities in adolescent development: A comprehensive review and future directions. *Review of Educational Research, 75*(2), 159–210. https://doi.org/10.3102/00346543075002159

Fieldman, E. D. (2011). A temporary Band-Aid: Pay-to-play fees and the extracurricular crisis in sports and the arts. *Entertainment & Sports Lawyer, 29*(3), 4–8.

Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research, 59*(2), 117–142. https://doi.org/10.3102/00346543059002117

Finn, J. D., Pannozzo, G. M., & Voelkl, K. E. (1995). Disruptive and inattentive-withdrawn behavior and achievement among fourth graders. *The Elementary School Journal, 95*(5), 421–434. https://doi.org/10.1086/461853

Finn, J. D., & Rock, D. A. (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology, 82*(2), 221. https://doi.org/10.1037/0021-9010.82.2.221

Flanders, N. A., & Havumaki, S. (1960). The effect of teacher-pupil contacts involving praise on the sociometric choices of students. *Journal of Educational Psychology, 51*(2), 65. https://doi.org/10.1037/h0040534

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59–109. https://doi.org/10.3102/00346543074001059

Freeman, J., Simonsen, B., McCoach, D. B., Sugai, G., Lombardi, A., & Horner, R. (2016). Relationship between School-Wide Positive Behavior Interventions and Supports and academic, attendance, and behavior outcomes in high schools. *Journal of Positive Behavior Interventions, 18*(1), 41–51. https://doi.org/10.1177/1098300715580992

Gilman, R., Meyers, J., & Perez, L. (2004). Structured extracurricular activities among adolescents: Findings and implications for school psychologists. *Psychology in the Schools, 41*(1), 31–41. https://doi.org/10.1002/pits.10136

Gottfried, M. A. (2009). Excused versus unexcused: How student absences in elementary school affect academic achievement. *Educational Evaluation and Policy Analysis, 31*(4), 392–415. https://doi.org/10.3102/0162373709342467

Gottfried, M. A. (2019). Chronic absenteeism in the classroom context: Effects on achievement. *Urban Education, 54*(1), 3–34. https://doi.org/10.1177/0042085915618709

Guryan, J., Christenson, S., Claessen, A., Engel, M., Lai, I., Ludwig, J., … Turner, M. C. (2016). The effect of mentoring on school attendance and academic outcomes: A randomized evaluation of the Check & Connect program. In *Institute for Policy Research, Working Paper Series*. Evanston, IL: Northwestern University.

Hallfors, D., Vevea, J. L., Iritani, B., Cho, H., Khatapoush, S., & Saxe, L. (2002). Truancy, grade point average, and sexual activity: A meta-analysis of risk indicators for youth substance use. *Journal of School Health, 72*(5), 205–211. https://doi.org/10.1111/j.1746-1561.2002.tb06548.x

Henry, K. L. (2007). Who's skipping school: Characteristics of truants in 8th and 10th grade. *Journal of School Health, 77*(1), 29–35. https://doi.org/10.1111/j.1746-1561.2007.00159.x

Hinshaw, S. P. (1992). Externalizing behavior problems and academic underachievement in childhood and adolescence: Causal relationships and underlying mechanisms. *Psychological Bulletin, 111*(1), 127. https://doi.org/10.1037/0033-2909.111.1.127

King, K. R., Gonzales, C. R., & Reinke, W. M. (2018). Empirically derived subclasses of academic skill among children at risk for behavior problems and association with distal academic outcomes. *Journal of Emotional and Behavioral Disorders, 27*(3), 131–142. https://doi.org/10.1177/1063426617754082

Lassen, S. R., Steele, M. M., & Sailor, W. (2006). The relationship of School-Wide Positive Behavior Support to academic achievement in an urban middle school. *Psychology in the Schools, 43*(6), 701–712. https://doi.org/10.1002/pits.20177

Loeber, R., Wung, P., Keenan, K., Giroux, B., Stouthamer-Loeber, M., Van Kammen, W. B., & Maugham, B. (1993). Developmental pathways in disruptive child behavior. *Development and Psychopathology, 5*(1–2), 103–133. https://doi.org/10.1017/s0954579400004296

Maggin, D. M., Johnson, A. H., Chafouleas, S. M., Ruberto, L. M., & Berggren, M. (2012). A systematic evidence review of school-based group contingency interventions for students with challenging behavior. *Journal of School Psychology, 50*(5), 625–654. https://doi.org/10.1016/j.jsp.2012.06.001

Mahoney, J. L., & Cairns, R. B. (1997). Do extracurricular activities protect against early school dropout? *Developmental Psychology, 33*(2), 241. https://doi.org/10.1037/0012-1649.33.2.241

Marchbanks, M. P., III, Blake, J. J., Booth, E. A., Carmichael, D., Seibert, A. L., & Fabelo, T. (2015). The economic effects of exclusionary discipline on grade retention and high school dropout. *Closing the school discipline gap: Equitable remedies for excessive exclusion*, 59–74.

McIntosh, K., Frank, J. L., & Spaulding, S. A. (2010). Establishing research-based trajectories of office discipline referrals for individual students. *School Psychology Review, 39*(3), 380–394.

Morrissey, T. W., Hutchison, L., & Winsler, A. (2014). Family income, school attendance, and academic achievement in elementary school. *Developmental Psychology, 50*(3), 741. https://doi.org/10.1037/a0033848

National Center for Education Statistics, U.S. Department of Education. (2019). *Fast facts: High school graduation rates.* Retrieved 24 June 2019, from https://nces.ed.gov/fastfacts/display.asp?id=805

Nelson, J. R., Benner, G. J., Lane, K., & Smith, B. W. (2004). Academic achievement of K-12 students with emotional and behavioral disorders. *Exceptional Children, 71*(1), 59–73. https://doi.org/10.1177/001440290407100104

Pindiprolu, S. S., Peterson, S. M., & Berglof, H. (2007). School personnel's professional development needs and skill level with functional behavior assessments in ten Midwestern states in the United States: Analysis and issues. *Journal of the International Association of Special Education, 8*(1), 31–42.

Reid, R., Gonzalez, J. E., Nordness, P. D., Trout, A., & Epstein, M. H. (2004). A meta-analysis of the academic status of students with emotional/behavioral disturbance. *The Journal of Special Education, 38*(3), 130–143. https://doi.org/10.1177/00224669040380030101

Reinke, W. M., Herman, K. C., & Stormont, M. (2013). Classroom-level positive behavior supports in schools implementing SW-PBIS: Identifying areas for enhancement. *Journal of Positive Behavior Interventions, 15*(1), 39–50. https://doi.org/10.1177/1098300712459079

Reinke, W. M., Stormont, M., Herman, K. C., Puri, R., & Goel, N. (2011). Supporting children's mental health in schools: Teacher perceptions of needs, roles, and barriers. *School Psychology Quarterly, 26*(1), 1. https://doi.org/10.1037/a0022714

Reinke, W. M., Stormont, M., Herman, K. C., Wang, Z., Newcomer, L., & King, K. (2014). Use of coaching and behavior support planning for students with disruptive behavior within a universal classroom management program. *Journal of Emotional and Behavioral Disorders, 22*(2), 74–82. https://doi.org/10.1177/1063426613519820

Reschly, A., Pohl, A. J., Christenson, S. L., & Appleton, J. J. (2017). Engaging adolescents in secondary schools. In *School mental health services for adolescents* (pp. 45–77). https://doi.org/10.1093/med-psych/9780199352517.003.0003

Reschly, A. L., & Christenson, S. L. (2006). Prediction of dropout among students with mild disabilities: A case for the inclusion of student engagement variables. *Remedial and Special Education, 27*(5), 276–292. https://doi.org/10.1177/07419325060270050301

Roderick, M. R. (1993). *The path to dropping out: Evidence for intervention*. Westport, CT: Auburn House.

Rumberger, R. W. (2011). High school dropouts in the United States. In *School dropout and completion* (pp. 275–294). Dordrecht: Springer. https://doi.org/10.1007/978-90-481-9763-7_16

Sanetti, L. M. H., Chafouleas, S. M., Fallon, L. M., & Jaffrey, R. (2014). Increasing teachers' adherence to a classwide intervention through performance feedback provided by a school-based consultant: A case study. *Journal of Educational and Psychological Consultation, 24*(3), 239–260. https://doi.org/10.1080/10474412.2014.923734

Scott, T. M., Bucalos, A., Liaupsin, C., Nelson, C. M., Jolivette, K., & DeShea, L. (2004). Using functional behavior assessment in general education settings: Making a case for effectiveness and efficiency. *Behavioral Disorders, 29*(2), 189–204. https://doi.org/10.1177/019874290402900207

Simonsen, B., Fairbanks, S., Briesch, A., Myers, D., & Sugai, G. (2008). Evidence-based practices in classroom management: Considerations for research to practice. *Education and Treatment of Children, 31*, 351–380. https://doi.org/10.1353/etc.0.0007

Skinner, C. H., Belfiore, P. J., Mace, H. W., Williams-Wilson, S., & Johns, G. A. (1997). Altering response topography to increase response efficiency and learning rates. *School Psychology Quarterly, 12*(1), 54. https://doi.org/10.1037/h0088947

Skinner, C. H., Scala, G., Dendas, D., & Lentz, F. E. (2007). The Color Wheel: Implementation guidelines. *Journal of Evidence-Based Practices for Schools, 8*(2), 134–140.

Skinner, C. H., & Skinner, A. L. (2008). Establishing an evidence base for a classroom management procedure with a series of studies: Evaluating the Color Wheel. *Journal of Evidence-Based Practices for Schools, 8*, 88–101.

Sutherland, K. S., Alder, N., & Gunter, P. L. (2003). The effect of varying rates of opportunities to respond to academic requests on the classroom behavior of students with EBD. *Journal of Emotional and Behavioral Disorders, 11*(4), 239–248. https://doi.org/10.1177/10634266030110040501

Sutherland, K. S., & Wehby, J. H. (2001). Exploring the relationship between increased opportunities to respond to academic requests and the academic and behavioral outcomes of students with EBD: A review. *Remedial and Special Education, 22*(2), 113–121. https://doi.org/10.1177/074193250102200205

Sutherland, K. S., Wehby, J. H., & Copeland, S. R. (2000). Effect of varying rates of behavior-specific praise on the on-task behavior of students with EBD. *Journal of Emotional and Behavioral Disorders, 8*(1), 2–8. https://doi.org/10.1177/106342660000800101

Tremblay, R. E., Masse, B., Perron, D., Leblanc, M., Schwartzman, A. E., & Ledingham, J. E. (1992). Early disruptive behavior, poor school achievement, delinquent behavior, and delinquent personality: Longitudinal analyses. *Journal of Consulting and Clinical Psychology, 60*(1), 64–72. https://doi.org/10.1037/0022-006x.60.1.64

U.S. Department of Education, Institute of Education Sciences, What Works Clearinghouse (2011, November). *Children Classified as Having an Emotional Disturbance intervention report: The Incredible Years.* Retrieved from http://whatworks.ed.gov.

Volpe, R. J., & Fabiano, G. A. (2013). *Daily Behavior Report Cards: An evidence-based system of assessment and intervention*. New York: Guilford Press.

Wagner, M., Friend, M., Bursuck, W. D., Kutash, K., Duchnowski, A. J., Sumi, W. C., & Epstein, M. H. (2006). Educating students with emotional disturbances: A national perspective on school programs and services. *Journal of Emotional and Behavioral Disorders, 14*(1), 12–30. https://doi.org/10.1177/10634266060140010201

Webster-Stratton, C., & Hammond, M. (1997). Treating children with early-onset conduct problems: A comparison of child and parent training interventions. *Journal of Consulting and Clinical Psychology, 65*(1), 93. https://doi.org/10.1037/0022-006x.65.1.93

Webster-Stratton, C., Reid, M. J., & Hammond, M. (2004). Treating children with early-onset conduct problems: Intervention outcomes for parent, child, and teacher training. *Journal of Clinical Child and Adolescent Psychology, 33*(1), 105–124. https://doi.org/10.1207/s15374424jccp3301_11

West, R. P., & Sloane, H. N. (1986). Teacher presentation rate and point delivery rate: Effects on classroom disruption, performance accuracy, and response rate. *Behavior Modification, 10*(3), 267–286. https://doi.org/10.1177/01454455860103001

Chapter 9
Optimizing Implementation of the Good Behavior Game in the Classroom: Recommendations and Lessons Learned

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The Good Behavior Game (Game; Barrish, Saunders, & Wolf, 1969) is a group contingency classroom behavior management and instructional support approach that rewards positive group, as opposed to individual, behavior. The Game is a commonly used practice that enables teachers to utilize social learning principles within a team-based, game-like context to reduce aggressive/disruptive and off-task behavior and, consequently, increase instructional time. The team-based nature of the Game allows teachers to leverage positive peer pressure in managing student behavior and increasing student participation and engagement in classroom instruction (Tingstrom, Sterling-Turner, & Wilczynski, 2006). The Good Behavior Game was originally developed for use in the classroom setting with elementary school-aged students, grades K to 5, but can also be adapted for use in nonclassroom settings (e.g., playground, after-school programs), as well as for middle schoolers. The Game has been the focus of numerous studies with substantial evidence of positive effects on disruptive behavior and academic performance (see, e.g., Bradshaw, Zmuda, Kellam, & Ialongo, 2009; Embry, 2002; Ialongo, Poduska, Werthamer, & Kellam, 2001; Kellam et al., 2008; Petras et al., 2008; Tingstrom et al., 2006). The purpose of the current chapter is to provide an overview of the implementation of the Game and highlight some factors to consider to optimize its use in elementary school classrooms; however, it is certainly possible to adapt these procedures for

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use in middle schools and nonclassroom settings. We also briefly highlight some efforts to integrate the Game with other evidence-based programs and summarize some of the research documenting significant short- and long-term effects a cross a range of academic, behavioral, and mental health outcomes. We begin by providing a step-by-step process for implementing the Game.

Establish Student Teams

In a typical class size of 25–30 students, it is recommended that teachers form four to six teams of four to six students each. When organizing teams it is important to have an equal balance of students with shy, aggressive, and/or disruptive behavior. Students can work with their team to identify student-friendly team names or the teacher can assign team names using numbers, colors, or animals.

Gain Student Attention

After teams have been identified, the first step in implementing the Game is to gain the attention of all of the students in the classroom. There are several ways this can be achieved. One option is to use an attention getting signal (e.g., something that is fun and rhythmic, clapping and saying "Clap once if you can hear me", or "1, 2, 3 eyes on me"). Another option is to use something that makes a unique noise to garner student attention like a bell, chime, or musical instrument (e.g., harmonica). This sound can be accompanied with a hand signal that further engages the students and shows that they have heard the signal and are ready to listen. It is important to reward and praise students for quick responses and be consistent. It may be helpful to practice the attention signal several times before beginning the Good Behavior Game.

Introduce the Game to Students

At the beginning of each Game, the identified attention signal should be used to gain students' attention. It is important to wait to give directions until *all students* have responded to the signal. Teachers should also review the directions for the activity/ lesson the students will perform during the Game. It is important to be clear and concise when giving directions. The directions for the activity/lesson should be short and easy for students to understand and include academic expectations as well as behavioral expectations. Being specific about which problem behaviors will be tracked during the Game is essential for student success. If there are certain problem behaviors that have become an issue in the classroom, this is an opportune time to

highlight the identified problem behaviors and have students practice reducing those behaviors during the Game.

In addition, the teacher will need to determine how long to play the Game. The teacher will want to identify a reasonable length of time based on how often students have been winning recent Games and the activity students are engaged in during the Game (e.g., instruction, floor work, group work). It is recommended that teachers begin playing the Game for very short periods of time (2–3 minutes) so students become familiar with the rules and procedures and experience the success of their team winning the Game. The Game can be shorter than whatever instructional activity the students are engaged in during this time (e.g., a 20-minute Game within a 30-minute lesson). It is helpful to use a timer that is visible and audible for students. A standard kitchen timer hanging on the front board of the classroom works great for this purpose. A personal device such as a cell phone can be used as well if students will be able to at least hear it when the timer goes off. The teacher will want to place the timer in view of the students and clearly announce that "the Game has started." Below is an example of how one teacher set up the Game for her students:

- Teacher uses a chime to gain student attention and accompanies this with students pointing one finger in the air. She uses the chime a second time to get *all* students' attention. "Thank you for showing me you are ready to hear me."
- The teacher reviews the activity students will be engaged in during the Game as well as the behavioral expectations:

  We are going to play the Good Behavior Game while you are working in pairs on your math worksheets. Both partners should be contributing to the worksheet and taking turns. One will work with the manipulatives and the other partner will write for the first question. Then you will switch roles for the second problem and continue in this pattern to complete the worksheet. During this time, I expect that you will be talking to only your partner using an appropriate partner voice level. You should remain in your seats and take turns as I instructed as you work through each problem. The problem behaviors I will be tracking during this Game include getting out of your seat without permission and not taking turns while working through the math problems. Lately, we have had some problems with students calling out across the room, so I will also be tracking that behavior as well.

- The teacher tells the students how long the Game will last and what the expectations are if students finish their assignment before the end of the Game. "We will play the Game for 5 minutes during your partner work. I do not expect you to finish the worksheet during the 5 minutes of the Game, but if you do, you should go back over all of your answers and double check your work."
- The teacher uses the chime one more time and clearly sets the timer in view of her students. The start of the Game is clearly announced by the teacher as she starts the timer (e.g., "The Game starts now").

In this example, the teacher provided directions on how students should work to complete the worksheet as well as identify appropriate and inappropriate student behavior for the activity. Also note that the teacher mentioned a specific problem behavior that has been a concern in the classroom recently. At the beginning of the Game it is helpful to identify and highlight specific student behaviors that are a

concern in the classroom. As students become more familiar with the Game and how it works, students can be asked what behaviors they think need to be tracked during the Game.

Define Student Problem Behaviors

The teacher will want to review the classroom rules with students prior to the start of each Game and let students know the specific problem behaviors they will be tracking during the Game. The teacher and students can have a discussion and create a poster to hang on the wall as a reminder of the types of problem behaviors the teacher will be counting during the Game. This list may include things such as calling out, getting out of their seat without permission, talking to peers during independent work, yelling, hitting, and fighting.

Each Game is a new opportunity for the teacher to review behavior expectations with students and highlight the specific behavior students should focus on improving. The teacher can say something such as "We are getting ready to play another Good Behavior Game. I want to remind everyone of our classroom rules to be respectful, raise a quiet hand if you need something, keep your hands and feet to yourself, and stay seated during independent work. During the Game I will be looking for the following behaviors – calling out, talking to friends, and getting out of your seat without permission."

Accurately Track Problem Behavior

During the Game, it is essential that teachers accurately acknowledge and track every problem behavior. The teacher should be focusing on student behaviors and making sure not to ignore any behavioral infractions that occur. Ignoring infractions sends the message to students that they do not have to meet the established behavioral expectations and leads to inequity in the reinforcement of classroom and game rules.

Responding to Student Behavior

One of the key elements of the Good Behavior Game is for the teacher to respond nonemotionally to student problem behavior during the Game and continue with the pace of instruction. If a student displays a problem behavior such as calling out without raising a quiet hand, the teacher can quickly and concisely say, "That is a point for Team 1 for calling out" while simply making a tally mark for that team on the board or a piece of paper. The teacher will want to avoid becoming emotional or giving too much attention to the negative behavior. Similarly, the teacher will want

to highlight appropriate student behavior by using behavior-specific praise for teams saying things such as "I really like the way Team 2 got started right away and put their name on their paper" or "Look at Team 3, I love how quietly they are working." By responding nonemotionally to problem behavior and praising positive behavior, the teacher is shaping students to increase on-task behavior. Lastly, it is suggested to always refer to the "team" name and not use individual student names when announcing the problem behavior. Again, the goal is not to be harsh or punitive with students but to give them nonemotional feedback on their behavior to help them increase self-control and on-task behavior.

After the Game

At the end of the Game when the timer goes off, the teacher will want to announce that the Game has ended and gain students' attention (use an attention signal if needed). This will signify to students that problem behaviors are not being tracked any longer for this particular Game. If a student does exhibit an identified problem behavior after the timer goes off, this can be acknowledged by the teacher but not counted for the Game. For example, "Team 1, that would have been a point for calling out if we were still playing the Game. Good thing the Game was over." It may be tempting for the teacher to count this infraction for the Game; however, it is important that problem behaviors only be tracked for the time frame established.

Next, the teacher will briefly want to review the number of points for each team and explicitly state whether each team "won the Game" and gets to participate in the prize. Additionally, the teacher can summarize the types of problem behaviors observed by teams or class-wide during the Game. Teams should also be advised on what behavior to work on for the next Game (e.g., foot tapping, whispering). Here is an example of what a teacher could say at the end of a Game: "Team 4, you had two points for calling out but you win the Game and get to participate in the prize. Team 3, you had zero points so you win the Game and get to participate in the prize. Team 2, you had four points for talking to friends and getting out of your seat without permission so unfortunately you did not win this Game and are unable to do the prize, but you can try again later today in our next Game." If a team gets more than 3 (negative) points and loses the Game, the teacher can remind them they will have another opportunity to play later that day/tomorrow and avoid arguing with students about the points.

Another way to review the results is to tell each team the number of points they received and then be more general with the types of behaviors observed, "Red team, 1 point; Yellow team, 3 points; Green team, 1 point; Blue team, 0 points. All teams won the Game! The most common points I tracked were for calling out across the room. This is something we need to continue to work on as a class." As when tracking problem behaviors during the Game, reviewing the Game results should also be done in a nonemotional manner. Using a matter-of-fact tone and being clear and concise about the results is essential.

Reinforcing Winning Teams with Game Prizes

Prizes for the Good Behavior Game are intended to be fun, quick "brain breaks" for the team(s) that exhibited good self-control during the Game and had less than three problem behaviors tallied during the Game. The prizes are not tangible and do not need to cost money. For example, the teacher may have the winning team(s) sing their favorite song or school cheer, dance for a few minutes on the carpet, sit under or on top of their desks, or tap their pencil on the desk. The prizes often are things that students would not typically be allowed to do in the classroom so it is a special reward for winning the Game. The teacher should remind students that *all teams* can win and participate in the prize and that teams are not competing against each other.

It is recommended for the teacher to randomly choose a prize/activity out of a prize box at the end of each Game. This is fun for students and creates suspense about which prize students will get as a reward after each Game. Be sure to be enthusiastic about whatever prize is randomly chosen. This can be achieved by participating in the prize with the students. Prizes should be short experiences so that students can quickly get back to instruction. For shorter games (e.g., 5 minutes or less), the prize should be about 20 seconds to 1 minute, and for longer games (e.g., 10–20 minutes), the prize should be from 20 seconds to 2 minutes.

The prize should be given to students immediately after they play the Game. This is especially important for younger students and students with emotional and behavioral problems so that they make the connection between their on-task behavior and the prize. Sometimes teachers wait to give the prize and then students/teams misbehave after the Game and the teacher does not want to give them the prize. Therefore, for the Game to be successful, it is recommended to always give the students/teams a new learning opportunity to play the Game and provide a prize for the behavior exhibited during the Game immediately following the Game. When delivering the prize to the winning teams (e.g., 1 minute of making animal noises, 30 seconds of jumping up and down), a timer may also be used; the timer should also be placed in front of students and the teacher should clearly announce to students when the prize should begin. As soon as the timer indicates the end of the prize, use the attention signal again to get students focused. When students win a louder prize (e.g., singing, jumping up and down), it can be especially beneficial that the attention signal incorporates a movement of some type such as a hand signal.

Another classroom management tip is to provide clear and concise behavior expectations prior to the start of the prize. Teachers should provide pre-corrects to students to make sure that they understand how they are expected to behave during the prize. While the prize should be fun and something the students enjoy, it must also be safe. This pre-correction should include what will happen if students do not stop the prize when the timer goes off to indicate the end of the time allotted. If they do not stop the prize, it will be removed from the prize box or jar. It is important to think of anything that could go wrong during the prize and remind students of the classroom rules. For example, if the prize is paper basketball toss, the teacher will want to remind students to walk (not run), keep their hands safely to themselves,

and only throw the paper balls in the trashcan (not at other students). If students are unable to comply with the rules of the prize, the teacher will need to remove this prize from the prize box.

To increase student participation and buy-in, the prizes should be developmentally appropriate and things students will want to work hard to earn. For example, kindergarten students often think it is fun to make silly faces or animal noises, dance on the carpet, or sit under their tables; however, middle school students may prefer to doodle/draw, talk to a friend, or earn extra time on the computer or a free homework pass. Teachers may want to ask students for ideas about the types of prizes they would like to earn. The prizes should be rotated or changed and new prizes added to the prize box every few weeks to keep it new, interesting, and fun for students. If the majority of students do not want to participate in the prize or complain that the prize is not fun, the teacher may want to remove that prize from the prize box.

Teachers should be creative in their implementation of the game. For example, over time the Game can be longer and include larger prizes spanning weeks and/or months (e.g., teams that win three games in a week get extra recess/free time at the end of the day on Friday, or a monthly reward could be to watch a movie). Overall, the idea is for the teacher to have fun with the students and for the students to earn rewards for their good behavior. This is a great way to help build a positive learning community in the classroom. Lastly, for added enjoyment the teacher can be silly and participate in the prize with the students!

Other Considerations

Engaging Students with Challenging Behaviors If there are a few students in the class who exhibit more challenging problem behaviors, teachers may want to temporarily place them on an individual team, rather than being part of a group. The positive peer pressure of the Game will help encourage these students to engage in desired behaviors and rejoin their team as soon as possible. For example, if one student is earning all of the points for a team and repeatedly causing the entire team to lose the Game, one option is to temporarily put this student on their own team until they demonstrate the ability to successfully rejoin their teammates. Teachers will want to have the student identify a team name that resembles the other team names in the class and use that team name during Games. It is important not to identify the student by their individual name during the Game. Below is an example of this situation in a classroom:

> Stacey has been off-task and has difficulty with calling out. Her behavior causes her team to lose the Game almost every time the class plays. Her teammates on the Yellow team are getting frustrated and beginning to show signs of not enjoying playing the Game. The teacher decides that Stacey will be on her own team and calls this team the Purple team. Any time that Stacey exhibits a problem behavior during the Game, the teacher simply states, "Purple team, that is one point for calling out." The teacher does not call Stacey by her individual name during the Game, but uses her team name of Purple.

Timing of the Game   It is helpful to think ahead when planning for the day, identify three good times during the school day to play the Game, and keep in mind it is most effective to choose a time of day when the prize can be delivered immediately after the Game. For example, if there are only 5 minutes before lunch and the class is playing 5-minute Games, the teacher may want to wait until after lunch to be sure there is enough time to play the Game and give the prize. As such, the timing of the Game and prize is critical to the success of the Game. For example, the teacher may want to play the Game toward the end of a lesson on the carpet, deliver the prize to students, and then have students transition back to their desks. Similarly, for older students the teacher may not want to play a Game in the middle of a lesson and have the prize interrupt the pacing of instruction.

Length of the Game   When a teacher begins playing the Good Behavior Game with a group of students, the class should start with very short Games so that students can experience success. A suggested length of time for a first game is 2 to 3 minutes. It is possible that even 2 or 3 minutes may be too long for some groups of students. If students are not successful with a 2-minute Game, the time may need to be adjusted accordingly and reduced to a 1-minute Game. Students need to know what it feels like to be successful so they will buy-in to the Game.

Games are considered successful when most or all teams are winning the Game consistently, at least 80% of the time. After finding success with short games, gradually increase the length of the Games to make it more challenging. Depending on how long games are being played, the teacher may want to only add 30–60 seconds of time to the length of the Game. If a teacher is confident in the ability of the class to be successful playing longer games, a few minutes can be added. The activity the students will be engaged in during game play should be taken into consideration as well.

If students begin losing the Game more regularly, even at game lengths they had previously been successful with, the teacher can reduce the length of Game play to help students get back on track. This may mean reducing Game play from 7 minutes back down to 5 or 6 minutes for a few days or weeks to help students be successful. This is very common after holidays and longer breaks (e.g., spring break, winter break). Many teachers successfully play a Good Behavior Game in their class for up to 20 minutes. It takes time and practice to successfully make it to this length of game play. It is not suggested that a Game be longer than 20 minutes.

Generalization   It is helpful for teachers to begin playing the Game during independent seatwork so they can physically monitor (e.g., active supervision) and visually scan the classroom for any student problem behavior. Once a teacher is more comfortable with implementing the Game, she/he can begin to play it during instruction, circle time, as well as during transitions, in the hallway, in the cafeteria, on the playground, etc. The goal is to play the Game three times throughout the school day in different settings so that students can generalize their on-task behavior. The Game can also be implemented by resource teachers during art, music, gym, etc.

School-Wide Implementation   As discussed above, teachers are encouraged to be creative with the prizes for the Game and think about implementing weekly or larger monthly prizes. Additionally, if several teachers in the school are playing the Game with their students, they could have classroom-level competitions and compete for the most Games won, longest Games, or number of games with no problem behavior for the entire class. The idea is to continue to challenge students to increase on-task behavior in the classroom.

Teachers may want to collaborate with each other to share prize ideas and ways to continue to keep the Game fun and engaging for students while also motivating each other. Similarly, teachers can problem-solve with each other ways to make the Game more effective in their classroom as well as discuss individual students with more challenging behavior. School teams can share data and discuss the Good Behavior Game in collaborative planning, student support teams, and staff meetings. Administrators can provide support to teachers implementing the Game as well as positive reinforcement (e.g., giving shout-outs on the morning announcements to classrooms experiencing success with the Game, discussing the progress on the Game in individual meetings and evaluations).

Training and Coaching on the Game   Initial training in the Game is often led by an expert coach or trainer and is typically delivered in groups of teachers across a day-long in-service training. It is also recommended that the training include a booster session, for more advanced techniques, such as adapting across settings, promoting generalizability, and supporting students who do not appear to be responding adequately to the standard implementation. Although research indicates that the Game is relatively easy to implement and is viewed as highly acceptable and feasible to implement, many teachers struggle to implement it frequently enough (Becker, Bradshaw, Domitrovich, & Ialongo, 2013). As such, it is beneficial for teachers to receive coaching and consultation with trainers and other professionals who have more experience implementing the model. Coaches may conduct classroom observations to provide teachers with specific, personalized feedback on their implementation of the Game (see Becker et al., 2013). Often it is helpful for the coach to also model the Game for the teacher by playing the very first Game with the students in the classroom while the teacher observes the coach. Another strategy is to have teachers observe another teacher's classroom who is successfully implementing the Game and discuss any new strategies/tips with the coach. Lastly, many teachers benefit from videotaping their implementation of the Game and watching it with the coach to note things they did well and/or things they could do differently.

Coaches are instrumental in providing support to teachers as they implement the Game in their classroom and often can help the teacher problem-solve any barriers or challenges they are encountering with their students. Common topics to discuss with a coach include students who have complex or more challenging behavior problems and need more intensive services, balancing teams, identifying the optimal length of Game, how to play the Game in different settings (e.g., hallway, bath-

room breaks, cafeteria), and new prize ideas. It is important for the coach to build a positive relationship with the teacher, highlight and praise the teachers for specific things they are doing well in their classroom, be respectful and remember the teacher is the expert of their classroom and students, and help to motivate and inspire the teacher to be consistent and patient as she/he implements this new Game in their classroom.

Other Adaptations, Modifications, and Integrations of the Game

The Good Behavior Game can also be integrated with other classroom- or school-wide programs. For example, the Game can be conceptualized as a Tier 1 or universal-level classroom intervention that can easily be implemented within a multitiered system of support framework. If a school is also implementing Positive Behavioral Interventions and Supports (PBIS), the teacher can review the PBIS behavior expectations at the start of the Game and use PBIS incentives as a prize for winning teams (Bradshaw, Bottiani, Osher, & Sugai, 2014). The PAX version of the Game has also been created to promote generalization of the practices formally organized in the Game and situated within a larger framework of classroom organization and behavioral expectations (Embry, Staatemeier, Richardson, Lauger, & Mitich, 2003). The PAX Game includes the above-described increased attention to organization of the class at the school year outset and engagement of the students to formulate the rules and expectations for behavior through explicit labeling of appropriate and inappropriate or undesirable behaviors. This version also provides teachers and students with a simple method of understanding about behavior meaning and appropriate application of attention and its reinforcing properties.

Another series of projects and research studies has combined the Game with other evidence-based programs or practices. For example, the Game has been integrated with the Promoting Alternative Thinking Strategies (PATHS; Greenberg, Kusche, Cook, & Quamma, 1995) social-emotional learning (SEL) program, with the goal of both providing opportunities for developing inhibitory skills through the Game and complementary social-emotional skills to support replacement behaviors. In addition, it is hypothesized that promoting greater behavioral regulation through the Game would allow for greater uptake of the SEL skill development activities and content (Domitrovich et al., 2010). Much like on a car, the Game helps promote skills that serve as a bit of the "brake pedal," whereas the PATHS program promotes social-emotional skills that serve as the "gas pedal" or replacement behaviors; for like a car, both a gas and a brake pedal are critical for driving. Recent research on this integrated model suggests that not only does it produce a synergistic effect of the two programs on student outcomes, like aggressive behavior (Ialongo et al., 2019), but it also has been shown to improve teacher outcomes, like efficacy (Domitrovich et al., 2016).

Another such effort combined the Game with MyTeachingPartner (MTP), which focuses on teacher-student interactions (Pianta, Mashburn, Downer, Hamre, & Justice, 2008). Specifically, MTP is a web-mediated, individualized coaching approach based on the hypothesis that the teacher interactions with students directly contribute to student achievement and its requisites of engagement, motivation, and on-task behavior. MTP consultants use the Classroom Assessment Scoring System (CLASS – a widely used, validated measure of teacher-student interaction; Pianta et al., 2008) as the basis for feedback to teachers through observing, analyzing, and describing videos. Preliminary findings from a randomized controlled trial combining the Game and MTP for use with early career teachers demonstrated significant effects on student outcomes, like aggressive behavior as well as improved teacher behavior management, particularly in more challenging classroom settings (Tolan, Elreda, Bradshaw, Downer, & Ialongo, 2019).

In addition, other versions of the model have been created which provide further integration into the classroom-wide system of support, such as the Class-Wide Function-Related Intervention Teams (CW-FIT; Conklin, Kamps, & Wills, 2017). Recent research on the CW-FIT group-oriented contingency model, which focuses more on teaching replacement behaviors and rewarding the display of positive behavior rather than inhibitory control, has also demonstrated positive results for a range of student outcomes, including increasing on-task behavior and reducing disruptive behavior (see Conklin et al., 2017; Wills, Kamps, Fleming, & Hansen, 2016). Finally, there have been efforts to implement the Game in other settings, like after-school programs. For example, a recent randomized study of the PAX version of the Game implemented in after-school demonstrated significant impacts on hyperactivity and prosocial behavior (Smith, Osgood, Oh, & Caldwell, 2018).

Summary of the Short- and Long-Term Impacts of the Good Behavior Game

As noted above, there has been considerable research documenting the significant impacts of the Game, both when implemented in isolation and when implemented in combination with other models (for a review see Embry, 2002; Tingstrom et al., 2006). The impacts are also relatively robust and sustained, including proximal impacts on reduced disruptive behaviors and improved academic performance, but also translating into long-term effects on subsequent behavioral, mental health, and academic outcomes. For example, several rigorous studies have documented significant effects of the Game after just a single year of exposure during elementary school (e.g., first grade) on a range of behavioral as well as academic and mental health outcomes throughout elementary school. Those effects show up on peer ratings of problem behavior, teacher ratings, as well as external observations of the students' behavior. Interestingly, the effects appear to be strongest for children who were already displaying a high level of aggressive behavior problems when the

Game was first implemented. Also quite exciting is recent evidence suggesting that when the Game is combined with the SEL PATHS program, it also has significant impacts on teachers' beliefs and perceptions, even after just 1 year of implementation (Domitrovich et al., 2016).

With regard to long-term impacts, main effects also occurred for a range of academic outcomes by the end of high school, including high school completion, postsecondary school attendance, as well as better performance on standardized tests and reduced need for special education services (Bradshaw et al., 2009). The behavioral, mental health, and substance use impacts have now been tracked over 20 years following participation in the game in just kindergarten or first grade. Like with the proximal effects, the long-term impacts appear to be most salient for youth who displayed the highest level of aggressive behavior (for reviews see Ialongo et al., 2001, Ialongo et al., 2019; Kellam et al., 2008; Petras et al., 2008).

Conclusions

The Good Behavior Game is a widely used and highly adaptable and acceptable model for promoting positive classroom learning environments. Relatively easy for teachers to adopt, the Game is efficient to train on, and most teachers are able to implement it with high fidelity even after relatively limited training and coaching supports. The more challenging aspects of implementation appear to be dosage, or the frequency with which teachers implement the game (Becker et al., 2013; Berg, Bradshaw, Jo, & Ialongo, 2017). Taken together, these findings suggest that the Game is a promising and highly feasible, acceptable, and transportable model for implementation in various school and educational settings (Embry, 2002).

References

Barrish, H. H., Saunders, M., & Wolf, M. M. (1969). Good Behavior Game: Effects of individual contingencies for group consequences on disruptive behavior in a classroom. *Journal of Applied Behavior Analysis, 2*(2), 119–124.

Becker, K., Bradshaw, C. P., Domitrovich, C. E., & Ialongo, N. S. (2013). Coaching teachers to improve the implementation quality of evidence-based programs: Linking coaching with fidelity in the PATHS to PAX Project. *Administration and Policy in Mental Health and Mental Health Services Research, 40*, 482. https://doi.org/10.1007/s10488-013-0482-8

Berg, J., Bradshaw, C. P., Jo, B., & Ialongo, N. S. (2017). Using complier average causal effect estimation to determine the impacts of the Good Behavior Game preventive intervention on teacher implementers. *Administration and Policy in Mental Health and Mental Health Services Research, 44*, 558–571. https://doi.org/10.1007/s10488-016-0738-1

Bradshaw, C. P., Bottiani, J., Osher, D., & Sugai, G. (2014). Integrating Positive Behavioral Interventions and Supports (PBIS) and social emotional learning. In M. D. Weist, N. A. Lever,

C. P. Bradshaw, & J. Owens (Eds.), *Handbook of school mental health: Advancing practice and research* (2nd ed., pp. 101–118). New York, NY: Springer.

Bradshaw, C. P., Zmuda, J. H., Kellam, S. G., & Ialongo, N. S. (2009). Longitudinal impact of two universal preventive interventions in first grade on educational outcomes in high school. *Journal of Educational Psychology, 101*(4), 926–937. https://doi.org/10.1037/a0016586

Conklin, C. G., Kamps, D., & Wills, H. (2017). The effects of Class-Wide Function-Related Intervention Teams (CW-FIT) on students' prosocial classroom behaviors. *Journal of Behavioral Education, 26*, 75–100. https://doi.org/10.1007/s10864-016-9252-5

Domitrovich, C., Bradshaw, C. P., Berg, J., Pas, E., Becker, K., Musci, R., … Ialongo, N. (2016). How do school-based prevention programs impact teachers? Findings from a randomized trial of an integrated classroom management and social-emotional program. *Prevention Science, 17*, 325–337.

Domitrovich, C. E., Bradshaw, C. P., Greenberg, M. T., Embry, D., Poduska, J., & Ialongo, N. S. (2010). Integrated models of school-based prevention: Theory and logic. *Psychology in the Schools, 47*(1), 71–88. https://doi.org/10.1002/pits.20452

Embry, D. D. (2002). The Good Behavior Game: A best practice candidate as a universal behavioral vaccine. *Clinical Child & Family Psychology Review, 5*, 273–297.

Embry, D. D., Staatemeier, G., Richardson, C., Lauger, K., & Mitich, J. (2003). *The PAX Good Behavior Game* (1st ed.). Center City, MN: Hazelden.

Greenberg, M. T., Kusche, C. A., Cook, E. T., & Quamma, J. P. (1995). Promoting emotional competence in school-aged children: The effects of the PATHS curriculum. *Development and Psychopathology, 7*, 117–136.

Ialongo, N., Poduska, J., Werthamer, L., & Kellam, S. (2001). The distal impact of two first grade preventive interventions on conduct problems and disorder in early adolescence. *Journal of Emotional and Behavioral Disorders, 9*, 146–160.

Ialongo, N. S., Domitrovich, C. E., Embry, D., Greenberg, M., Lawson, A., Becker, C., & Bradshaw, C. P. (2019). A randomized controlled trial of the combination of two school-based universal preventive interventions. *Developmental Psychology, 56*(6), 1313–1325. https://doi.org/10.1037/dev0000715

Kellam, S., Brown, C. H., Poduska, J., Ialongo, N., Wang, W., Toyinbo, P., … Wilcox, H. C. (2008). Effects of a universal classroom behavior management program in first and second grades on young adult behavioral, psychiatric, and social outcomes. *Drug and Alcohol Dependence, 95S*, S5–S28.

Petras, H., Kellam, S., Brown, C. H., Muthén, B., Ialongo, N., & Poduska, J. (2008). Developmental courses leading to antisocial personality disorder and violent and criminal behavior: Effects by young adulthood of a universal preventive intervention in first- and second-grade classrooms. *Drug & Alcohol Dependence, 95S*, S45–S59.

Pianta, R. C., Mashburn, A. J., Downer, J. T., Hamre, B. K., & Justice, L. (2008). Effects of web-mediated professional development resources on teacher–child interactions in pre-kindergarten classrooms. *Early Childhood Research Quarterly, 23*(4), 431–451. https://doi.org/10.1016/j.ecresq.2008.02.001

Smith, E. P., Osgood, D. W., Oh, Y., & Caldwell, L. (2018). Promoting afterschool quality and positive youth development: Randomized trial of the Pax Good Behavior Game. *Prevention Science, 19*(2), 159–173. https://doi.org/10.1007/s11121-017-0820-2

Tingstrom, D. H., Sterling-Turner, H. E., & Wilczynski, S. M. (2006). The Good Behavior Game: 1969 to 2002. *Behavior Modification, 30*, 225–233.

Tolan, P. H., Elreda, L., Bradshaw, C. P., Downer, J., & Ialongo, N. (2019). Randomized trial testing the integration of the Good Behavior Game and MyTeachingPartner™: The moderating role of distress among new teachers on student outcomes. *Journal of School Psychology, 46*.

Wills, H., Kamps, D., Fleming, K., & Hansen, B. (2016). Student and teacher outcomes of the Class-Wide Function-Related Intervention Team efficacy trial. *Exceptional Children, 83*(1), 58–76.

Resources

For more information on the Good Behavior Game, visit one of the following websites:

- Goodbehaviorgame.org
- goodbehaviorgame.air.org
- www.air.org/topic/p-12-education-and-social-development/good-behavior-game
- http://www.interventioncentral.org/behavioral-interventions/schoolwide-classroommgmt/good-behavior-game
- http://www.blueprintsprograms.com/factsheet/good-behavior-game
- https://cwfit.ku.edu/
- Additionally, the website www.gonoodle.com has several suggestions for free prizes.

Chapter 10
School-Wide Positive Behavioral Interventions and Supports

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School-Wide Positive Behavioral Interventions and Supports (SWPBIS) is being implemented in over 23,000 (>20%) schools across the United States, and this number continues to grow (Center on Positive Behavioral Interventions and Supports, 2017; Horner, Sugai, & Fixsen, 2017). In a time where many educational initiatives are abandoned, the implementation of SWPBIS has sustained (McIntosh et al., 2013). This is due in large part to the fact that SWPBIS is not a packaged intervention or curriculum; rather, it is a framework for selecting and implementing evidence-based interventions (e.g., Check & Connect). Interventions within SWPBIS are matched to the intensity of student support needs across multiple tiers, often referred to as the *continuum of supports.*

To this effect, SWPBIS aims to prevent problem behavior and increase behavioral engagement by organizing the school environment so that it is more conducive to learning. In this chapter, we present how the structure and framework of SWPBIS allows for sustainable implementation of evidence-based practices and dive into the specific practices within SWPBIS that increase behavioral engagement for students.

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SWPBIS Increases Behavioral Engagement

Behavioral disengagement is a process where students display problem behaviors to avoid settings, interactions, or tasks. Students often demonstrate behavioral disengagement by distracting others, disrupting learning, and actively defying directives given by adults. Students may also signal behavioral disengagement through avoidant behaviors such as poor attendance, skipping class, low homework completion, and lack of participation in school activities. The culmination of these behaviors over time can eventually lead to dropout, in which a student is not engaging with the school system at all (Alexander, Entwisle, & Horsey, 1997).

SWPBIS aims to create a school environment that engages all students. Numerous studies have demonstrated the positive effects of SWPBIS implementation on valued student, staff, and school outcomes to improve behavioral engagement. Researchers have documented a relation between universal SWPBIS and (a) improved perceptions of school safety (Horner et al., 2009; Sprague et al., 2002), (b) increased school organizational health (Bohanon et al., 2006; Bradshaw, Koth, Bevans, Ialongo, & Leaf, 2008; Bradshaw, Koth, Thornton, & Leaf, 2009; Flannery, Fenning, McGrath Kato, & McIntosh, 2014), (c) decreased rates of office discipline referrals and suspensions (Bradshaw, Mitchell, & Leaf, 2010), (d) reduced rates of bullying and peer rejection (Ross & Horner, 2009; Waasdorp, Bradshaw, & Leaf, 2012), (e) increased attendance (Freeman et al., 2016), (f) lowered rates of externalizing problem behaviors (Benner, Nelson, Sanders, & Ralston, 2012), (g) increased teacher well-being and efficacy (Ross, Romer, & Horner, 2012), (h) improved social-emotional skills for students (Bradshaw, Waasdorp, & Leaf, 2015), and (i) increased academic achievement (Algozzine & Algozzine, 2007; Bradshaw et al., 2010; Freeman et al., 2016; Horner et al., 2009). Moving up the continuum of supports, SWPBIS has further demonstrated improved academic, behavioral, and social-emotional outcomes for students who need targeted (Tier II) and intensive (Tier III) supports (Lewis, 2009).

SWPBIS Framework

The success of SWPBIS is credited by the theoretical foundations it was built upon. SWPBIS is rooted in behavioral science (Dunlap, 2006) and is the application of Positive Behavior Support at the school level (Carr et al., 2002; McIntosh, Filter, Bennett, Ryan, & Sugai, 2010). The focus on implementing prevention-based behavioral approaches at the school level was initiated by the widespread but ineffective use of punitive, exclusionary approaches to student problem behavior, such as out-of-school suspension and expulsion (Colvin, Kame'enui, & Sugai, 1993). To combat this problem, SWPBIS took a preventative approach aimed at establishing a

school culture that is positive, predictable, and safe (Horner, Sugai, & Anderson, 2010). The result of this process has led to a tiered model of behavioral supports.

Three-Tiered Model of Support

SWPBIS is based on the three-tiered prevention model rooted in public health (Walker et al., 1996). The specific continuum of supports is universal (Tier I) supports implemented school wide, targeted (Tier II) supports delivered to small groups of students or individuals, and intensive (Tier III) supports designed for individual students (Algozzine & Algozzine, 2007; Sugai & Horner, 2002, 2009). This systematic approach helps build capacity *within* the school to increase fidelity of implementation and the likelihood of sustained implementation (McIntosh et al., 2013). Schools implementing SWPBIS build capacity by (a) establishing systems that support durable implementation; (b) collecting and analyzing outcome and fidelity data to guide decision-making; (c) defining measureable, valued academic and social outcomes; and (d) selecting and implementing evidence-based interventions and practices that support progress toward achieving identified outcomes (Sugai & Horner, 2002, 2009; Sugai, Horner, & McIntosh, 2008). Figure 10.1 provides a visual representation of these defining elements of SWPBIS. In the following section, we will provide a detailed description of each element and how they are typically implemented within a school setting.

Fig. 10.1 Defining elements of SWPBIS from Sugai and Horner (2006)

Defining Elements of SWPBIS

Build Systems of Support

SWPBIS is not a stand-alone intervention or practice. Instead, SWPBIS is a framework through which systems are built to maximize effectiveness, efficiency, and sustained implementation of a continuum of evidence-based practices. Implementing and sustaining any intervention successfully in schools requires that practices be connected to the school and have effective systems to support it (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). One way schools build integrated systems of support is through a collaborative team-based approach.

The power of having a team that builds systems of support for effective interventions to be implemented cannot be underestimated. Establishing leadership teams at the district level has been shown to improve visibility, support sustained implementation of SWPBIS, and maximize effectiveness of SWPBIS (McIntosh et al., 2013). Leadership teams at the school level are representative of the entire school staff and have expertise about their unique school system. They are aware of the potential barriers to SWPBIS implementation and work together to make SWPBIS implementation seamless and relevant to their individual school.

School leadership teams are tasked with establishing practices and interventions that align with the core features of universal SWPBIS. They meet regularly (e.g., monthly) to review outcome data, develop action plans to address problems, and provide ongoing implementation support to staff (Newton, Horner, Algozzine, Todd, & Algozzine, 2012). Team-based approaches, guided by data and supported with active leadership, are effective because team members share responsibility of the tasks that need to be accomplished to support the implementation of SWPBIS. Team members provide different perspectives about what is important and how practices can be integrated, instead of added on, to existing systems within a school. They bring their knowledge of their unique school context and weave effective practices within that context, creating systems that empower school staff to continue to implement effective interventions.

Collect and Use Data for Decision-Making

School leadership teams make decisions guided by data. Data-based decision-making is at the cornerstone of SWPBIS. Establishing efficient data systems streamlines the decision-making process for teams and supports the effectiveness and sustained implementation of SWPBIS (McIntosh et al., 2013). The continuous collection and analysis of data are necessary for determining the extent to which behavior supports are being implemented as intended (i.e., fidelity of implementation) and whether those practices are improving student outcomes (Sugai & Horner, 2009). The collected data serve to improve the behavior supports available to all

students and to assist school staff in identifying students in need of more intensive behavior supports.

At the advanced tiers, the effectiveness of behavior supports is frequently and consistently monitored to determine whether (a) the intervention is working and is no longer needed, (b) the intervention is working and should be continued, or (c) the intervention is not working and therefore a different (and possibly more intensive) intervention should be implemented. Similar to the process educators use to address academic deficits, behavior interventions within SWPBIS are delivered commensurate with a student's demonstrated need and are changed or intensified if they are found ineffective.

In addition to formative data, outcome and fidelity data are also collected within a SWPBIS framework. Outcome data are used to determine how effective SWPBIS has been in helping schools progress toward achieving their locally defined outcomes. Schools evaluate whether they are progressing toward measurable goals and if there are problems that need to be addressed. They use these data to make decisions about appropriate intervention approaches that will have the highest probability of being effective. Once teams identify potential areas of improvement, they create action plans and measure the extent to which those plans are implemented by collecting fidelity of implementation data.

Determining SWPBIS fidelity involves careful investigation of whether the school is adhering to the specific core components involved in effective implementation (George & Childs, 2012). Examples of fidelity measures include the Benchmarks of Quality (BoQ; Kincaid, Childs, & George, 2005), the School-Wide Evaluation Tool (SET; Sugai, Lewis-Palmer, Todd, & Horner, 2001), and the Tiered Fidelity Inventory (TFI; Algozzine et al., 2014). These measures assess fidelity of implementation at the universal level (i.e., SET and BoQ) and across all tiers (i.e., TFI).

The format in which data are collected and presented is important. Data must be easily accessible and have the ability to be summarized visually (i.e., graphed) and disaggregated (e.g., time of day, location, student demographics characteristics, type of problem behavior) when needed. To accomplish this goal, schools commonly use discipline data systems such as the School-Wide Information System (SWIS; May et al., 2013). SWIS is a comprehensive system that allows behavior data to be analyzed in many ways to help school teams pinpoint areas that require intervention across the entire continuum.

Define Measurable Outcomes

Schools develop clear and measurable outcome goals from the data they collect. These goals must be of high priority and consistent with the vision of the school and district. It is extremely difficult to sustain SWPBIS if it is not a consistent focal point within a school's culture (McIntosh et al., 2014). School staff must buy-in and agree to take a preventative approach, centered on instruction, to increase behavioral engagement for all students. Often, this initial pledge is achieved through sur-

veying school staff about their willingness to implement SWPBIS. If school staff are not willing to prioritize SWPBIS as an initiative, then the process of implementing the intervention is halted until commitment is obtained.

School teams must decide what specific outcomes are important to *them* and how the implementation of SWPBIS may help them achieve those outcomes. For example, teams may identify ways to increase behavioral engagement by reducing office discipline referrals (ODRs), increasing attendance, or increasing student participation in extracurricular activities. Once goals are defined, teams take steps to ensure the implementation of SWPBIS is a permanent fixture within the school culture and remains a high priority. As part of this process, they continually self-evaluate their commitment to SWPBIS, including the involvement of the school administrator(s) and access to funding. They also reflect on their progress toward establishing SWPBIS systems that support the achievement of meaningful student outcomes and decide what adjustments may need to be made to reach those outcomes.

Use Evidence-Based Practices

SWPBIS at the universal (Tier 1) level establishes processes and procedures intended for *all* students, staff, and settings (e.g., school-wide, classroom, and non-classroom settings, such as the cafeteria, hallway, parking lot, auditorium, and restroom). Universal supports allow schools to become proficient in preventing new cases of problem behavior from occurring. They are delivered to all students regularly and proactively and emphasize defining, teaching, and systematically acknowledging appropriate student behavior. When implemented with fidelity, universal SWPBIS is effective with at least 80% of the students in a school and allows for resources to be redirected toward more intensive support needs (Algozzine et al., 2010; Sugai et al., 2010).

SWPBIS Practices to Increase Behavioral Engagement

George, Kincaid, and Pollard-Sage (2010) described seven practice components of universal SWPBIS implementation: teaming, data-based decision-making, effective consequences, expectations and rules, acknowledgment system, lesson plans for teaching, and progress monitoring. Although each of these seven components is critical for effective implementation of SWPBIS, we will discuss two components most relevant to increasing student behavioral engagement in detail: (1) teaching positively stated behavior expectations and (2) establishing a reinforcement system to acknowledge expected behavior.

Teach Expectations

Expectations are a list of broad, positively stated behaviors (usually three to five in number), aligned with the school's mission statement, that are desired of all students, faculty, staff, and parents in all settings (George et al., 2010; Mayer, 1995). By stating the expectations positively, students can be more easily taught what they are supposed to do rather than what they are not to do. Proactive teaching has been shown to reduce the use of exclusionary discipline (i.e., less students are engaging in problem behavior and educators are less reliant on reactionary measures), keeping students in the classroom engaged and actively learning (Nese, Massar, & McIntosh, 2015; Scott & Barrett, 2004). Clearly defining and teaching appropriate behaviors within universal supports makes hidden norms transparent to all persons within a specific setting, enhancing the system's cultural responsiveness. Students gain a better understanding of what acceptable and unacceptable behaviors look like through clear definitions and demonstrations within the specific environmental context. For example, a school might teach examples and non-examples of what respect looks like in the hallway and cafeteria. Respect might look very different in each of these settings (e.g., hallway, use appropriate language; cafeteria, clean up after yourself), but school personnel can reduce inconsistency and subjectivity by explicitly defining, teaching, and demonstrating these expectations.

As described earlier in this chapter, the school leadership team, with input from the entire school community, determines their expectations. School personnel must adhere to having expectations that are positively stated and few in number but are encouraged to tailor their expectations to match to their mission and vision, defined measurable goals, and the specific needs of their student population. A common example of a set of school expectations is (a) Be Respectful, (b) Be Responsible, and (c) Be Safe (see Table 10.1). For example, a school leadership team may select these expectations if many students have been referred for disrespect (Be Respectful), tardies (Be Responsible), and fighting (Be Safe). Once expectations are identified, school teams develop rules for specific locations or settings.

Rules are specific, observable behaviors that assist the school leadership team in teaching the expectations across different settings (see Table 10.1). School staff demonstrate how these rules look different across settings, and students discriminate between what respect looks like in the classroom and what it looks like in the cafeteria, restroom, and/or hallway, for example. Teaching behavioral expectations for specific settings (a) allows for uniform instruction across multiple programs; (b) builds communication across faculty, staff, and parents; (c) promotes curriculum design; and (d) assists in professional accountability. Explicit teaching of appropriate behaviors also helps guide students toward becoming more engaged (i.e., what it looks like) and reduces opportunities for peers to elicit disengagement (i.e., by responding differently to behaviors; Horner & McIntosh, 2015).

A school leadership team chooses to teach appropriate behavior through a variety of activities, such as introductory kickoff events, ongoing direct instruction, and embedding lessons into other curricula. One method is not necessarily better than

Table 10.1 Expectations and rules by setting matrix (i.e., teaching matrix)

Behavioral expectations and rules by setting matrix				
Expectation	Classroom	Hallway	Cafeteria	Restroom
Be respectful	• Raise hand for assistance • Be open to various thoughts and opinions	• Use appropriate language • Use the trash bins	• Return trays when finished • Use appropriate language • Say please and thank you	• Keep to yourself
Be responsible	• Be in your seat by the second bell • Bring your materials and work to class	• Keep lockers clean and secure • Be efficient to get to class on time • Have a pass during class time	• Bring food or lunch money • Stay in the cafeteria area	• Notify an adult if service is needed • Clean up after yourself
Be safe	• Keep work area clean • Keep aisles clear	• Be aware of your surroundings • Walk	• Clean up after yourself • Request assistance if needed for clean-up (i.e., spills)	• Dispose of personal items appropriately • Wash hands before leaving

another—what is most important is that students are explicitly taught the expectations desired. In the early grades, lessons are often taught within the exact setting (i.e., students go to the cafeteria to learn about cafeteria expectations), whereas in the older grades, lessons are more often taught in classroom or assembly formats but address a variety of settings (e.g., parking lot, football games, off campus, online) based on the focus of the lesson or the time of year. School personnel build upon initial lessons by providing students with written and graphic visual cues in the setting where the behaviors are expected (e.g., banners displaying expectations and specific rules), acknowledge (i.e., reinforce) student effort, and develop plans to reteach and restructure teaching. To enhance buy-in, both students and staff are encouraged to be involved in the development and teaching of rules and expectations across settings. In the upper grades, upperclassmen are sometimes used in the teaching of lessons to underclassmen. These actions make the process of teaching expectations conspicuous for all individuals within the school building. In other words, everyone in the school community shares the same expectations of "Be Respectful, Be Responsible and Be Safe."

As important as teaching appropriate behaviors is, it is also critical to teach students what behaviors are unacceptable in the school setting. Teaching non-examples eliminates the dangers of assuming students know the difference between acceptable and unacceptable behaviors. Furthermore, schools decide on a common pro-

cess for identifying and responding to unacceptable behaviors when they occur. They decide what behaviors are minor enough to be addressed in the classroom (e.g., missing materials) versus those that need administrator intervention (e.g., fighting; George et al., 2010). Regardless of the infraction, all students benefit from instruction on the clear distinction between acceptable and unacceptable behaviors in each given setting.

Acknowledge Expected Behavior

One of the strategies that schools employ in universal SWPBIS is to focus on recognizing expected behaviors using a school-wide acknowledgment system. Acknowledgment systems provide students access to positive feedback about their behavior and increase the likelihood that desired behaviors will be repeated. In addition, acknowledgment systems focus staff and student attention on the desired behaviors, which fosters a more positive school climate and increases behavioral engagement. Finally, acknowledgment systems reduce the need for engaging in time-consuming exclusionary disciplinary measures (George et al., 2010).

It is important to note that positive reinforcement is not just a "good job" or a pat on the back. To truly build positive connections between students and adults in the school and positively shape student behavior, reinforcement must be genuine and specific. For example, a teacher may provide reinforcement by saying, "Thank you, John, for being responsible by moving your backpack under your desk so that your peers can move easily to the pencil sharpener." The teacher in this example (a) acknowledged the student by name, (b) stated the expectation followed (i.e., Be Responsible), and (c) specifically identified the behavior that met that expectation (i.e., moving his backpack under the desk so others can get to the pencil sharpener. If the teacher simply says, "Thank you John for being responsible," the student and others in the classroom are not aware of what it was John did and why the behavior was an example of being responsible.

In addition to being genuine and specific, acknowledgment of appropriate behaviors needs to be provided frequently, unexpectedly, and across multiple settings for its effectiveness to be optimized (Nese & McIntosh, 2016). Applying acknowledgment in this way communicates to students that it is more likely that positive behavior will be reinforced than negative behavior across all settings. One strategy for providing frequent reinforcement is to pair behavior-specific praise with school- or class-wide reinforcement techniques such as token economies (e.g., Tiger Bucks), group contingencies (e.g., table points), and other systems (e.g., behavioral contracts). Pairing behavior-specific praise with tangible reinforcement is one of the best strategies for increasing the likelihood that behavioral engagement will continue (Akin-Little, Eckert, Lovett, & Little, 2004). The tangible reinforcer makes the verbal recognition salient for students and staff. It is clear to all when appropriate behavior has occurred and can help foster relationships with students who may

not initially value social recognition as a reinforcer. Perhaps most importantly, the reinforcer also serves as a visual cue for adults to provide more attention to prosocial behavior than unacceptable behavior. As such, the pairing of tangible and behavior-specific praise helps to build relationships between school staff and students, making social acknowledgment more powerful over time.

Resources for Implementation

Information regarding SWPBIS, tools for implementation, and school and district examples are freely available online. The website for the OSEP Center on PBIS (http://www.pbis.org) contains resources primarily related to systems implementation at all tiers, including blueprints for implementation, professional development, and evaluation (www.pbis.org/blueprintbriefstools). In addition, the Center hosts a free website (www.pbisapps.org) for school and district teams to enter, view reports, and monitor implementation of SWPBIS through a range of research-validated fidelity of implementation measures. This site also includes other web-based applications, including a school discipline data system for all three tiers (www.swis.org). There are also a range of regional sites with freely posted examples, training materials, and expectations videos (e.g., flpbs.fmhi.usf.edu, www.midatlanticpbis.org, www.midwestpbis.org, www.pbismaryland.org, www.pbismissouri.org, www.pbis-videos.com).

Summary

Creating environments that increase behavioral engagement requires a systematic and collaborative approach. Interventions are less effective and more likely to be abandoned without a system of support grounded within a solid foundation. SWPBIS provides this foundation. Schools implementing SWPBIS provide support for the implementation of evidence-based practices in four ways. First, local leadership teams build systematic processes to ensure selected interventions can be implemented and sustained over time to reach meaningful outcomes. Second, these teams use data for decision-making and adjust support based on the feedback they receive from the data collected. Third, they clearly define measurable goals based on the data collected and commit to taking a preventative and instructional focus to increasing behavioral engagement. Fourth, they select and implement evidence-based practices to reach their specific goals. These defining elements of SWPBIS allow for a durable system of support that can sustain the implementation of effective interventions over time, a key reason why SWPBIS has been scaled up for decades and continues to evolve and expand.

References

Akin-Little, K. A., Eckert, T. L., Lovett, B. J., & Little, S. G. (2004). Extrinsic reinforcement in the classroom: Bribery or best practice. *School Psychology Review, 33*, 344–362.

Alexander, K. L., Entwisle, D. R., & Horsey, C. S. (1997). From first grade forward: Early foundations of high school dropouts. *Sociology of Education, 70*, 87–107.

Algozzine, K., & Algozzine, B. (2007). Classroom instructional ecology and School-Wide Positive Behavior Support. *Journal of Applied School Psychology, 24*, 29–47.

Algozzine, R. F., Barrett, S., Eber, L., George, H., Horner, R. H., Lewis, T. J., … Sugai, G. (2014). *PBIS Tiered Fidelity Inventory*. Eugene, OR: OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports. Available at http://www.pbis.org

Algozzine, R. F., Horner, R. H., Sugai, G., Barrett, S., Dickey, C. R., Eber, L., … Tobin, T. (2010). *Evaluation blueprint for School-Wide Positive Behavior Support* (2nd ed.). Eugene, OR: National Technical Assistance Center on Positive Behavior Interventions and Support. Retrieved from www.pbis.org

Benner, G. J., Nelson, J. R., Sanders, E. A., & Ralston, N. C. (2012). Behavior intervention for students with externalizing behavior problems: Primary-level standard protocol. *Exceptional Children, 78*, 181–198.

Bohanon, H., Fenning, P., Carney, K., Minnis, M., Anderson-Harriss, S., Moroz, K., … Piggott, T. (2006). School-wide application of Positive Behavior Support in an urban high school: A case study. *Journal of Positive Behavior Interventions, 8*, 131–145.

Bradshaw, C. P., Koth, C. W., Thornton, L. A., & Leaf, P. J. (2009). Altering school climate through School-Wide Positive Behavioral Interventions and Supports: Findings from a group-randomized effectiveness trial. *Prevention Science, 10*, 100–115.

Bradshaw, C. P., Koth, K., Bevans, K. B., Ialongo, N., & Leaf, P. J. (2008). The impact of School-Wide Positive Behavioral Interventions and Supports on the organizational health of elementary schools. *School Psychology Quarterly, 23*, 462–473.

Bradshaw, C. P., Mitchell, M. M., & Leaf, P. J. (2010). Examining the effects of Schoolwide Positive Behavioral Interventions and Supports on student outcomes: Results from a randomized controlled effectiveness trial in elementary schools. *Journal of Positive Behavior Interventions, 12*, 133–148. https://doi.org/10.1177/1098300709334798

Bradshaw, C. P., Waasdorp, T. E., & Leaf, P. J. (2015). Examining variation in the impact of School-Wide Positive Behavioral Interventions and Supports: Findings from a randomized controlled effectiveness trial. *Journal of Educational Psychology, 107*, 546–557.

Carr, E. G., Dunlap, G., Horner, R. H., Koegel, R. L., Turnbull, A. P., Sailor, W., … Fox, L. (2002). Positive Behavior Support: Evolution of an applied science. *Journal of Positive Behavior Interventions, 4*, 4–16.

Center on Positive Behavioral Interventions and Supports. (2017). *Schools that are implementing SWPBIS*. Eugene, OR: National Technical Assistance Center on Positive Behavior Interventions and Support. Retrieved from http://www.pbis.org

Colvin, G., Kame'enui, E. J., & Sugai, G. (1993). Reconceptualizing behavior management and school-wide discipline in general education. *Education and Treatment of Children, 16*, 361–381.

Dunlap, G. (2006). The applied behavior analytic heritage of PBS: A dynamic model of action-oriented research. *Journal of Positive Behavior Interventions, 8*, 58–60.

Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation research: Synthesis of the literature (FMHI Publication No. 231)*. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network.

Flannery, K. B., Fenning, P., McGrath Kato, M. M., & McIntosh, K. (2014). Effects of School-Wide Positive Behavioral Interventions and Supports and fidelity of implementation on problem behavior in high schools. *School Psychology Quarterly, 29*, 111–124. https://doi.org/10.1037/spq0000039

Freeman, J., Simonsen, B., McCoach, D. B., Sugai, G., Lombardi, A., & Horner, R. H. (2016). Relationship between School-Wide Positive Behavior Interventions and Supports and academic, attendance, and behavior outcomes in high schools. *Journal of Positive Behavior Interventions, 18*, 41–51.

George, H. P., & Childs, K. E. (2012). Evaluating implementation of schoolwide behavior support. *Preventing School Failure, 56*, 197–206.

George, H. P., Kincaid, D., & Pollard-Sage, J. (2010). Primary tier interventions and supports. In W. Sailor, G. Dunlap, G. Sugai, & R. Horner (Eds.), *Handbook of positive behavior support* (pp. 375–394). Lawrence, KS: Issues in Clinical Child Psychology.

Horner, R., Sugai, G., & Fixsen, D. (2017). Implementing effective educational practices at scales of social importance. *Clinical Child and Family Psychology Review, 20*, 25–35.

Horner, R. H., & McIntosh, K. (2015). Reducing coercion in schools: The impact of School-Wide Positive Behavioral Interventions and Supports. In T. J. Dishion & J. Snyder (Eds.), *The oxford handbook of coercive relationship dynamics*. New York, NY: Oxford University Press.

Horner, R. H., Sugai, G., & Anderson, C. M. (2010). Examining the evidence base for School-Wide Positive Behavior Support. *Focus on Exceptional Children, 42*, 1–14.

Horner, R. H., Sugai, G., Smolkowski, K., Eber, L., Nakasato, J., Todd, A. W., & Esparanza, J. (2009). A randomized, wait-list controlled effectiveness trial assessing School-Wide Positive Behavior Support in elementary schools. *Journal of Positive Behavior Interventions, 11*, 133–144.

Kincaid, D., Childs, K., & George, H. (2005). *School-wide benchmarks of quality*. Eugene, OR: OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports. Available at http://www.pbis.org

Lewis, T. J. (2009). Connecting School-Wide Positive Behavior Supports to the academic curriculum in PBIS high schools. In B. Flannery & G. Sugai (Eds.), *SWPBS implementation in high schools: Current practice and future directions* (pp. 57–80). Eugene, OR: University of Oregon.

May, S. L., Ard, W. I., Todd, A. W., Horner, R. H., Glasgow, A., Sugai, G., & Sprague, J. R. (2013). *School-wide information system: Educational and community supports*. Eugene, OR: University of Oregon. Retrieved from http://www.pbisapps.org

Mayer, G. R. (1995). Preventing antisocial behavior in schools. *Journal of Applied Behavior Analysis, 28*, 467–478.

McIntosh, K., Filter, K. J., Bennett, J. L., Ryan, C., & Sugai, G. (2010). Principles of sustainable prevention: Designing scale-up of School-Wide Positive Behavior Support to promote durable systems. *Psychology in the Schools, 47*, 5–21. https://doi.org/10.1002/pits.20448

McIntosh, K., Mercer, S. H., Hume, A. E., Frank, J. L., Turri, M. G., & Mathews, S. (2013). Factors related to sustained implementation of School-Wide Positive Behavior Support. *Exceptional Children, 79*, 293–311.

McIntosh, K., Predy, L. K., Upreti, G., Hume, A. E., Turri, M. G., & Mathews, S. (2014). Perceptions of contextual features related to implementation and sustainability of School-Wide Positive Behavior Support. *Journal of Positive Behavior Interventions, 16*, 31–43.

Nese, R., Massar, M., & McIntosh, K. (2015). Alternatives to suspension: Strategies for school principals. *Principal Leadership, 16*, 52–56.

Nese, R. N. T., & McIntosh, K. (2016). Do School-Wide Positive Behavioral Interventions and Supports, not exclusionary discipline practices. In B. G. Cook, M. Tankersley, & T. J. Landrum (Eds.), *Instructional practices with and without empirical validity* (pp. 175–196). Bingley, UK: Emerald Group Publishing.

Newton, J. S., Horner, R. H., Algozzine, B., Todd, A. W., & Algozzine, K. (2012). A randomized wait-list controlled analysis of the implementation integrity of team-initiated problem solving processes. *Journal of School Psychology, 50*(4), 421–441.

Ross, S. W., & Horner, R. H. (2009). Bully prevention in Positive Behavior Support. *Journal of Applied Behavior Analysis, 42*, 747–759.

Ross, S. W., Romer, N., & Horner, R. H. (2012). Teacher well-being and the implementation of School-Wide Positive Behavior Interventions and Supports. *Journal of Positive Behavior Interventions, 14*, 118–128.

Scott, T. M., & Barrett, S. B. (2004). Using staff and student time engaged in disciplinary procedures to evaluate the impact of school-wide PBS. *Journal of Positive Behavior Interventions, 6*, 21–27.

Sprague, J. R., Walker, H., Golly, A., White, K., Myers, D. R., & Shannon, T. (2002). Translating research into effective practice: The effects of a universal staff and student intervention on key indicators of school safety and discipline. *Education and Treatment of Children, 24*, 495–511.

Sugai, G., & Horner, R. H. (2002). The evolution of discipline practices: School-Wide Positive Behavior Supports. *Child and Family Behavior Therapy, 24*, 23–50.

Sugai, G., & Horner, R. H. (2006). A promising approach for expanding and sustaining the implementation of School-Wide Positive Behavior Support. *School Psychology Review, 35*, 245–259.

Sugai, G., & Horner, R. H. (2009). Defining and describing Schoolwide Positive Behavior Support. In W. Sailor, G. Dunlap, G. Sugai, & R. H. Horner (Eds.), *Handbook of positive behavior support* (pp. 307–326). New York, NY: Springer.

Sugai, G., Horner, R. H., Algozzine, R., Barrett, S., Lewis, T., Anderson, C., … Simonsen, B. (2010). *School-Wide Positive Behavior Support: Implementation blueprint and self-assessment* (2nd ed.). Eugene, OR: University of Oregon. Available at http://pbis.org/pbis_resource_detail_page.aspx?Type=3&PBIS_ResourceID=216

Sugai, G., Horner, R. H., & McIntosh, K. (2008). Best practices in developing a broad-scale system of support for School-Wide Positive Behavior Support. In A. Thomas & J. P. Grimes (Eds.), *Best practices in school psychology V* (pp. 765–780). Bethesda, MD: National Association of School Psychologists.

Sugai, G., Lewis-Palmer, T. L., Todd, A. W., & Horner, R. H. (2001). *School-wide evaluation tool*. Eugene, OR: OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports. Available at http://www.pbis.org

Waasdorp, T. E., Bradshaw, C. P., & Leaf, P. J. (2012). The impact of Schoolwide Positive Behavioral Interventions and Supports on bullying and peer rejection. *Archives of Pediatrics & Adolescent Medicine, 166*, 149–156.

Walker, H. M., Horner, R. H., Sugai, G., Bullis, M., Sprague, J. R., Bricker, D., & Kaufman, M. J. (1996). Integrated approaches to preventing antisocial behavior patterns among school-age children and youth. *Journal of Emotional and Behavioral Disorders, 4*, 194–209.

Chapter 11
Engaging Students in Appropriate Social Behavior Using Check-In, Check-Out (CICO)

Leanne S. Hawken, Grace Wayman, and Kristen Stokes

Check-In, Check-Out and Positive Behavior Interventions and Supports

Positive Behavior Interventions and Supports (PBIS) is a multitiered system of support implemented to proactively support the social behavior of all students in schools (e.g., Walker et al., 1996). For over 20 years, schools have documented the ability to implement PBIS with fidelity with positive effects noted on school climate, increases in academic engagement, and reductions in problem behavior (e.g., Bradshaw, Waasdorp, & Leaf, 2012; Taylor-Greene et al., 1997). The PBIS model incorporates three-tiered levels of prevention/intervention. Tier 1 support involves implementing a school-wide discipline plan to proactively teach, monitor, and reward students for following expectations. Students who need more practice and feedback following school-wide expectations often benefit from Tier 2 supports such as small group social skills instruction, mentoring, or monitoring throughout the day via a daily progress report (Hawken, Adolphson, MacLeod, & Schumann, 2009). Tier 3 supports involve conducting a functional behavior assessment and implementing a behavior support plan. This level of support is provided for students who demonstrate lack of response to Tier 2 interventions and/or come to school with more intense behavioral needs (Crone, Hawken, & Horner, 2015).

To focus on prevention, schools need to intervene early when students are not responding to Tier 1 behavior support. Check-In, Check-Out (CICO) is an evidence-based intervention that has been widely implemented both in the United States and across the world to increase appropriate social behavior and engagement of students

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at risk (Crone, Hawken, & Horner, 2010). The purposes of this chapter are to (a) detail the key features of CICO, (b) provide schools with tips on how to modify to extend the CICO intervention to support more students, and (c) provide a summary of the research to support the intervention.

Key Features of Basic Check-In, Check-Out

The goal of CICO is to provide regular feedback on student's behavior to increase appropriate behavior and decrease inappropriate behavior. In addition, the goal is to increase student engagement in the school environment and connect each student with another positive adult in the school building who can serve as an advocate and/or ally. The basic CICO intervention includes five key features: (1) check-in, (2) teacher feedback, (3) check-out, (4) feedback from parents/guardians, and (5) using data for decision-making.

Students who receive the CICO intervention begin their school day checking in with a CICO coordinator or facilitator. The coordinator/facilitator is someone in the school building who has flexibility before and after school plus is a positive role model who can connect with students. During check-in, students pick up a copy of a daily progress report (DPR) which lists the school-wide expectations (see Fig. 11.1 for sample DPR). The CICO coordinator prompts the students on behavioral expectations they need to work on from the previous day. Next, students take their DPR to their homeroom or classroom teacher who provides a positive greeting and additional prompts for appropriate behavior. At the end of the class period (middle and high school settings) or during natural transitions (elementary school settings), teachers provide a rating on the DPR and verbal feedback to students as to whether

Daily Progress Report

Name: _____   Date: _____

Expectations	LA 1	LA 2	BLAST	Content Integration	Math	Rotation 1	Rotation 2
Safe (KYHFOOTY)	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0
Respectful	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0
Responsible	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0

Teacher's Initials   _____   _____   _____   _____   _____   _____   _____

KEY	Celebrations: _____
2 = YES!!! 0-1 reminders	
1 = Almost 2-3 reminders	Goal for Today: _____ %
0 = Try Again 4+ reminders	Total for Today: _____ % ODR

Fig. 11.1 Daily progress report

they met, somewhat met, or did not meet expectations. Students are also prompted for ways to improve behavior during the next period. It is important to provide training to all school staff on the critical features of student feedback. The critical features include (a) teacher initiating feedback, (b) feedback occurs during the designated time, (c) teacher provides either positive behavior-specific feedback or a correction on behavior-specific feedback, and (d) teacher rates the student's behavior on whether or not expectations have been met. Each feedback session should be considered a "micro-teaching" moment with teachers providing examples and non-examples of expected behavior. If students are not meeting expectations, the correction involves the teacher referring back to the school-wide expectation, which is listed on the DPR, that has not been met. For example, "you got upset that you forgot your homework and yelled obscenities in frustration, that's not an example of Being Respectful. What is a way you can handle that situation differently in the future?"

The third step in the CICO process involves checking out with the CICO coordinator at the end of the school day. During check-out, students' percentage of points earned across the day is totaled, and reinforcement is provided for meeting percentage of point goals. Next, students take a copy of the DPR home to their parents or guardians to review, sign, and provide additional feedback/encouragement. During the next school day, students return the DPR to the CICO coordinator and the CICO process begins again.

The final key feature of the CICO intervention is the use of data for decision-making. A team in the school responsible for evaluating Tier 2 interventions examines the data at least biweekly to determine whether students are making progress, need the intervention to be modified, or are ready to graduate from the intervention. Schools can implement a data-based decision rule (e.g., students earning >70% of points on their DPR) to determine which students are responding to CICO. Overall, research indicates that CICO is effective in supporting 65–75% of students (approx. 15% of student population) who need Tier 2 support and receive the intervention (Hawken, Bundock, Kladis, O'Keeffe, & Barrett, 2014; Wolfe et al., 2015). If schools are not experiencing this level of success, fidelity of implementation of the CICO intervention key features (e.g., check-in, teacher feedback) should be examined (Hawken & Breen, 2017).

Accessing CICO Intervention

Schools use many different methods to identify students who may be appropriate for CICO. First, for schools that have a well-defined office discipline referral (ODR) system, the number of ODRs received may be used to trigger access to CICO. Sugai, Sprague, Horner, and Walker (2000) have recommended a guideline for using ODRs to make data-based decisions regarding necessary levels of support including students receiving two to five ODRs could potentially benefit from CICO or other Tier

2 interventions. This recommendation is just a guideline and schools should determine what number of ODRs signal need for intervention.

Many schools rely on teacher referral as a method for identifying students who would be appropriate for CICO (Crone et al., 2010). In these cases, a teacher would refer the student to a team in the school who is responsible for behavior support. Teacher referral can be an important supplement to ODR data as often the students who are just starting to act out may have problem behavior in the classroom that is not severe enough to warrant an ODR. Finally, some schools utilize more formal screening instruments to identify students for the CICO intervention. The Systematic Screening for Behavior Disorders (SSBD; Walker & Severson, 1992) is one such screening measure used during the elementary grades to identify students likely to be engaging in externalizing (i.e., aggression, acting out, noncompliance) or internalizing (i.e., depression, anxiety, withdrawal) behaviors (Walker, Cheney, Stage, & Blum, 2005).

The main consideration when identifying students for basic CICO described above is that students should exhibit problem behavior throughout the day in the classroom setting. If students are only having difficulty during one or two periods (middle and high school settings) or the problem behavior is during unstructured times such as lunch, other interventions should be considered.

Measuring Fidelity and Response to CICO

As mentioned previously, CICO is effective in supporting 65–75% of the students who receive the intervention. This level of effectiveness only occurs if schools implement the intervention with fidelity. A CICO fidelity checklist is included in the book by Crone et al. (2010). Some schools used the Tiered Fidelity Inventory (TFI, Algozzine et al., 2014) to measure fidelity of CICO. Fidelity should be measured at least annually but more frequently if CICO is not effectively supporting 65–75% of students who receive the intervention.

Schools use a variety of methods to measure response to CICO intervention. Daily DPR data in terms of percentage of points is one of the most frequently used metrics to determine intervention response. Some schools summarize their data using a spreadsheet program such as MS Excel (see Fig. 11.2), whereas other schools/districts summarize their data using web-based data systems such as CICO School-Wide Information System (CICO-SWIS; see Fig. 11.3). In general, students should be receiving at least 70–80% of points per day (Crone et al., 2010). Schools can also look at whether there are reductions in ODRs and other problem behaviors in the classroom. Since the goal of CICO is to increase appropriate student behavior and engagement, data such as reduction in number of absences/tardies as well as academic data can be examined.
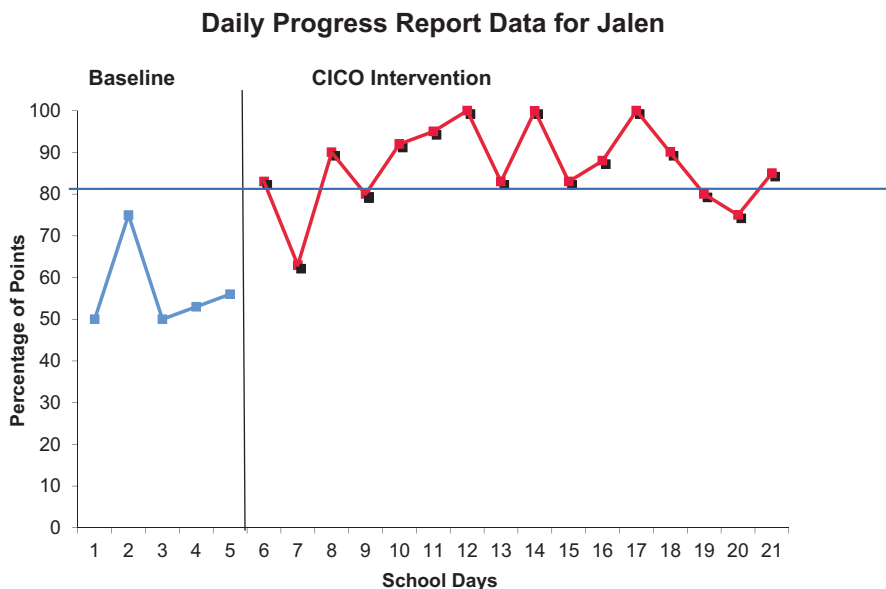
Fig. 11.2 Graphed daily percentage of points for individual student using Excel

Extensions of Check-In, Check-Out to Increase Student Engagement

Extending an existing intervention is an efficient and effective way to meet the needs of more students while not adding additional demands on a school system. There are four elaborations/extensions of basic CICO that can be implemented to improve student engagement: CICO for attendance (CICO-A), CICO with internalizing behavior (CICO-IB), CICO for organization and academic behaviors (CICO-O), and CICO for recess (CICO-R).

CICO for Attendance

Key Features and Process Adapting CICO for attendance (CICO-A) encourages students to attend school regularly, arrive to school on time, and stay in school for the entire day. CICO-A aims to increase attendance and reduce the number of tardies by (a) increasing adult supervision at the beginning and conclusion of the school day, (b) creating a positive relationship between students and school personnel, and (c) providing frequent feedback and positive reinforcement for coming to school (Kladis, Hawken, & O'Neill, 2017).
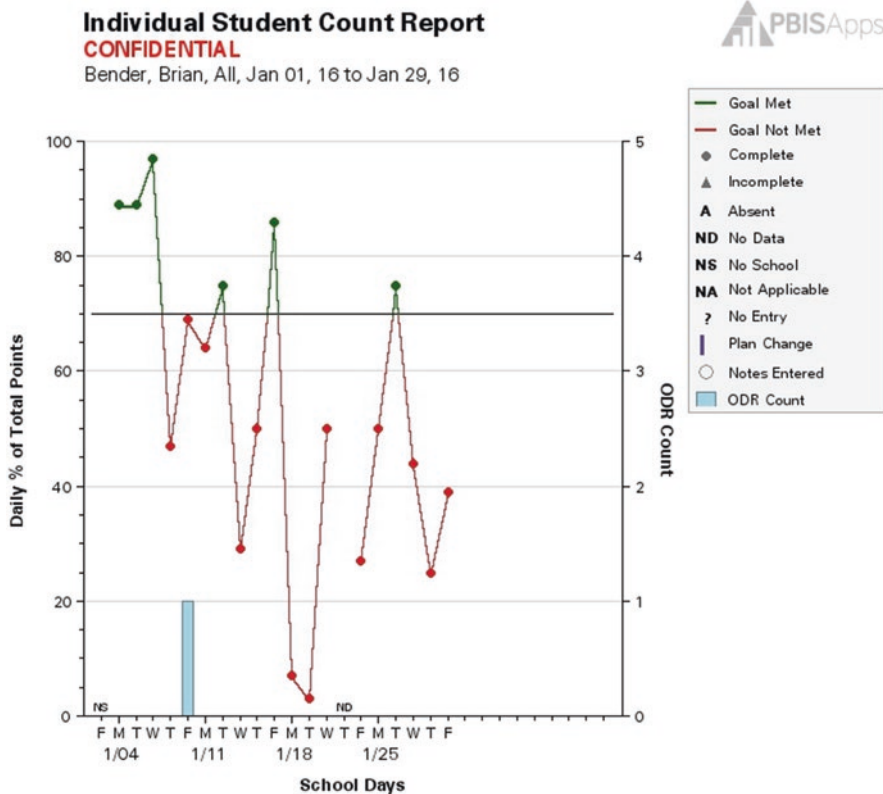
Fig. 11.3 Graphed daily percentage of points for individual student using CICO-SWIS

Similar to basic CICO, students check in with the coordinator at the beginning of the school day. The coordinator marks the time students arrived at school on their DPR and provides positive praise to students for coming to school. At the end of the day, students check out with the coordinator and receive feedback about the day and encouragement for the next morning. Unlike basic CICO, students do not receive feedback sessions throughout the day. The weekly DPR is sent home for parents to sign and return. Students can earn additional points for signed DPRs being returned to the coordinator.

Measuring Response to Intervention and Fidelity Intervention teams should monitor student progress frequently and use data to make decisions about the effectiveness of the intervention. Data are collected from the DPR and calculated as a percentage of days per week the student attended school and the percentage of days per week the student arrived on time to school. These data should be graphed so intervention teams can monitor weekly data to determine if the intervention is effective or if additional supports need to be added for the student to achieve the attendance goal(s).

A fidelity check should be completed periodically, especially if students are not responding to the intervention. The fidelity checklist should include the following key features: (a) student checks in with CICO coordinator at the beginning of school, (b) the coordinator records the time the student arrived on the DPR, (c) the coordinator provides positive praise for arriving to school on time and encouragement to stay throughout the day, (d) the coordinator awards a point for checking in on time, (e) the student checks out with the coordinator at the end of the school day, (f) the coordinator marks the time of check-out on the DPR, (g) the coordinator provides positive praise for staying in school all day and encouragement to come on time the next day, (h) the coordinator awards a point for checking out at the end of the day, and (i) at the end of the week, the DPR data are sent home for parents to sign.

CICO for Internalizing Behaviors

Key Features The CICO process can be effective for students with internalizing behaviors (Kladis, Stokes, Hawken, & O'Neill, 2017; Dart et al., 2014; Hunter, Chenier, & Gresham, 2014.). These students are often overlooked because the behaviors are not typically disruptive during class instruction. These behaviors include shyness, withdrawal from classroom activities, anxiety, and lack of social engagement with adults and peers (Lane et al., 2015; Sanders, Merrell, & Cobb, 1999.). The goal of CICO for internalizing behaviors (CICO-IB) is to encourage students to be more engaged in academic and social activities. The expectations listed on the DPR should reflect the prosocial and engagement behaviors that correspond with the school-wide expectations. An example DPR for CICO-IB is shown in Fig. 11.4.

CICO-IB follows the same basic CICO process as described above. The main difference between basic CICO and CICO-IB is that teachers provide feedback on academic and social engagement behaviors with the goal that these behaviors will replace internalizing behaviors. For example, students who are anxious, shy, and withdrawn can be given encouragement to answer questions in class, participate in group work, or seek help when needed.

Measuring Response to Intervention and Fidelity Daily percentage of DPR points earned are graphed and monitored by the Tier 2 intervention team. These data are reviewed during intervention team meetings on a regular basis to determine if the intervention is effective or if modifications need to be made. Students should be earning 70–80% or higher DPR points on average for the intervention to be considered effective (Hawken & Breen, 2017).

It is important to consider fidelity when monitoring DPR data, especially if there is a lack of improvement in students' behavior. Intervention teams should complete periodic fidelity checks using an observation checklist. The checklist lists the key

S.O.A.R. Card

Summary Of Achievement & Responsibility
"WATCH ME SOAR!"

Name_____   Date_____

Time	Follow Directions - Request Help	Respect Everyone - Active Social Engagment	On Task - Active Academic Engagement	
Before AM Recess	2 1 0	2 1 0	2 1 0	
After AM Recess	2 1 0	2 1 0	2 1 0	
Before PM Recess	2 1 0	2 1 0	2 1 0	Teacher Initials
After PM Recess	2 1 0	2 1 0	2 1 0	
Totals Points	/8	/8	/8	

Today's Point Total: _____ _____ % Today _____ %

2 = Excellent: Consistently follows rule. Needs 1 or fewer reminders (80-100% of the time).	1 = OK: Follows rule most of the time. Needs 2-3 reminders (60-79% of the time).	0 = Poor: Does not or rarely follows rule. Needs more then 3 reminders (0-59% of the time).

Successes: _____

_____

Coordinator Initials [   ]

Parent Signature _____

Fig. 11.4 CICO-IB sample DPR

features of the intervention including the following: (a) student checked in with CICO coordinator, (b) coordinator provided positive encouragement for the day, (c) coordinator handed the DPR to the student, (d) the teacher initiates feedback, (e) the teacher provides either specific positive praise for appropriate behavior or provides a micro-teaching session and corrective feedback, (f) teacher marks score, (g) the feedback sessions occur at the designated time, (h) the student checks out with the CICO coordinator, (i) the coordinator adds the daily points and calculates a

percentage, (j) the coordinator notifies student if the goal was met or not, (k) the coordinator enters the DPR points into the data collection system, (l) the coordinator provides positive praise along with a point on the CICO credit card or corrective feedback and encouragement for the next day, and (m) the DPR is sent home for the student's parent(s) to sign.

CICO for Academic Task Completion/Organization

Key Features The CICO DPR can be adapted to include academic and/or organizational skills in place of school-wide behavioral expectations. This modification can address behaviors caused by academic task avoidance and/or lack of organizational skills (Turtura, Anderson, & Boyd, 2014.) Students check in with the CICO coordinator each morning. The coordinator checks the students' backpacks to make sure they have all needed materials for the day. If homework is not completed, the coordinator provides students with a homework pass and are instructed to complete homework during a nonacademic time during the school day. The coordinator then provides positive encouragement and the DPR. The expectations written on the DPR are modified to match academic and organizational skills in additional to escape-avoidance behaviors. An example DPR for academic/organizational CICO is shown in Fig. 11.5.

When students arrive at their classrooms, they present their DPR and any assignments or homework that may be due to the classroom teacher. At a naturally occurring break in the day or at the end of the class period, the teacher provides feedback about the students' behavior and fills out the points earned. In addition, a homework tracker can be added to the back of the DPR. Students are required to write down their homework for the day and obtain teacher initials that the assignment was written down correctly.

At the end of the day, students check out with the CICO coordinator. The coordinator adds up the points on the DPR and provides feedback about the students' behavior for the day. The coordinator will also review the homework tracker and make sure students have the necessary materials. Finally, students take their DPR and homework tracker home to get signed and return the signed DPR to the coordinator the next day.

Measuring Response to Intervention and Fidelity Daily points earned on the DPR as well as the number of homework passes students are given are graphed on a weekly basis. Intervention teams monitor student homework completion data to determine effectiveness and address it on an individual basis if homework completion is not occurring. DPR data are also monitored frequently to determine the overall effectiveness of the intervention or if modifications need to be made.

A checklist is used to monitor fidelity of implementation and includes the following key features: (a) student checked in with the CICO coordinator; (b) the

S.O.A.R. Card
Summary Of Achievement & Responsibility
"WATCH ME SOAR!"

Name_____   Date_____

Time	Follow Directions	Worked and Let Others Work	On Task	Materials to Class	Turned in My Homework	
Before AM Recess	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	
After AM Recess	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	
Before PM Recess	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	Teacher Initials
After PM Recess	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0	
Totals Points	/8	/8	/8	/8	/8	

Today's Point Total: _____   Goal: _____ %   Today _____ %

2 = Excellent: Consistently follows rule. Needs 1 or fewer reminders (80-100% of the time).	1 = OK: Follows rule most of the time. Needs 2-3 reminders (60-79% of the time).	0 = Poor: Does not or rarely follows rule. Needs more then 3 reminders (0-59% of the time).

Successes: _____

Coordinator Initials [   ]

Parent Signature _____

Fig. 11.5 DPR for academic/organizational CICO

coordinator provided the student with the DPR; (c) the coordinator awards a point if the student had materials needed for the day, including homework; (d) student provides the teacher with the DPR and any assignments that are due; (e) the teacher provides feedback at designated times on the DPR; (f) the teacher circles points earned on the DPR; (g) the teacher checks and initials the homework tracker on the back of the DPR; (h) the student checks out with the coordinator; (i) the coordinator checks to make sure the student has needed materials to complete homework; and (j) the student takes the DPR home to get signed.

CICO for Recess

Key Features The DPR for CICO does not include recess because often there is not enough adult supervision on the playground to provide an accurate rating of student behavior. CICO-R is an extension of CICO in which students have a DPR specifically for the school-wide expectations that apply to the recess setting. All recess supervisors should be trained in monitoring students, rating behavior, and providing positive praise and micro-teaching sessions upon conclusion of recess. Students check in with the CICO coordinator each morning and receive positive encouragement and their DPR. Students provide their DPR to the recess supervisor at the beginning of recess. At the end of recess, the supervisor provides the student with feedback about their behavior and awards an appropriate amount of points. At the end of the day, students check out with the CICO coordinator. The coordinator calculates the daily recess points and provides feedback about behavior across recesses. Students take their recess DPR home to be reviewed and signed by parents.

Measuring Response to Intervention and Fidelity Percentage of daily recess DPR points earned is graphed by the CICO coordinator. These data are monitored by the school intervention team on a regular basis to determine if the intervention is effective or if modifications need to be made.

A checklist is used to monitor fidelity of implementation and includes the following key features: (a) student checked in with the CICO coordinator, (b) the coordinator provided the student with the DPR and positive encouragement for recess behavior, (c) the recess supervisor provides feedback at the end of recess and awards an appropriate amount of points on the DPR, (d) the student checks out with the coordinator at the end of the day, (e) the coordinator provides positive praise and points if recess behavior goal is met, (f) the coordinator provides encouragement for the next day, and (g) the DPR is sent home for parents to review and sign.

Research on the Check-In, Check-Out Intervention

Students with pervasive problem behaviors present a unique challenge for students in a variety of school settings, and often school-wide data indicate a need for more behavioral support. Student behavior is typically tracked through office discipline referrals (ODRs), in-class time-outs, and suspensions. Much of the research on CICO utilizes school ODR data as the dependent variable to measure the impact of the intervention. The most extensive research has been conducted with elementary students, and results indicate that the intervention consistently reduces problem behaviors for this particular population of students (Chafouleas, Sanetti, Kilgus, & Maggin, 2012; Cheney et al., 2009; Fairbanks, Sugai, Guardino, & Lathrop, 2007; Filter, Benedict, Horner, Todd, & Watson, 2007; Hawken, MacLeod, & Rawlings, 2007; McCurdy, Kunsch, & Reibstein, 2007; Miller, Dufrene, Sterling, Olmi, &

Bachmeyer, 2015; Todd, Kaufman, Meyer, & Horner, 2008). CICO has also demonstrated its positive effects in reducing problem behavior for preschool students (LeBel, Chafouleas, Britner, & Simonsen, 2013), students in middle school (Hawken, 2006; Hawken & Horner, 2003; March & Horner, 2002), high school (Swain-Bradway, 2009), and urban settings (McCurdy et al., 2007). Thus, CICO demonstrates a strong positive effect in reducing problem behaviors for students in preschool through high school. Furthermore, students in alternative settings showed a decrease in ODRs and an increase in academic engagement when provided the intervention (Swoszowski, Jolivette, & Fredrick, 2013).

In addition to the positive effects that CICO has shown in reducing problem behaviors, the intervention has also demonstrated its impact on academic engagement. Academic engagement is defined by the discrete behaviors that students demonstrate during instruction including following teacher requests, looking toward the teacher or materials, and completing work. CICO has had a positive impact on academic engagement both in high school settings (Hawken & Horner, 2003, Swain-Bradway, 2009) and at the middle school level (Chafouleas, Sanetti, Jaffery, & Fallon, in press).

Although research indicates that students have experienced a reduced need for Tier 3 and special education supports following CICO implementation (Hawken et al., 2007; Hawken, O'Neill, & MacLeod, 2011), students who are identified as having a disability also respond positively to the intervention (Hawken et al., 2007; MacLeod, Hawken, & O'Neill, 2010). More specific research for students who demonstrate deficits in prosocial behavior has also indicated positive effects from the CICO intervention, as shown by an increase in positive social engagement (Ross & Sabey, 2015). Implications from the research indicate that the CICO intervention is effective for students needing various levels of intervention within a multitiered system of supports. It is effective at both the preventative level and for students who have been identified as having a disability.

The overall impact of CICO has been cited through various studies and comprehensive literature reviews and indicates a range of effectiveness from 40% to 70% (Fairbanks et al., 2007; Hawken et al., 2007). Research indicates that CICO is effective across behavioral functions (e.g., attention, escape; Hawken, O'Neill, & MacLeod, in press) and is most effective for students with attention-maintained behavior (Campbell & Anderson, 2008; Maggin, Zurheide, Pickett, & Baillie, 2015; March & Horner, 2002; McIntosh et al., 2009). There have also been a subset of studies indicating that students with escape-maintained behavior also respond positively to CICO once the intervention is adapted (Maggin et al., 2015). Students who do not respond to CICO benefit from function-based, individualized interventions at the Tier 3 level (Fairbanks et al., 2007; Macleod, Hawken, & O'Neill, 2010; March & Horner, 2002). Although the research base to support CICO as an evidence-based intervention is continuing to grow, the overall findings from the several meta-analyses and literature reviews indicate that it is most effective as an intervention for students with attention-maintained behavior (Wolf et al., 2016).

Conclusion

CICO is an evidence-based intervention implemented within a three-tiered system of positive behavior support. CICO is effective in supporting the majority of students who receive the intervention, but educators should be cautioned that some students will need more intensive behavior support than CICO. Readers interested in learning more about CICO are referred to the book (Crone et al., 2010) and the DVD (Hawken & Breen, 2017) which more thoroughly detail methods for effective implementation.

References

Algozzine, B., Barrett, S., Eber, L., George, H., Horner, R., Lewis, T., … Sugai, G. (2014). *School-wide Tiered Fidelity Inventory*. OSEP Technical Assistance Center on Positive Behavior Interventions and Supports.

Bradshaw, C., Waasdorp, T., & Leaf, P. (2012). Effects of School-Wide Positive Behavioral Interventions and Supports on child behavior problems. *Pediatrics, 30*, 1136–1145.

Campbell, A., & Anderson, C. M. (2008). Enhancing effects of Check-in/Check-out with function-based support. *Behavioral Disorders, 33*, 233–245.

Chafouleas, S. M., Sanetti, L. M. H., Kilgus, S. P., & Maggin, D. M. (2012). Evaluating sensitivity to behavioral change across consultation cases using Direct Behavior Rating Single-Item Scales (DBR-SIS). *Exceptional Children, 78*, 491–505.

Cheney, D., Stage, S., Hawken, L., Lynass, L., Mielenz, C., & Waugh, M. (2009). A two-year outcome study of the Check, Connect, and Expect intervention for students at-risk of severe behavior problems. *Journal of Emotional and Behavioral Disorders, 17*, 226–243.

Crone, D. A., Hawken, L. S., & Horner, R. H. (2010). *Responding to problem behavior in schools: The Behavior Education Program* (2nd ed.). New York, NY: Guilford Press.

Crone, D. A., Hawken, L. S., & Horner, R. H. (2015). *Building positive behavior support systems in schools: Functional behavioral assessment* (2nd ed.). New York, NY: Guilford Press.

Dart, E., Furlow, C., Collins, T., Brewer, E., Gresham, F., & Chenier, K. (2014). Peer-mediated Check-In/Check-Out for students at-risk for internalizing disorders. *School Psychology Quarterly, 30*(2), 229–243.

Fairbanks, S., Sugai, G., Guardino, D., & Lathrop, M. (2007). Response to Intervention: An evaluation of a classroom system of behavior support for second grade students. *Exceptional Children, 73*, 288–310.

Filter, K., Benedict, E. A., Horner, R. H., Todd, A. W., & Watson, J. (2007). Check-In/Check-Out: A post hoc evaluation of an efficient secondary level intervention for reducing problem behaviors in schools. *Education and Treatment of Children, 30*, 69–84.

Hawken, L., & Breen, K. (2017). *Check-In, Check-Out (CICO): A tier 2 intervention for students at-risk (DVD)*. New York, NY: Guilford Press.

Hawken, L. H., Bundock, K., Kladis, K., O'Keeffe, B., & Barrett, C. (2014). Systematic review of Check-In, Check-Out intervention for students at risk. *Education and Treatment of Children, 37*, 632–655.

Hawken, L. S. (2006). School psychologists as leaders in the implementation of a targeted intervention: The Behavior Education Program (BEP). *School Psychology Quarterly, 21*, 91–111.

Hawken, L. S., Adolphson, S. L., MacLeod, K. S., & Schumann, J. M. (2009). Secondary tier interventions and supports. In G. Sugai, R. H. Horner, G. Dunlap, & W. Sailor (Eds.), *Handbook of positive behavior support*. New York, NY: Springer.

Hawken, L. S., & Horner, R. H. (2003). Evaluation of a targeted group intervention within a school-wide system of behavior support. *Journal of Behavioral Education, 12*, 225–240.

Hawken, L. S., MacLeod, K. S., & Rawlings, L. (2007). Effects of the Behavior Education Program (BEP) on problem behavior with elementary school students. *Journal of Positive Behavior Interventions, 9*, 94–101.

Hawken, L. S., O'Neill, R. E., & MacLeod, K. S. (2011). An investigation of the impact of function of problem behavior on effectiveness of the Behavior Education Program (BEP). *Education and Treatment of Children, 34*(4), 551–574.

Hunter, K. K., Chenier, J. S., & Gresham, F. M. (2014). Evaluation of Check-In/Check-Out for students with internalizing behavior problems. *Journal of Emotional and Behavioral Disorders, 22*(3), 135–148.

Kladis, K., Hawken, L. S., & O'Neill, R. E. (2017). *Safe landing program: A tier 2 attendance and tardy intervention* (Manuscript in preparation).

Kladis, K., Stokes, K., Hawken, L. S., & O'Neill, R. E. (2017). *Effects of Check-In, Check-Out on students with internalizing behaviors in the elementary school setting*. Poster presented at the 5th annual UMTSS connections conference, Provo, UT.

LeBel, T. J., Chafouleas, S. M., Britner, P. A., & Simonsen, B. (2013). Use of a Daily Behavior Report Card in an intervention package involving home-school communication to reduce disruptive behavior in preschoolers. *Journal of Positive Behavior Interventions, 15*, 103–112.

MacLeod, S., Hawken, L., O'Neill, R., & Bundock, K. (2016). Combining Tier 2 and Tier 3 supports for students with disabilities in general education settings. *Journal of Educational Issues, 2*, 331–351.

Maggin, D. M., Zurheide, J., Pickett, K. C., & Baillie, S. J. (2015). A systematic evidence review of the Check-In/Check-Out program for reducing student challenging behaviors. *Journal of Positive Behavior Interventions, 17*, 197–208.

March, R. E., & Horner, R. H. (2002). Feasibility and contributions of functional behavioral assessment in schools. *Journal of Emotional and Behavioral Disorders, 10*, 158–170.

McCurdy, B. L., Kunsch, C., & Reibstein, S. (2007). Secondary prevention in the urban school: Implementing the Behavior Education Program. *Preventing School Failure, 51*, 12–19.

Miller, L. M., Dufrene, B. A., Sterling, H. E., Olmi, D. J., & Bachmeyer, E. (2015). The effects of Check-In/Check-Out on problem behavior and academic engagement in elementary school students. *Journal of Positive Behavior Interventions, 17*, 28–38.

Ross, S. W., & Sabey, H. R. (2015). Check-In Check-Out + social skills: Enhancing the effects of Check-In Check-Out for students with social skill deficits. *Remedial and Special Education, 36*, 246–257.

Sanders, D. E., Merrell, K. W., & Cobb, H. C. (1999). Internalizing symptoms and affect of children with emotional and behavioral disorders: A comparative study with an urban African American sample. *Psychology in Schools, 36*(3), 187–197.

Swoszowski, N. C., Jolivette, K., Fredick, L. D., & Heflin, L. J. (2012). Check-In/Check-Out: Effects on students with emotional and behavioral disorders with attention- or escape-maintained behavior in a residential facility. *Exceptionality, 20*, 163–178.

Swoszowski, N. C., McDaniel, S. C., Jolivette, K., & Melius, P. (2013). The effects of tier II Check-In/Check-Out including adaptation for non-responders on the off-task behavior of elementary students. *Education & Treatment of Children, 36*, 63–79.

Taylor-Greene, S., Brown, D., Nelson, L., Longton, J., Gassman, T., Cohen, J., … Hall, S. (1997). School-wide behavioral support: Starting the year off right. *Journal of Behavioral Education, 7*, 99–112.

Todd, A. W., Kaufman, A., Meyer, G., & Horner, R. H. (2008). The effects of a targeted intervention to reduce problem behaviors: Elementary school implementation of Check In – Check Out. *Journal of Positive Behavioral Interventions, 10*, 46–55.

Turtura, J. E., Anderson, C. M., & Boyd, R. J. (2014). Addressing task avoidance in middle school students: Academic behavior Check-In/ Check-Out. *Journal of Positive Behavior Interventions, 16*(3), 159–167.

Walker, B., Cheney, D., Stage, S., & Blum, C. (2005). Schoolwide screening and positive behavior supports: Identifying and supporting students as risk for school failure. *Journal of Positive Behavior Interventions, 7*, 194–204.

Walker, H., & Severson, H. (1992). *Systematic Screening of Behavior Disorders (SSBD): A multiple gating procedure*. Longmont, CO: Sopris West.

Walker, H. M., Horner, R. H., Sugai, G., Bullis, M., Sprague, J. R., Bricker, D., & Kaufman, M. J. (1996). Integrated approaches to preventing antisocial behavior patterns among school-age children and youth. *Journal of Emotional Behavioral Disorders, 4*, 194–209.

Wolfe, K., Pyle, D., Charlton, C. T., Sabey, C. V., Lund, E. M., & Ross, S. W. (2015). A systematic review of the empirical support for Check-In/Check-Out. *Journal of Positive Behavior Interventions, 18*, 74–88. Advance online publication https://doi.org/10.1177/1098300715595957

Part IV
Affective Engagement

Chapter 12
Interventions to Enhance Affective Engagement

Clayton R. Cook, Andrew Jordan Thayer, Aria Fiat, and Margaret Sullivan

Vignette 1: Jamal

Shane is a 12-year-old student in sixth grade. He lives with his maternal grandmother and younger brother, where he has lived since he was 3. Prior to being legally placed with his grandmother, Shane and his brother were exposed to neglect and abuse. His grandmother reports that Shane has always been a "good boy" but that he struggled in school because he has a hard time focusing and staying motivated. Shane has no known disabilities; he performs better when he is interested in the material, receives consistent feedback, and feels confident in his abilities. Shane has also performed better in school when he has a good relationship with his teachers. In fifth grade, Shane got along particularly well with his teacher, Mr. Jones. Shane perceived Mr. Jones as "cool, caring, and fun," and Mr. Jones felt he understood and could relate to Shane. Now that Shane is in sixth grade, he switches classes and therefore has multiple teachers. Shane feels that none of his teachers like him. He believes his teachers do not care whether he does well and find him a nuisance. He reports that he does not trust his teachers or care about school anymore, although he likes getting to "hang out" with his friends during lunch and recess. Shane has started skipping classes, especially the ones he feels most strongly like he doesn't belong. His teachers and grandmother have tried to get him "back on track" by threatening detentions or taking away privileges if he exhibits a "bad attitude," but "tough love" and punitive discipline haven't worked.

Discussion: In which subtype of engagement does Shane need support? What factors are negatively impacting Shane's affective engagement? What universal

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supports could have been delivered to prevent Shane from becoming affectively disengaged in school? What targeted supports could be delivered to promote Shane's affective disengagement?

Vignette 2: Sarah

Sarah is a 9-year-old student in fourth grade who attends a public school in a suburb of a large metropolitan area. Her parents are going through a divorce and are currently sharing custody of Sarah, who is an only child. Sarah is an above-average student, and although she is highly conscientious, she often takes longer to complete tasks than her peers because she is concerned about "not doing a good job." Sarah is shy and gets along better with adults than with her peers. For this reason, some students in her class started calling her "brown nose," and she has subsequently become the target of more severe bullying. She reported that students call her "dummy" because she requires extra time on some assignments, despite participating in accelerated math and reading. She also gets made fun of for her above-average height and for dressing like a "tomboy." Sarah's parents report that she comes home from school many days of the week in tears, stating "I have no friends" and "everybody hates me," begging not to go back. They have allowed her to skip school on several occasions, but they are worried that it is now becoming a habit. When asked, Sarah says that school is not a safe place and she feels like nobody likes her or wants to be her friend.

Discussion: In which subtype of engagement does Sarah need support? What factors are negatively impacting Sarah's affective engagement? What universal supports could have been delivered to prevent Sarah from becoming affectively disengaged in school? What targeted supports could be delivered to promote Sarah's affective disengagement?

Affective Engagement as a Target for Prevention and Intervention

Student motivation is one of the most significant concerns to educators and parents, as it is at the heart of academic success (Hidi & Harackiewicz, 2000). To better understand student motivation, researchers have examined specific engagement processes that impact student motivation and performance in school (Christenson, Reschly, & Wylie, 2012). In particular, affective engagement has received attention as a critical facet that serves to activate and arouse students' motivation to exhibit desired behaviors that enable success in school (e.g., active participation in class discussion, showing up to class on time, respectful conversations with others). Conversely, research has examined types of school experiences that negatively

impact student affective engagement, such as negative interactions with teachers, punitive exclusionary discipline, bullying and harassment, and repeated academic failure (Cook, Williams, Guerra, Kim, & Sadek, 2010; Henry & Huizinga, 2007; Okonofua, Walton, & Eberhardt, 2016).

There is a large body of evidence demonstrating that affective engagement and closely related constructs are important predictors of success in school. Affective engagement underpins the specific trajectories students are likely to follow through school. For example, a strong argument can be made that the long-standing achievement gaps that exist for students of color are explained in large part by gaps in affective engagement (Voight, Hanson, O'Malley, & Adekanye, 2015). That is, students of color who are lagging behind their White classmates are likely to experience a lower sense of belonging, greater mistrust, and more intense negative emotions (e.g., frustration; Hughes & Kwok, 2007; Mattison & Aber, 2007). This makes sense considering findings that indicate students of color tend to have weaker and more problematic relationships with teachers, receive disproportionate exposure to punitive discipline, and experience more microaggressions from others than their White classmates (Bottiani, Bradshaw, & Mendelson, 2014; Carter, Skiba, Arredondo, & Pollock, 2017; Sue, Capodilupo, & Holder, 2008). General claims of institutional discrimination and negative stereotypes can be levied to explain these experiences, but at the root of these experiences is a self-perpetuating cycle of affective disengagement between student and school. Thus, to close the achievement gaps, students of color need to be afforded greater opportunities for exposure to positive experiences in school that promote their affective engagement. This, consequently, would improve overall affective school climate for certain subgroups of students who experience long-standing achievement gaps (e.g., Black males, students with disabilities, Native American students).

Affective engagement is closely related to the notion of school climate, as climate reflects how students think about, feel toward, and ultimately describe their experiences in school (Wang & Degol, 2016). In many ways, school climate represents the aggregate or collection of individual students' affective engagement, seeing as many of the qualities of healthy school climates—e.g., safe, civil, and nonpunitive environments toward students, sense of belonging, and established relationships between teachers and students and their parents—are also dimensions associated with affective engagement (Cohen, McCabe, Michelli, & Pickeral, 2009). School climate has been linked to a host of positive academic-related outcomes, including students' self-concept (Cairns, 1987), prevention of substance abuse and behavioral health problems (LaRusso, Romer, & Selman, 2008; Ruus et al., 2007), and psychological well-being (Ruus et al., 2007; Shochet, Dadds, Ham, & Montague, 2006). Diminished affective engagement at the individual student level and negative school climate at the collective level portend both short- and long-term outcomes in school. Considering all the above, affective engagement is important for educators including administrative leaders to consider from both a prevention and an intervention standpoint.

Defining Affective Engagement and Its Core Components

Affective engagement is a multidimensional, overlapping concept that can be difficult to understand; it is often confused with other concepts (e.g., trust) and engagement types (e.g., cognitive engagement). Hence, the implications it has for school-based prevention and intervention may be underutilized. Dissecting and defining each of its terms provides greater definitional clarity and understanding of its implications for intervention. Affective is an adjective that means causing emotions or feelings. Engagement refers to being engaged in an activity, task, or experience. Thus, when considered together, affective engagement could be defined as emotions and feelings that lead a person to be engaged in an activity, task, or experience. Stated in simpler terms, affective engagement captures how a student feels about being in school (Finn & Rock, 1997). When considering this, any action—intentional or not—by educators, peers, or features of the school environment (e.g., physical aesthetics of the school building) that cause students to have positive feelings (e.g., joy, gratitude, interest, safety) while in school promotes affective engagement.

Affective engagement encompasses both students' positive and negative emotional experiences in school (Appleton, Christenson, & Furlong, 2008). When affective engagement is high, students experience and report positive emotions that underlie internal motivation to maintain behavioral engagement in school activities and classroom learning experiences (Goodenow, 1991; Voelkl, 1997). Feeling a sense of physical and emotional safety in school, for instance, is an aspect of affective engagement that reflects a student's internal reaction to the broader climate of a school which, in turn, is linked to student academic engagement and prosocial functioning (Devine & Cohen, 2007). Affective engagement captures a range of students' emotional reactions (e.g., happiness, joy, boredom, frustration, and anxiety) that may manifest differentially in certain settings (e.g., English class) and situations (e.g., small group) or with particular people (e.g., a certain teacher; Reschly & Christenson, 2012).

Affective engagement is related to but distinct from cognitive and behavioral engagement. Often, affective engagement and cognitive engagement combine to impact behavioral engagement, as the way students think about school is likely to impact how they feel and vice versa. Whereas cognitive engagement represents the thoughts and cognitive content a student has about their schooling experiences, affective engagement involves emotional reactions to experiences that produce favorable or unfavorable feelings toward a place, person, situation, or activity. However, the interplay between cognition and affect is a complicated one, as they both represent internal, subjective experiences. The content and intensity of a student's thoughts may arouse aligned emotions; likewise, emotions beget certain thoughts. Together, these exert an influence on behavior (Dolan, 2002).

Understanding Emotions to Promote Affective Engagement To fully understand the concept of affective engagement and how it manifests in students, it is important to understand emotions and how emotions influence decision-making and

behavior. Educators who develop an understanding of emotions, how emotions manifest in school, and the specific prevention and intervention practices under their control to implement are in a better position to impact student affective engagement as a way of improving behavior and performance in school. Most theoretical models of emotion stipulate that emotions are linked to specific action tendencies; that is, the emotional reaction to a certain situation increases the probability of behaving in certain ways (Jenkins & Oatley, 1996; Lazarus, 1991; Levenson, 1994). Emotions represent internal subjective experiences in response to a perceived or actual event (see Scherer (2001) for a model of cognitive appraisal of emotion). Emotions are largely physiological or somatic reactions that have motivational properties that affect behavior. For example, anger is the internal subjective experience that increases a person's motivation to attack or defend. While appropriate channeling of anger is likely to lead to asserting one's self, difficulties managing anger can manifest problematically in the form of aggressive behavior (i.e., intention to cause psychological, emotional, or physical harm to others). Conversely, emotions related to joy often lead a person to be more open and willing to take on and stick with novel or challenging activities, which is at the heart of what educators hope for from their students (Yeager & Dweck, 2012).

Negative and Positive Emotions In the area of emotion research, there are differences in the types of emotions people experience. One straightforward and empirically supported way to conceptualize emotions is to classify them as negative or positive (Green, 1992). Negative emotions are not inherently bad and positive emotions are not necessarily good. Rather, negative and positive refer to the impact these emotions have on individuals somatically, cognitively, and behaviorally. Negative emotions are those that accompany an unpleasant or aversive physiological and cognitive reaction, such that a person could label the emotion as fear, anger, shame, embarrassment, sorrow, guilt, sadness, or hate. Given the nature of negative emotions, they tend to narrow attentional focus and shrink the repertoire of behavior the person feels motivated to exhibit. For example, a student who experiences intense anxiety (e.g., butterflies in belly, accelerated heart rate, shorter breathing) in school is likely fixated on a particular feared stimulus (e.g., being picked on) and thus likely to feel motivated to engage behaviors to avoid the feared stimulus (e.g., complain of feeling sick and go to nurse's office).

The narrowing of attention and behavior can be helpful in certain situations in which there is a bona fide threat. Indeed, there are numerous situations in life when negative emotions are justified and proportional to the situation. For example, would the Civil Rights Movement ever happen without people experiencing anger? The social injustice that was occurring at a societal and individual level at the time of the Civil Rights Movement resulted in negative emotional responses for particular groups of people that increased their motivation to engage in actions to produce a more just and equitable society. This same anger can be observed in classrooms when students feel mistreated (e.g., disrespected) and ostracized by their teacher or peers. The inability to manage that anger, though, could result in the person engaging

in behaviors that make the situation worse for themselves or others for whom they care about (e.g., violence). Thus, there is a need for students to be able to manage anger and frustration in response to circumstances that arise in school to avoid behaviors that make the situation worse for themselves (e.g., verbal aggression, threat, or academic avoidance) and lead to more helpful, hopeful, and productive behaviors.

Negative emotions become particularly problematic when they are extreme or intense, chronic or prolonged, or not proportional or justified given the situation (Nock & Mendes, 2008). Thus, promoting students' affective engagement requires minimizing situations that provoke extreme or intense negative emotional reactions (e.g., teacher embarrasses student in front of peers), responding to and supporting students who are experiencing prolonged negative emotions, and teaching students how to regulate their emotions in response to unwanted situations that arise in the context of school. Given that difficulties with managing negative emotions lead to the development of diagnosable problems (e.g., anxiety disorders, depressive disorders), researchers and practitioners have placed a lopsided emphasis on addressing negative emotions relative to promoting positive emotions. However, over the past two decades, there has been a surge of interest in positive emotions and how they contribute to resiliency and flourishment (Fredrickson & Joiner, 2002; Renshaw, Long, & Cook, 2015).

Positive emotions represent the other side of the emotional coin. If negative emotions narrow attention and behavior, positive emotions have been argued to broaden attention and behavior (Fredrickson, 2013). Indeed, positive emotions are those that are accompanied by pleasant internal subjective experiences (physiological and cognitive), such as joy, pride, enjoyment, awe, amusement, gratitude, interest, fun, and love. Barbara Fredrickson is a pioneer in the science of positive emotions who developed the broaden-and-build theory that suggests that positive emotions (e.g., joy and awe) broaden a person's awareness and encourage more exploration, problem-solving, and expansive thoughts and actions. Stated differently, when experienced, positive emotions expand a person's actions, leading them to be open to a wider range of cognitive and behavioral pursuits than would normally occur (Fredrickson, 2001). When viewed from this perspective, positive emotions have significant implications for everyday practice in schools. Intentionally cultivating positive emotional experiences may not just cause students to feel good in school; it may also serve as a means to enable students to grow socially and academically over time. For example, students who receive strategic praise from their teachers based on effort, perseverance, problem-solving, or a specific behavior are more likely to feel a sense of connection and trust with the teacher (Yeager & Walton, 2011), which leads to improved academic performance (Allday et al., 2012).

Ultimately, to promote affective engagement via prevention and intervention practices, the aim is for educators to strategically and intentionally focus on inducing positive emotional experiences to broaden and build students' academic engagement and performance, mitigate negative emotional experiences that undermine affective engagement (e.g., bullying and punitive experiences), and equip students with the skills to regulate their emotions in the face of the social and academic demands of school.

Multitiered Approach to Improving Student Affective Engagement

In recognition of the impact of social, emotional, and behavioral functioning on academic success, schools are being increasingly pressured to adopt programs and practices that prevent these problems (Adelman & Taylor, 2006; Kutash, Duchnowski, & Lynn, 2006; Wagner & Davis, 2006). A series of federal reports (e.g., National Research Council, 2009; President's New Freedom Commission on Mental Health, 2003; Satcher, 2000) and landmark legislation (IDEA, 2004) have identified the promotion of student social, emotional, and behavioral well-being as a top priority for schools. Multitiered systems of support (MTSS) has been advocated as a framework to efficiently and effectively organize and deliver a continuum of evidence-based practices to promote students' academic, social, emotional, and behavioral functioning and enable educators to make timely and relevant data-driven decisions (Cook et al., 2010). MTSS involves the delivery of a continuum of supports, including universal (i.e., Tier 1) supports for all students, selected (Tier 2) interventions for some students who express a need above and beyond Tier 1, and intensive indicated (Tier 3) interventions for students with higher needs who are nonresponsive to lesser supports. Each tier consists of several strategies for addressing needs that cross the various micro- and mesosystemic factors influencing student behavior. Data-based decision-making is involved through the collection of universal screening, progress monitoring, and measurement of fidelity (i.e., the degree to which the program, practice, or intervention is delivered as planned). From 2007, the percentage of K-12 district administrators striving to adopt and implement an MTSS framework rose dramatically from 24% to 94% (Spectrum K12, 2011). Figure 12.1 depicts a continuum of supports that could be integrated into a school's MTSS framework to promote student affective engagement. In this chapter, the focus is on the first two tiers to describe the universal supports for all students as a way of promoting affective engagement—an asset that both buffers students from experiencing school-related problems and promotes targeted interventions for some students who could benefit from receiving additional support.

Measuring Indicators of Affective Engagement

A critical aspect of MTSS is data-driven decision-making. Although there is not widespread consensus on the indicators that comprise affective engagement, prior research has identified several broad indicators that capture dimensions of this construct for purposes of measurement (Reschly & Christenson, 2012). An indicator is a sub-factor that when combined with other indicators captures the main construct of interest (i.e., affective engagement). Although it is beyond the scope of this chapter to dive deeply into the broad indicators and specific sub-factors of affective engagement (see Chaps. 2 and 3 for more detail), Table 12.1 provides an overview
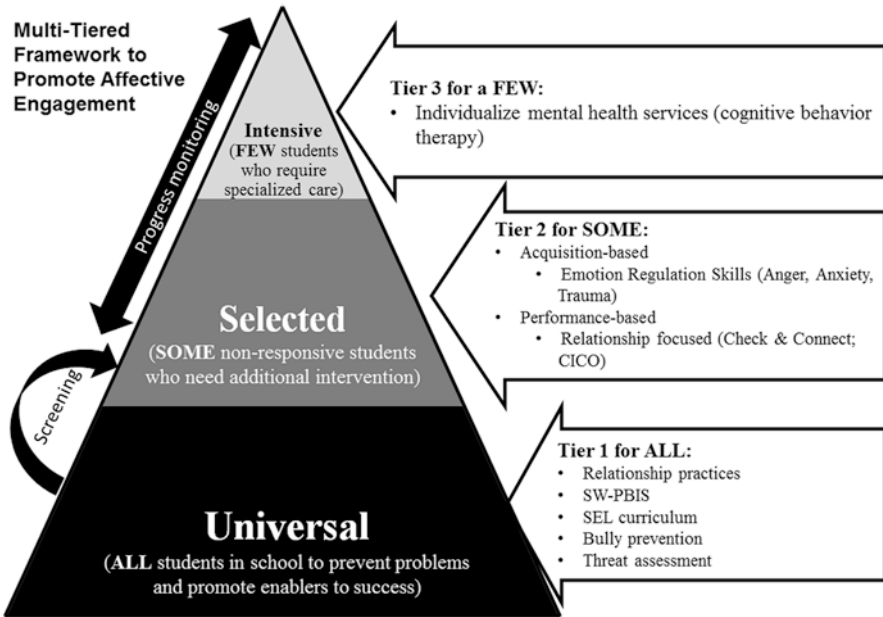
Fig. 12.1 Example MTSS framework to promote affective engagement

of four broad indicators of affective engagement (school connectedness, subjective emotional well-being, feelings toward academics, and sense of safety), with corresponding sub-factors linked to general recommendations for prevention and intervention. As one can see in Table 12.1, all of the broader indicators of affective engagement represent malleable targets for prevention and intervention practices. For example, students' feelings of *school connectedness* can be measured via a number of sub-factors, with clear links to prevention and intervention practices that attempt to improve interactions and relationships among staff and students. Moreover, *subjective emotional well-being*, defined as a student's affective evaluations of school life, represents a broad indicator of affective engagement. This indicator could be measured and addressed via practices that aim to improve both students' skills to regulate negative emotions in response to distressing situations (e.g., academic failure, peer conflict, reprimand by a teacher) and students' development of habits linked to inducing positive emotions (e.g., gratitude practices). *Feelings toward academics* represents another indicator that captures students' feelings of frustration and boredom when engaging in academic work, which can be assessed and intervened upon to improve student affective engagement. Additionally, students' *sense of safety* in school is a commonly measured indicator of affective engagement that is necessary for schools to address as a significant barrier to student learning.

Affective engagement can be tricky to measure due to its internal subjective nature (Duckworth & Yeager, 2015). Thus, to know whether a student is affectively

Table 12.1 Broad indicators, sub-factors, and example intervention targets of affective engagement

Broad indicators	Specific sub-factors	Example data to gather	Example intervention targets
School connectedness	Sense of belonging (feeling of being respected, valued, and accepted by others)	• Student reports feeling respected and accepted by others • Student feels wanted and appreciated	• Teach, model, cue/prompt, and recognize/acknowledge respectful, prosocial interactions • Verbally and nonverbally communicate to students that they are wanted and appreciated • Build relationships with and between students
	School pride	• Student reports positive feelings about being at the school	• Involve students in school leadership and extra-curricular activities • Create opportunities for student to have voice and input on improving experiences in school
	Positive relationships	• Student reports feeling trust with others • Student reports liking and being liked by others • Student reports feeling there are people who care about them	• Intentional efforts to establish relationships with each student • Teach relationship building skills and create opportunities for students to positively interact with one another • Verbally and nonverbally communicate to students that educators care for them not only as students but as people • Restorative practices following incidents that harm relationships
	Fun and joy	• Student reports feeling school is a fun place to be • Student reports feeling school offers pleasurable and enjoyable experiences beyond learning	• Create experiences that can be accessed in school that are viewed as fun, exciting, and novel • Create a school leadership team that owns the task of making school paired with fun, enjoyable, pleasurable experiences beyond learning
Subjective emotional well-being	Negative emotions (aversive emotional responses that narrow attention and behavior)	• Student reports feeling anxious or worried in school • Student reports feeling frustrated or angry in school • Student easily becomes dysregulated due to outside trauma	• Adopt social-emotional learning curriculum to teach students emotional competence (awareness of emotions in self and others, emotional regulation skills) • Deliver tailored interventions for students who struggle to manage emotions in response to social and academic demands in school (anxiety, anger, trauma)

Table 12.1 (continued)

Broad indicators	Specific sub-factors	Example data to gather	Example intervention targets
	Positive emotions (positive emotional responses that broaden perspective and behavior)	• Student reports feeling happy in school • Student reports feeling joy in school • Student reports feeling interested in and excited about school	• Teach students habits and routines that cultivate positive emotions (gratitude practices, savoring good experiences, flow experiences) • Create activities at the outset of the day that are viewed as fun and enjoyable rather than immediately jumping into dense academic work • Consider students' perspectives when constructing high interest and exciting academic assignments and tasks
Feelings toward academics	Academic frustration	• Student reports feeling frustrated about academic work (e.g., not being able to achieve success)	• Teach frustration tolerance skills • Link the academic work to relevant, real world • Help establish the "why" behind the academic work before engaging students in the "what" • Modify the assignment/work so that it is at student instructional level—not the student's frustrational level • Reinforce and recognize effort and growth—not absolute performance
	Academic boredom	• Student reports feeling bored in class • Student reports feeling that academic work is meaningless	• Premack principle (if students do the less desirable work, then they earn more preferred experience) • Help connect the work to student goals and future aspirations so they can see the connection between the current academic work and later meaningful experiences • Seek student input about academic assignments to receive feedback about how to make it feel less boring • Provide students with choice (what to work on, how much to work, who to work with, where to complete the work, etc.)
Sense of safety	Physical and emotional safety	• Student reports feeling emotionally safe • Student reports feeling physically safe • Student reports feeling victimized by others (including bullying)	• Create welcoming and respectful environments for everyone • Teach, model, cue/prompt, and recognize/acknowledge respectful, prosocial interactions • Teach students conflict resolution and interpersonal skills • Establish clear and consistent definitions of problem behaviors and a progressive method of responding to problem behavior • Restorative practices following incidents that harm relationships • Develop anti-bullying policy and implement bullying prevention procedures (bystander training, monitoring of common areas, etc.)

engaged requires paying close attention to students' affective responses and skill-fully gathering information from them about their perceptions of school (Wang & Degol, 2016). Due to the internal subjective nature of affective engagement, educators often do not know how students feel about school unless they ask them *and* students provide a truthful and accurate account of their feelings. Thus, to measure affective engagement requires student perception and voice instruments that attempt to elicit students' thoughts and feelings about school (Fredricks & McColskey, 2012). Although student self-report is a reliable and valid way to assess student engagement (Fredricks et al., 2011), developmentally speaking, students third grade and lower often are less reliable informants of their internal subjective experiences (Surber, 1984). In this case, other informants (e.g., teachers and parents) and methods (e.g., interviews, observations) become useful sources of data regarding indicators of affective engagement.

Measuring student affective engagement is important for informing and monitoring the impact of prevention and intervention efforts as well as facilitating data-driven decisions at school-wide, classroom, and individual student levels. From a measurement standpoint, there are existing tools that include broadband scales that assess dimensions of engagement specifically, such as the Student Engagement Instrument (SEI; Appleton, Christenson, Kim, & Reschly, 2006). There are also existing tools that measure affective engagement as part of a more comprehensive school climate assessment, such as the Social-Emotional Health Survey (Furlong, You, Renshaw, Smith, & O'Malley, 2014), Panorama Assessment (Panorama Education, 2018), and Authoritative School Climate Survey (Cornell, 2014). Additionally, there are narrowband measures that assess specific factors of affective engagement, including the Teacher-Student Relationship Questionnaire (Pianta, 2001), Student Subjective Wellbeing Questionnaire (Renshaw et al., 2015), and Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988) that can be used for purposes of informing and monitoring the impact of prevention and intervention efforts.

Universal Approaches to Promoting Affective Engagement

The foundation of MTSS is the universal level of support, which entails the delivery of evidence-based programs and practices to all students with the goal of preventing escalation of problems and enhancing success-promoting factors (Cook et al., 2010). Given the prevalence and impact of academic, social, emotional, and behavioral problems on student short-term and long-term success, there is an increased need for schools to implement population-based practices to prevent problems that result in negative school and life outcomes (Greenberg & Abenavoli, 2017). Moreover, universal supports have been shown to exhibit three types of effects: prevention (i.e., preventing the emergence of problems that undermine academic success), promotion (i.e., enhancing acquisition of strengths and assets linked to optimal school performance), and treatment (i.e., remediating problems among stu-

dents experiencing social and/or academic difficulties). A number of programs and practices have demonstrated evidence supporting their impact on broad and specific indicators of student affective engagement. These universal supports include teacher-student relationship approaches, school-wide positive behavior intervention and supports (SWPBIS), social-emotional learning (SEL), bullying prevention, and threat assessment.

Teacher-Student Relationship Approaches Strong teacher-student relationships have long been considered a foundational aspect of a positive school experience (Brophy & Good, 1974). Most students spend more time during the week with their teachers than with any other adult in their lives outside of their families. Multiple studies have illustrated the association between teacher-student relationship quality and future social and academic performance across childhood and adolescence (Allen, Pianta, Gregory, Mikami, & Lun, 2011; Hamre & Pianta, 2001; Wu, Hughes, & Kwok, 2010). Research has also shown that positive teacher-student relationships may have protective effects for students who experience learning and behavioral problems (Baker, 2006; Bierman, 2011) and that children who exhibit externalizing problems in the classroom often have weaker relationships with their teachers (Fowler, Banks, Anhalt, Der, & Kalis, 2008). Below we describe the Establish, Maintain, Restore approach to building strong teacher-student relationships to ensure that every student feels a sense of belonging and trust with their teachers.

Establish-Maintain-Restore Establish-Maintain-Restore is a free, open-access approach to cultivating positive teacher-student relationships (Cook, Coco, et al., 2018) that has been evaluated in two separate randomized controlled trials (Cook, Fiat et al., 2018; Duong et al., 2019). EMR is grounded in prior theory and empirical research to serve as an intentional approach based on three dynamic phases of any relationship that develops and sustains over time to be characterized by feelings of mutual trust, respect, and belonging: (1) relationship formation, (2) relationship maintenance, and (3) relationship restoration. These phases are arranged sequentially as a heuristic that enables educators in a given school to adopt a common language around relationships. This facilitates more intentional and strategic decision-making (e.g., responding with empathy, making room on their plate for building relationships) about educators' relationship standing with students and, ultimately, the delivery of specific concrete relational practices to either establish, maintain, or restore with students (see Table 12.2). The ultimate aim is to move all students away from the two undesirable (i.e., not the final destination) relationship states (i.e., establish and restore) toward maintain, which indicates that the students feel a sense of trust, belonging, and understanding toward those who are in charge of the setting in which they are expected to perform (e.g., teacher).

To facilitate implementation of EMR, five implementation supports are deployed to encourage teacher adoption and delivery of EMR practices. First, there is a need to engage in important preparation work with the site leadership team (i.e., principal and other informal leaders) to integrate implementation of EMR into the school improvement plan, connect the delivery of EMR practices to end of the year teacher

Table 12.2 Menu of Establish-Maintain-Restore practices

Establish practices	Maintain practices	Restore practices
Banking Time to spend individual time with the student to show that you care and accept who they are as a person	Maintain a ratio of five positive interactions to every one negative interaction with the student	*Letting go conversation* to express that you will not hold on to or bring up the previous interaction • Used when the student suspects the adult may hold a grudge
Gather, review, and find opportunity to integrate important information about or interests of the student	Find opportunities to deliver effective praise that is specific and contingent and acknowledges hard work, effort, and a strategy or process used	*Empathy statement* to take on the perspective of the student to demonstrate you understand the feeling or motive underlying the behavior • Used when then student wants to be understood in terms of why they engaged in the behavior
Secondhand compliment delivered through another adult	Be deliberate about "relationship check-ins" to see how things are doing and express interests in the student beyond the classroom	Taking ownership for part of the negative interaction/problem • Used when the adult could have handled the situation better and the student thinks that adults believe they are holier than thou
2 by 10—spend 2 minutes a day connecting with the student for 10 consecutive days (2 weeks)	Responding to problem behavior with empathy—involves delivering empathy statements and making sure the response is proportional to the problem behavior	*Collaborative problem-solving* to find a mutually agreeable (win-win) solution • Used when the student has a strong opinion and may appreciate having a voice in generating a solution
Wise feedback to communicate high expectations and high beliefs in the students potential	Engaging in fun activities for the sake of fun and nothing else	*Separating the deed from the doer* to express care for the student • Used when it is important for the student to know that you care about them regardless of their behavior, suggesting they are not defined by their behavior but rather who they are as a person
Surprise acts of kindness delivered to the student	Taking away something the student finds aversive to make them feel better (no homework, reduce the amount of work, etc.)	Hosting a restorative conversation that is moderated by another staff person • Used when the adult is having difficulty engaging in the restorative conversation with the student on his/her own

(continued)

Table 12.2 (continued)

Establish practices	Maintain practices	Restore practices
Going on a classroom outing that is fun	Rewarding the student by allowing them to earn a tangible item, access to a preferred activity, food, etc.	
Scheduling a home visit for the purpose of connecting with the family and student on their turf (sole reason is to build relationship)		
Positive salutations (greetings) and farewells on a daily basis—example is positive greetings at the door to welcome; saying goodbye to the student using his/her name		

performance evaluations, and message the importance of teacher-student relationships as it relates to the overall mission of the school. Second, a 3- to 4-hour training is delivered to all teachers to increase their knowledge of EMR and provide opportunities to practice and ask clarifying questions. Third, after training, weekly tips and reminder emails are sent to prompt teachers to increase their awareness of opportunities to use the EMR and continue knowledge development around specific EMR practices. Fourth, monthly professional learning communities (PLCs) meetings are scheduled, protecting time for teachers to collaborate with one another and reflect on their relationship standing with students and to develop relationship action plans. In the PLCs, teachers use class rosters to reflect on their relational status with each of their students (i.e., whether their relationship with the student is in the Establish, Maintain, or Restore Phase; see the Appendix for an example roster template). Subsequently, teachers use this information to plan the delivery of specific practices with particular students and receive feedback from their colleagues regarding their plan. Fifth, fidelity checks and student voice/input data are gathered to provide teachers with feedback regarding implementation and to develop school-wide goals regarding improving the quality of relationships with students in the building.

Establish The initial phase of EMR involves intentional efforts to *establish* relationships with students. The goal at the student level is to ensure that all students feel a sense of belonging that is characterized by trust, connection, and understanding. Teachers are provided with a menu of established practices they can select from to implement with particular students. The key practice during this phase is to schedule individual time (i.e., Banking Time) with specific students for whom they believe lack a sense of trusting, belonging, and understanding. Banking Time (Chap. 14) consists of a student-led activity and conversation in which the teacher adopts a

stance that is nondirective, validating, and responsive to the student's actions and feelings (Driscoll & Pianta, 2010; Hamre & Pianta, 2001; Williford, Maier, Downer, Pianta, & Howes, 2013). This is discussed in greater detail in a subsequent chapter in this book. The teacher uses a variety of communication techniques, such as open-ended questions, reflective listening, validation/empathy statements, and expressions of enthusiasm/interest, which are considered to be at the heart of effective relationship building. The underlying premise of Banking Time is best understood using a bank metaphor: The teacher intentionally engages in interactions with the student to make *deposits* into the relationship. This not only cultivates a sense of connection but also provides the relational context that enables the teacher to make strategic *withdrawals* from the student, such as providing constructive feedback, encouraging the student to engage in a less preferred activity or assignment, or responding to attempts to correct problem behavior. Other establish practices include secondhand compliments (i.e., delivering strategic compliments/praise to the student through another person), positive greetings and farewells upon entering and exiting class each day (Cook, Fiat, et al., 2018), relationship logs to reference and acknowledge important information about the particular student, and the 2 by 10 strategy that involves engaging the student in relationship building conversation for a minimum of 2 minutes for 10 consecutive days.

Maintain   Once a relationship is established with the student, teachers focus on maintaining their relationship with students through ongoing patterns of positive interactions. Without intentional attention to maintaining relationships, research indicates that relationship quality can deteriorate over time as the ratio of positive to negative interactions naturally diminishes (Steinberg, 2001). As a result, over time if educators are not careful, their interactions may unintentionally involve higher rates of nags, complaints, reprimands, ignoring bids for attention, or negative judgments than positive interactions, which undermines the health of the relationship (Gottman & Levenson, 2000). Maintaining a positive relationship, therefore, requires deliberate attention to the rates of positive interactions relative to negative ones with students. The primary practice associated with the Maintain Phase is the 5-to-1 ratio of positive to negative interactions. That is, teachers reflect on and strive to exhibit positive interactions with students (e.g., general compliments, behavior-specific praise statements, acknowledging appropriate bids for attention, demonstrating empathy when a student is upset, asking questions to inquire how a student is doing, laughing with students not at them) at least five times for every one negative interaction (e.g., reprimand, complaint, disapproving statement, or punitive interaction; Flora, 2000). Research has shown the positive impact of the 5-to-1 ratio to improve student subjective feelings and classroom behavioral engagement (Cook et al., 2017). The 5-to-1 ratio is included in the Maintain Phase because in order for a teacher's attention and recognition to be reinforcing, the student has to trust, respect, and value the relationship with the teacher (Maag, 2001). Outside the context of a trusting relationship, attempts to positively interact with others could be viewed as self-serving or disingenuous (Crosnoe, Johnson, & Elder Jr, 2004).

Additionally, other maintenance strategies are encouraged such as brief relationship "check-ins," responding to a problem behavior with empathy, and random acts of care/kindness (e.g., leaving a note for the student, giving a small gift).

Restore Due to the fact that all healthy relationships involve some degree of conflict that necessitate repair, a critical relational phase of EMR is restore. This is critical because negative interactions can weaken a relationship with a student, resulting in students feeling a lower sense of belonging and connection, being less responsive to efforts to correct problem behaviors, and becoming more challenging to motivate to take on academic work that she/he perceives to be challenging or boring. The Restore Phase emphasizes the R³ method, which consists of educators *reconnecting* with students following a negative interaction to *repair* any harm through skillful communication to *restore* the relationship back to its previous positive state. Indeed, restorative practices in schools provide a model for rebuilding of the student-teacher relationship after disruption, conflict, or harm has occurred in the relationship. While research on restorative conferencing in schools is limited (Anfara Jr, Evans, & Lester, 2013), there is preliminary evidence that engaging in restorative efforts contributes to improvements in relationships between students and teachers (Cameron & Thorsborne, 2001). Teachers are supported to increase their awareness and recognition of situations (e.g., argument with the student, delivery of a punitive consequence) and cues (e.g., change in behavior such as lack of eye contact, ignoring instructions, arguing/debating) that indicate a need to restore the relationship through a restorative interaction. Once a student is deemed in need of restoration, teachers reconnect with the student and select from one or more of the following restore communication techniques: (1) letting go of previous interaction for students who think the adult is going to have a grudge against them, (2) taking responsibility/ownership for the problem for students who believe the adult is unwilling to admit a mistake, (3) empathy statement to validate student feelings or motives underlying behavior, (4) collaborative problem-solving to identify a mutually agreed-upon solution, or (5) statement of care by separating the deed from the doer. To be feasible, restorative conversations should be relatively brief and should be delivered privately and at a time of convenience for the teacher.

Students who are able to establish and maintain positive teacher-student relationships are likely to experience short-term improvements in affective engagement, as well as important downstream benefits, such as improved academic achievement (Eccles et al., 1993). Students who thrive in school are not only able to cultivate positive relationships with their teachers but also their peers (Wentzel, 1998). There is a need for additional supports that equip students with the knowledge and skills to interact successfully with others and regulate their emotions in response to the social and academic demands in school.

Social and Emotional Learning (SEL) There is growing recognition among those involved in education that social and emotional well-being is instrumental to academic success (Every Student Succeeds Act 2015). Advocates of social-emotional learning (SEL) have pushed schools to expand their conceptualization of

teaching and learning to include an emphasis on supporting students to acquire critical social and emotional knowledge and skills that enable better self-regulation to meet the current social and academic challenges in school as well as the eventual demands of civic, career, and private aspects of adult life (National Research Council, 2013). The emphasis on SEL is in part due to the convincing evidence demonstrating that social and emotional competencies are critical for academic success (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Heckman & Kautz, 2012; Levin, 2012), but also to economic analyses highlighting that SEL efforts produce a significant return on investment. In fact, it has been estimated that benefits of delivering SEL programs with fidelity outweigh the financial costs by a ratio of 11 to 1 (Heckman & Masterov, 2007). Consistent with this push, thousands of schools nationwide are adopting and implementing SEL programs to promote both academic and social-emotional outcomes of children (Osher et al., 2016).

Although most SEL standards do not explicitly reference the term affective engagement, affective engagement is an important outcome of SEL programming. In general, SEL is a curricular approach that consists of teaching students core social-emotional competencies related to identifying and regulating their emotions, setting and working to achieve positive goals, demonstrating empathy and understanding of the perspectives of others, cultivating and sustaining positive relationships, making socially responsible decisions, and managing interpersonal conflicts constructively (Zins, Bloodworth, Weissberg, & Walberg, 2007). A recent meta-analysis of 213 studies examining the impact of social-emotional learning (SEL) indicated that SEL curricula are not only associated with significant improvements in students' social-emotional skills, but they were associated with an average 11 percentile increase in academic achievement (Durlak et al., 2011). When considering the different SEL programs on the market, there are some that are more focused on promoting emotional competency and, thus, are arguably better suited to promote affective engagement. That being said, no research has compared SEL programs and, thus, no one SEL program has emerged as superior to others.

RULER SEL Program   RULER is an example of an evidence-based SEL program with close links to affective engagement (Brackett & Rivers, 2014). It is grounded in emotional intelligence (EI; Salovey & Mayer, 1990), which refers to a subset of skills that enable individuals to increase their awareness, ability to act on emotions adaptively, and management of more intense emotions. RULER represents an acronym that captures the five core skills taught as part of the program: *recognizing* emotion in the self and others, *understanding* the causes and consequences of emotions, *labeling* emotions with a diverse and accurate vocabulary, *expressing* emotions constructively across contexts, and *regulating* emotions effectively. EI is taught through specific tools and curriculum. The main tools are the mood meter, charter, and meta-moments. The mood meter involves students checking in and rating their pleasantness and energy levels, which places each student in one of four quadrants (e.g., +2 pleasantness and −2 energy = peaceful). Ultimately, the mood meter is utilized to enhance students' ability to recognize and label emotions, as well as utilize specific emotional regulation strategies to move their mood to a more

desirable state. The charter is an agreement that results from students collaborating with one another to identify desirable feelings, ideal behaviors to foster desired feelings, and how to respond effectively to situations when students are struggling to behave consistent with the charter. The meta-moment is a step-by-step process for increasing effective responding to emotion-provoking triggers. It involves the teacher working with the student to pause and take a deep breath, envision their best self, and select an emotional regulation strategy that will enable them to handle the situation in a way that reflects their best self. The instructional component of RULER is guided by the Feeling Words Curriculum, which integrates psychoeducation on emotions and specific skill-building activities with core academic curriculum (Brackett, Caruso, & Stern, 2006). The combination of the RULER tools and explicit instruction in EI skills is designed to enhance students' positive emotional states and to improve students' responses to situations in school that trigger negative emotions that, if unregulated, may manifest in more problematic behavior.

While SEL programs, like RULER, can be considered an *inside-out* approach that involves teaching students critical self-regulatory skills, there is also a need for an *outside-in* approach that involves creating a safe, predictable, and positive environment that influences key indicators of affective engagement (e.g., school connectedness, sense of safety).

School-Wide Positive Behavior Intervention and Supports (SWPBIS) SWPBIS (Chap. 10) is a multitiered system that aims to establish a school culture in which clear positive behavioral expectations are established, taught, and recognized so that students and staff are able to support appropriate behavior from one another—thereby creating school environments that are predictable, consistent, safe, and positive (Sugai & Horner, 2002). SWPBIS focuses on preventing and reducing incidents of problem behavior that result in exclusionary discipline (office discipline referrals, suspension, detention) and to change student and staff perceptions of the climate of the school (e.g., safety, positivity; Sugai & Horner, 2010). Like other multitiered approaches, SWPBIS has specific practices that comprise its universal level of supports. Two randomized controlled trials provide strong evidence that universal SWPBIS reduces student office discipline referrals and suspensions, improves school climate, decreases teacher-reported social or behavioral problems, and leads to gains in academic performance (Bradshaw, Mitchell, & Leaf, 2010; Horner et al., 2009). SWPBIS has been adopted by over 21,000 schools nationwide (Horner & Sugai, 2015). The core elements of the universal level of SWPBIS are (1) establish three to five positively stated, teachable behavioral expectations, (2) post expectations in every setting to cue and prompt behavioral expectations, (3) develop a schedule for ongoing teaching of expectations, (4) create a motivation system to recognize and acknowledge students for exhibiting the behavioral expectations, (5) develop a progressive method of responding to problem behaviors with clearly defined categories of minor and major problem behaviors, and (6) gather data on disciplinary sanctions that could inform ongoing data-driven continuous improvement efforts. When combined, the evidence suggests that not only do incidences of behavioral problems decrease, but the use of exclusionary discipline sanctions that

undermine student affective engagement dramatically decrease (Bradshaw, Waasdorp, & Leaf, 2012). Considering all the components of SWPBIS, it is helpful to understand which ones are likely to have implications for promoting students' affective engagement.

The component that involves creating a motivation system to consistently recognize and acknowledge student behavior is likely a feature of SWPBIS that influences how students feel in school. Too often students receive a higher ratio of reprimands, corrections, and disapproval statements to positive interactions (Cook et al., 2017). A major focus of SWPBIS is for the adults in the building to put more effort and energy into paying attention to what students are doing "right" versus waiting and reacting to what students are doing "wrong." When the adults spend more effort recognizing and acknowledging students for engaging in behavioral expectations, and privately correcting students misbehavior in a skillful manner, it is likely to cause students to feel more appreciated and valued by educators. Also, decreasing the use of exclusionary discipline practices in response to problem behavior appears to be another aspect of SWPBIS with implications for promoting affective engagement, especially in light of more recent research linking decreases in discipline disparities for certain subgroups of students (e.g., Black males) to improved school connectedness and belonging (Cook, Duong, et al., 2018). The universal level of SWPBIS provides a solid foundation for promoting desired behaviors that lead to safer and more orderly and positive school environments. Although SWPBIS has been shown to be effective at promoting indicators of student affective engagement, research has shown that when SWPBIS is integrated with other universal supports (e.g., SEL programming), even better social, emotional, and behavioral outcomes are likely to be achieved (e.g., Cook, Frye, et al., 2015).

Bullying Prevention Considering the negative impact that bullying has on the psychological and emotional well-being of students and school climate as a whole (Cook et al., 2010), it is important to review bullying prevention as an element of universal programming that can promote student affective engagement. Ultimately, bullying prevention programs target the reduction of bullying which help students feel safer and more secure in their relationships with peers. Key findings have emerged from meta-analytic work on bullying prevention programs (Ttofi, Farrington, Lösel, & Loeber, 2011) that help inform what schools can do. On average, school-based bullying prevention programs are associated with over a 20% decrease in bullying and roughly a 17–20% decrease in victimization. In general, programs that include more components are more effective, such as the combination of parent meetings, firm and consistent disciplinary methods, improved playground supervision, and teaching important bystander behaviors to intervene on bullying. Ultimately, reductions in school-wide bullying and victimization create a relationally healthier environment in which students and staff feel more connected and affectively engaged in school (Olweus & Limber, 2010). There are also specific bullying prevention programs with evidentiary support, including Steps to Respect (Brown, Low, Smith, & Haggerty, 2011) and the Olweus Bullying Prevention

Program (OBPP; Olweus & Limber, 2010). Moreover, other proactive supports such as SW-PBIS and SEL programming have been linked to reductions in bullying. Additionally, there is compelling evidence that effective reactive approaches, such as threat assessment, in response to incidents of potential aggression and violence, serve to improve indicators of student affective engagement in school.

Threat Assessment Despite the low prevalence of serious acts of violence in schools, threats of violence are more common and pose significant concerns that can impact the affective engagement of students and overall school climate (Borum, Cornell, Modzeleski, & Jimerson, 2010). Threats of violence have been shown to occur in more than two-thirds of middle and high schools and slightly over a third of elementary schools (Nekvasil & Cornell, 2012). The Virginia Student Threat Assessment Guidelines (Cornell & Sheras, 2006) were developed to provide educators with a systematic approach to responding to student threats of violence to promote safer and more positive school environments. This approach involves training a team in the building to use a standardized protocol and decision-making guidelines to assess the degree of seriousness of a student's threatening behavior and match the degree of threat to particular action. The threat assessment process goes beyond determining the seriousness of the threat by following through with intervention to resolve the problem or root cause underlying the threatening behavior. Although most threats are deemed to be transient (i.e., pose no serious danger to others), others may be more serious and require a more progressive and extensive assessment and intervention process. Findings have demonstrated a range of benefits linked to the implementation of the Virginia Student Threat Assessment Guidelines relevant to affective engagement, including reductions in student-reported fear about school violence, incidents of bullying, and exclusionary discipline practices, as well as increases in student reports of their feelings toward staff, fairer discipline approaches, and student perceptions of school safety (Cornell, Allen, & Fan, 2012; Cornell, Sheras, Gregory, & Fan, 2009; Nekvasil & Cornell, 2015).

Targeted Interventions to Address Low Affective Engagement

Within a multitiered framework, Tier 2 represents a key intermediary level of targeted interventions for students who express a need for support above and beyond Tier 1 alone. These students are ideally detected utilizing one or more proactive detection methods, such as universal screening, existing data on warning indicators (e.g., attendance, behavior discipline, grades), and/or a structured teacher nomination/referral process. In actual practice, the number of students who express a need for intervention depends on a host of factors, including exposure to environmental risk factors outside of school (e.g., poverty, community violence, domestic abuse) and the quality of universal supports that provide a foundation for prevention. Notwithstanding the likely variation across schools, a school can expect 10–25% of

students being flagged as needing additional support beyond Tier 1. Once students are identified as having a need for intervention, it is incumbent upon schools to determine the most precise and appropriate intervention for the student. Thankfully, research has uncovered a menu of evidence-based Tier 2 interventions (Miller, Cook, & Zhang, 2018). However, it is fragmented, hindering effective practice in a number of ways. First, many educators typically know less about Tier 2 than Tiers 1 or 3 (Cook et al., 2010). Second, a review of the literature reveals that nearly all of the existing Tier 2 interventions have been researched and implemented only as stand-alone programs (Hawken, Adolphson, Macleod, & Schumann, 2009). There is an information management problem that impacts educators' ability to know *with whom* particular interventions should be used to address issues such as low affective engagement that are leading to difficulties in school. Instead, a more promising approach is to develop a menu of Tier 2 interventions that provides wider coverage of supports that can be matched to students' needs (Domitrovich et al., 2010).

The performance and acquisition model (PAM; e.g., Miller et al., 2018) is an example of a theory or paradigm that provides an efficient conceptualization of the root causes underlying students' low affective engagement and leads to the selection of more precise and potentially effective interventions. The origins of PAM date back to Bandura's (1969) book titled *Principles of Behavior Modification* where he integrated the concepts of performance versus acquisition deficits into a social learning theory account of behavior. It was not until the work of Gresham (1981) that these concepts began to emerge across a range of disciplines, including education (Gresham, Van, & Cook, 2006), psychology (Freedman, Rosenthal, Donahoe Jr, Schlundt, & McFall, 1978; Proctor & Dutta, 1995), and social work (Moote Jr, Smyth, & Wodarski, 1999), as he was the first to make the distinction between performance or skill deficits in the context of children's social skill problems, and to articulate the differential implications for intervention that stem from this conceptualization. The clear conceptual definitions provided by Bandura combined with the work by Gresham (1981, 1986) helped scale these concepts to a point where it is now common language among both researchers and practitioners to refer to students as having acquisition (i.e., can't do or skill problem) or performance (i.e., won't do or will problem) deficits. While students with low affective engagement due to a hypothesized acquisition deficit would need an instructional intervention to acquire a missing skill or set of behaviors, those with a hypothesized performance deficit would need a motivational intervention. Indeed, existing evidence-based interventions can be classified as targeting acquisition deficits or performance deficits, which enables educators to more appropriately match a student to a likely effective intervention (Gresham et al., 2006). The following discusses acquisition- and performance-based interventions that can be implemented for students identified with low levels of affective engagement who are in need of intervention.

Acquisition-Based Interventions Students with emotional regulation deficits can appear to have a performance deficit because, when they are well regulated, they are able to exhibit desired skills/behaviors. However, when the student becomes emotionally dysregulated (e.g., overly frustrated, intensely anxious), the student is

unable to access those skills/behaviors and is motivated to escape or avoid the unwanted experience (Kring & Sloan, 2009). Indeed, enhancing emotional regulation skills through a combination of cognitive restructuring, coping techniques, and problem-solving strategies is the focus of many existing evidence-based interventions to improve the emotional competency and regulation of students. It is important to note that not all students with low affective engagement due to emotional regulation deficits struggle for the same reason.

There are a range of targeted, small group interventions that focus on enhancing student emotional regulation. These are often organized according to a specific emotion (e.g., anger, anxiety, or trauma) or more generally increasing emotional resilience in the face of adversity and stress. Coping Cat (Kendall & Hedtke, 2006) and the FRIENDS Program (Barrett, 2010), for instance, are two examples of targeted interventions with evidentiary support that are designed as a small group intervention for students who struggle with anxiety. Students with anxiety problems are likely to experience negative thoughts and feelings in school that lead to avoidance behaviors. The aim with both of these interventions is to enhance students' emotional regulation skills, enabling them to manage and navigate school and life situations that would otherwise produce high levels of anxiety and impair engagement in social and academic activities. These programs accomplish this through teaching specific emotion coping skills, cognitive restructuring to take worrisome thoughts and make them more courageous and confident, developing specific plans to use when confronting anxiety-provoking situations, and ultimately being gradually exposed to a hierarchy of anxiety-provoking situations and being supported to use their learned skills to develop mastery over the situation.

Another example of an evidence-based emotional regulation targeted intervention is the Coping Power Program (Lochman & Wells, 2002a, 2002b). This intervention is designed for children who engage in aggressive behavior due to social-cognitive deficits and difficulties managing anger in response to peer interactions and adult requests. Coping Power includes a child component (34 group sessions) and a coordinated parent component (16 sessions) that are designed to be delivered over an extended period of time 12–18 months. Anger Replacement Training (ART; Glick & Goldstein, 1987) is another evidence-based small group intervention that targets improving students' ability to manage anger and aggressive behavior. ART has three main components that inform its scope and sequence. The first is social skills training, which focuses on teaching students how to replace antisocial behaviors with prosocial ones. The second component emphasizes anger control by teaching students how to cope with anger-provoking situations in a non-aggressive way and develop more helpful and productive ways of thinking in response to the situations. Last, ART focuses on developing moral reasoning, which teaches students about the concepts of fairness, justice, and empathy.

Cognitive Behavioral Intervention for Trauma in Schools (CBITS; Jaycox, 2003) and the related Bounce Back (Langley, Gonzalez, Sugar, Solis, & Jaycox, 2015) interventions are group interventions for students experiencing traumatic stressors that impact their emotional and behavioral well-being. Students who are trauma-

exposed often experience heightened emotions and lower rates of trust and belonging in school (Delaney-Black et al., 2002). While CBITS is primarily for middle and high school students, Bounce Back is designed for elementary students. Both interventions are grounded in the principles of cognitive behavior therapy and designed to reduce symptoms of emotional stress, anxiety/depression, and behavioral problems and to improve coping skills and academic engagement to produce better grades, attendance, and achievement.

Performance-Based Interventions Performance-based interventions are intended for students with social, emotional, and behavioral problems who possess the skills and behaviors to meet the demands of the social and academic environment, but they are insufficiently supported and motivated to use the skills and behaviors they possess. Most students with low affective engagement are insufficiently motivated to exhibit desired, engaged behavior due to relationship problems (Furrer, Skinner, & Pitzer, 2014; Quin, 2017). As a result, for these particular students, evidence-based interventions that focus specifically on leveraging adult attention and relationship practices are a good fit. Encouraging and supporting students to feel more connected, respected, and valued in order to motivate them to exhibit the skills and behaviors they already possess (e.g., reading, writing, showing up to class on time, turning in work, staying on-task) are particularly well-suited as Tier 2 interventions for students with low affective engagement.

Check & Connect Check & Connect (Chap. 1) is a popular evidence-based intervention that involves a designated mentor working with a student to improve engagement in school (Christenson et al., 2008). Indeed, much of the work on conceptualizing engagement as a critical construct in schools was born out of research on Check & Connect (Christenson et al., 2008). At its core, Check & Connect focuses on increasing student engagement via a close, secure, trusting relationship with a mentor who encourages the student to make meaningful changes to increase the student's social and academic success. Mentors are trained in the systematic use of data to design personalized "connect" interventions. Check & Connect has four components that distinguish it from other mentor-based interventions: (1) assignment of mentor who works with students and families for a minimum of 2 years; (2) ongoing data checks to collect student-specific information on school adjustment, behavior, and educational progress; (3) delivery of timely interventions based on data to promote student engagement in school overall and specific learning environments; and (4) establishment of a trusting partnership with families to facilitate two-way communication (Christenson et al., 2008). Check & Connect emphasizes developing a healthy student-mentor relationship grounded in trust and mutual respect to promote affective engagement; in addition, Check & Connect is amenable to other timely interventions that help the program adapt to students' needs. For example, one timely intervention could be focused on improving a relationship with a given teacher to improve sense of belonging and connection to a particular learning environment because data indicate the student is regularly skipping that class and the student reports feeling like the teachers does not want them in the class. Another example of a timely intervention targeting affective engagement could be

on developing the capacity to manage boredom and frustration with learning new material in class, as disruptive classroom behavior has resulted in numerous office discipline referrals. Check & Connect has been linked to a number of favorable outcomes including decreases in truancy, tardies, behavior referrals, and dropout rates and increases in attendance, persistence in school, credits accrued, and school completion (Anderson, Christenson, Sinclair, & Lehr, 2004; Sinclair, Christenson, Evelo, & Hurley, 1998; Sinclair, Christenson, & Thurlow, 2005). In all of the cases, improvements in affective engagement are hypothesized to be a critical mediating variable through which Check & Connect exerts its influence on more objective, observable school-relevant outcomes.

Check in/Check-out (CICO) CICO (Chap. 11) is intended for use with students with mild to moderate problem behavior, who demonstrate a need for intervention beyond Tier 1 supports alone. CICO is designed with the notion that students who do not respond to Tier 1 supports may need additional, structured interactions with a positive adult mentor or coach. This adult mentor provides increased access to positive interactions and reinforcing consequences contingent upon desired observable and measurable behavior (Maggin, Zurheide, Pickett, & Baillie, 2015). CICO includes the following components: (a) morning check-in with the mentor to receive positive attention and encouragement to exhibit desired behaviors; (b) completion of a daily behavior point card (DBPC) that is given to the student during the morning check-in and provides school personnel with a means for monitoring the extent to which students are meeting the behavioral expectations; (c) structured teacher feedback that is provided to students throughout the school day at regularly scheduled intervals and is delivered through both verbal interaction and point card ratings; (d) the afternoon check-out, during which the student's point card is reviewed to determine the percentage of points earned with a reward such as verbal praise or a small tangible item delivered contingent on whether the student met their goal; and (e) a home component in which the student brings their point card home to be signed by a parent and returned the following day (Crone, Hawken, & Horner, 2010).

Several studies have demonstrated evidence indicating that CICO decreases problem behavior in students (Maggin et al., 2015; Wolfe et al., 2016). For example, a series of single-case experimental studies have found that CICO results in observable and meaningful reductions in problem behavior among elementary students (McDaniel & Bruhn, 2016; Miller, Dufrene, Sterling, Olmi, & Bachmayer, 2015), as well as decreases in internalizing behaviors (Hunter, Chenier, & Gresham, 2014). Other studies have adapted CICO by adding a peer-mediated component (Dart et al., 2015) and content to reduce internalizing problems (Cook, Xie, et al., 2015; Dart et al., 2015). These previous successful adaptations of CICO demonstrate the promise of structured mentoring interventions that involve attaching students to caring adults who provide positive interactions and reinforce consequences.

Positive Peer Reporting Positive peer reporting (PPR) is an intervention designed to increase the social involvement of socially rejected and/or withdrawn students (Ervin, Miller, & Friman, 1996). Largely, PPR is designed to improve student sense

of belonging with others in school as a way of increasing social standing and greater participation in classroom-based social activities. The aim of PPR is to alter the peer ecology to be more supportive by encouraging and incentivizing students to positively recognize and acknowledge particular peers. It places an emphasis on peers paying attention to one another in a prosocial manner to identify things a particular peer said, did, or achieved in order to recognize the peer. Research demonstrates that not only the recipients of the positive peer messages benefit by feeling a greater sense of connection and reporting more positive interactions with others, but there also appears to be a benefit to those giving the positive peer reports.

Considerations for Intervention

There are a few caveats that should be touched upon when contemplating what schools can do to improve student affective engagement. The first caveat is that schools must employ a data-driven decision-making process that emphasizes the selection of programs and practices that possess evidentiary support. The selection of evidence-based practices is not only critical to increase the probability of producing desired outcomes, but it also can serve as a preventative measure against potential educational waste (e.g., waste of time, money, and resources), iatrogenic effects (i.e., good intentions produce harm; e.g., Dishion, Kim, & Tein, 2015, and counterproductive efforts (Kazdin & Blasé, 2011)). The other caveat, and arguably most critical one, is to address what has been termed the implementation gap, which reflects the discrepancy between what research findings indicate works and what actually gets adopted and delivered in everyday school settings (Owens et al., 2014). Despite the established value of evidence-based practices to promote affective engagement narrowly and student engagement in school more broadly, their routine use in typical education contexts is limited, reducing their likely impact on student outcomes (Evans & Weist, 2004; Wilson, Gottfredson, & Najaka, 2001). Even when evidence-based practices (EBP) are selected for adoption in school settings, they are infrequently implemented with fidelity or sustained over time. This is concerning given the demonstrated link between implementation quality and student outcomes (Durlak & DuPre, 2008; Durlak & Weissberg, 2011). Thus, what is needed is for schools to systematically approach the exploration, preparation, active implementation, and sustainment of programs and practices if they want to produce lasting improvements in student affective engagement as a critical variable linked to academic success and a healthy, well-functioning school environment.

Conclusion

There is wide consensus that affective engagement represents a malleable dimension of the broader conceptualization of student engagement that is amenable to prevention and intervention efforts. Effective affective engagement prevention and inter-

vention practices target specific indicators of affective engagement (e.g., relationships that enhance school connectedness), which ultimately reflect the emotion reaction students have in response to their experiences in school, and how they would communicate to others about how they feel about being in school. This chapter discussed a range of universal supports and targeted interventions schools can adopt and deliver to promote affective engagement as a critical student-level variable linked to positive academic outcomes. Given that affective engagement is a multidimensional construct unto itself, integrated approaches at both the universal (Tier 1) and targeted (Tier 2) level are warranted to address the different factors that drive high levels of student affective engagement. Research should continue to explore affective engagement as a critical target for prevention and intervention, as well as a key mediator through which prevention and intervention practices influence more objectively measured student outcomes, such as attendance, grades, and behavior.

Appendix

Instructions You will only have time to reflect on *one classroom* during this session. Consider choosing the class that you are currently struggling with the most, but the decision is up to you.

Use a copy of your class roster (or use the blank table on the next page) and the below definitions as a guide. *First, identify all the students who are in the Maintain Phase (write "M" next to these names).* With the remaining students, identify whether they are in Establish (write "E" next to these names) or Restore (write "R" next to these names).

Students who are in Establish or Restore Phases are considered to be in an undesirable relationship state because they currently do not have a secure relationship with you. The aim is to intentionally interact with students in the Establish and Restore Phases so all students can move to the Maintain Phase.

Throughout the reflection, *you should focus on students who are in the Establish and Restore Phases and identify strategies to move them to the Maintain Phase.* Steps 4 and 5 of the reflection allow you to build a concrete action and accountability plan to assist you in reaching this goal, so please make sure to leave time for these crucial steps.

Establish (E): A secure relationship, characterized by trust, respect, and connection, has *not yet been established*, and there is a need to engage in individual, personalized interactions to develop a positive relationship.
Maintain (M): The relationship with the student is *secure and characterized by a sense of trust, respect, and connection*.
Restore (R): The relationship with the student has been *strained/harmed due to a negative interaction*, and there is a need to restore the relationship back to its previous state through a skillful interaction.

BLANK ROSTER REFLECTION [only use this form if you do NOT have your class roster]

Student Full Name	Establish	Maintain	Restore

References

Adelman, H. S., & Taylor, L. (2006). *The school leader's guide to student learning supports: New directions for addressing barriers to learning*. Thousand Oaks, CA: Corwin Press.

Allday, R. A., Hinkson-Lee, K., Hudson, T., Neilsen-Gatti, S., Kleinke, A., & Russel, C. S. (2012). Training general educators to increase behavior-specific praise: Effects on students with EBD. *Behavioral Disorders, 37*(2), 87–98.

Allen, J. P., Pianta, R. C., Gregory, A., Mikami, A. Y., & Lun, J. (2011). An interaction-based approach to enhancing secondary school instruction and student achievement. *Science, 333*(6045), 1034–1037.

Anderson, A. R., Christenson, S. L., Sinclair, M. F., & Lehr, C. A. (2004). Check & Connect: The importance of relationships for promoting engagement with school. *Journal of School Psychology, 42*(2), 95–113.

Anfara, V. A., Jr., Evans, K. R., & Lester, J. N. (2013). Restorative justice in education: What we know so far. *Middle School Journal, 44*(5), 57–63.

Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools, 45*(5), 369–386.

Appleton, J. J., Christenson, S. L., Kim, D., & Reschly, A. L. (2006). Measuring cognitive and psychological engagement: Validation of the Student Engagement Instrument. *Journal of School Psychology, 44*(5), 427–445.

Baker, J. A. (2006). Contributions of teacher–child relationships to positive school adjustment during elementary school. *Journal of School Psychology, 44*(3), 211–229.

Bandura, A. (1969). *Principles of behavior modification*. New York, NY: Holt, Rinehart and Winston.

Barrett, P. (2010). *My friends-youth resilience program: Group leaders' manual for youth*. Brisbane, QLD: Pathways Health and Research Centre.

Bierman, K. L. (2011). The promise and potential of studying the "invisible hand" of teacher influence on peer relations and student outcomes: A commentary. *Journal of Applied Developmental Psychology, 32*(5), 297–303.

Borum, R., Cornell, D. G., Modzeleski, W., & Jimerson, S. R. (2010). What can be done about school shootings? A review of the evidence. *Educational Researcher, 39*(1), 27–37.

Bottiani, J. H., Bradshaw, C. P., & Mendelson, T. (2014). Promoting an equitable and supportive school climate in high schools: The role of school organizational health and staff burnout. *Journal of School Psychology, 52*(6), 567–582.

Brackett, M. A., Caruso, D. R., & Stern, R. (2006). *Anchors of emotional intelligence*. New Haven, CT: Emotionally Intelligent Schools, LLC.

Brackett, M. A., & Rivers, S. E. (2014). Transforming students' lives with social and emotional learning. In R. Pekrun & L. Linnenbrink-Garcia (Eds.), *International handbook of emotions in education* (pp. 368–388). New York, NY: Routledge.

Bradshaw, C. P., Mitchell, M. M., & Leaf, P. J. (2010). Examining the effects of schoolwide positive behavioral interventions and supports on student outcomes: Results from a randomized controlled effectiveness trial in elementary schools. *Journal of Positive Behavior Interventions, 12*(3), 133–148.

Bradshaw, C. P., Waasdorp, T. E., & Leaf, P. J. (2012). Effects of school-wide positive behavioral interventions and supports on child behavior problems. *Pediatrics, 130*(5), e1136–e1145.

Brophy, J. E., & Good, T. L. (1974). *Teacher-student relationships: Causes and consequences*. New York, NY: Holt, Rinehart & Winston.

Brown, E. C., Low, S., Smith, B. H., & Haggerty, K. P. (2011). Outcomes from a school-randomized controlled trial of STEPS to RESPECT: A bullying prevention program. *School Psychology Review, 40*(3), 423–443.

Cairns, L. G. (1987). Behavior problems. In M. J. Dunkin (Ed.), *International encyclopedia of teaching and teacher education* (pp. 446–452). Oxford, UK: Pergamon Press.

Cameron, L., & Thorsborne, M. (2001). Restorative justice and school discipline: Mutually exclusive? In J. Braithwaite & H. Strang (Eds.), *Restorative justice and civil society* (pp. 180–194). Cambridge, UK: Cambridge University Press.

Carter, P. L., Skiba, R., Arredondo, M. I., & Pollock, M. (2017). You can't fix what you don't look at: Acknowledging race in addressing racial discipline disparities. *Urban Education, 52*(2), 207–235.

Christenson, S. L., Reschly, A. L., & Wylie, C. (Eds.). (2012). *Handbook of research on student engagement*. New York, NY: Springer Science & Business Media.

Christenson, S. L., Thurlow, M. L., Sinclair, M. F., Lehr, C. A., Kaibel, C. M., Reschly, A. L., … Pohl, A. (2008). *Check & Connect: A comprehensive student engagement intervention manual*. Minneapolis, MN: Institute on Community Integration (NJ3).

Cohen, J., McCabe, L., Michelli, N. M., & Pickeral, T. (2009). School climate: Research, policy, practice, and teacher education. *Teachers College Record, 111*(1), 180–213.

Cook, C. R., Coco, S., Zhang, Y., Fiat, A., Duong, M., Renshaw, T., Long, A.C., & Frank, S. (2018). Cultivating positive teacher-student relationships: Evaluation of the establish, maintain, and restore (EMR) method. *School Psychology Review, 47*, 226–243.

Cook, C. R., Duong, M. T., McIntosh, K., Fiat, A. E., Larson, M., Pullmann, M. D., & McGinnis, J. (2018). Addressing discipline disparities for Black male students: Linking malleable root causes to feasible and effective practices. *School Psychology Review, 47*(2), 135–152.

Cook, C. R., Fiat, A., Larson, M., Daikos, C., Slemrod, T., Holland, E. A., … Renshaw, T. (2018). Positive greetings at the door: Evaluation of a low-cost, high-yield proactive classroom management strategy. *Journal of Positive Behavior Interventions, 20*(3), 149–159. https://doi.org/10.1177/1098300717753831

Cook, C. R., Frye, M., Slemrod, T., Lyon, A. R., Renshaw, T. L., & Zhang, Y. (2015). An integrated approach to universal prevention: Independent and combined effects of PBIS and SEL on youths' mental health. *School Psychology Quarterly, 30*(2), 166–183.

Cook, C. R., Grady, E. A., Long, A. C., Renshaw, T., Codding, R. S., Fiat, A., & Larson, M. (2017). Evaluating the impact of increasing general education teachers' ratio of positive-to-negative interactions on students' classroom behavior. *Journal of Positive Behavior Interventions, 19*(2), 67–77.

Cook, C. R., Williams, K. R., Guerra, N. G., Kim, T. E., & Sadek, S. (2010). Predictors of bullying and victimization in childhood and adolescence: A meta-analytic investigation. *School Psychology Quarterly, 25*(2), 65–83.

Cook, C. R., Xie, S. R., Earl, R. K., Lyon, A. R., Dart, E., & Zhang, Y. (2015). Evaluation of the courage and confidence mentor program as a tier 2 intervention for middle school students with identified internalizing problems. *School Mental Health, 7*(2), 132–146.

Cornell, D. (2014). *The Authoritative School Climate Survey and the School Climate Bullying Survey: Description and research summary*. Charlottesville, VA: University of Virginia, Virginia Youth Violence Project.

Cornell, D., Sheras, P., Gregory, A., & Fan, X. (2009). A retrospective study of school safety conditions in high schools using the Virginia threat assessment guidelines versus alternative approaches. *School Psychology Quarterly, 24*(2), 119–129.

Cornell, D. G., Allen, K., & Fan, X. (2012). A randomized controlled study of the Virginia student threat assessment guidelines in kindergarten through grade 12. *School Psychology Review, 41*(1), 100.

Cornell, D. G., & Sheras, P. L. (2006). *Guidelines for responding to student threats of violence*. Boston, MA: Sopris West Educational Services.

Crone, D. A., Hawken, L. S., & Horner, R. H. (2010). *Responding to problem behavior in schools: The Behavior Education Program*. New York, NY/London, UK: Guilford Press.

Crosnoe, R., Johnson, M. K., & Elder, G. H., Jr. (2004). Intergenerational bonding in school: The behavioral and contextual correlates of student-teacher relationships. *Sociology of Education, 77*(1), 60–81.

Dart, E. H., Furlow, C. M., Collins, T. A., Brewer, E., Gresham, F. M., & Chenier, K. H. (2015). Peer-mediated Check-In/Check-Out for students at-risk for internalizing disorders. *School Psychology Quarterly, 30*(2), 229–243.

Delaney-Black, V., Covington, C., Ondersma, S. J., Nordstrom-Klee, B., Templin, T., Ager, J., … Sokol, R. J. (2002). Violence exposure, trauma, and IQ and/or reading deficits among urban children. *Archives of Pediatrics & Adolescent Medicine, 156*(3), 280–285.

Devine, J. F., & Cohen, J. (2007). *Making your school safe: Strategies to protect children and promote learning*. New York, NY: Teachers College Press.

Dishion, T. J., Kim, H., & Tein, J. Y. (2015). Friendship and adolescent problem behavior: Deviancy training and coercive joining as dynamic mediators. In T. P. Beauchaine & S. P. Hinshaw (Eds.), *The Oxford handbook of externalizing spectrum disorders* (pp. 303–311). Oxford, UK: Oxford University Press.

Dolan, R. J. (2002). Emotion, cognition, and behavior. *Science, 298*(5596), 1191–1194.

Domitrovich, C. E., Bradshaw, C. P., Greenberg, M. T., Embry, D., Poduska, J. M., & Ialongo, N. S. (2010). Integrated models of school-based prevention: Logic and theory. *Psychology in the Schools, 47*(1), 71–88.

Driscoll, K. C., & Pianta, R. C. (2010). Banking time in head start: Early efficacy of an intervention designed to promote supportive teacher–child relationships. *Early Education and Development, 21*(1), 38–64.

Duckworth, A. L., & Yeager, D. S. (2015). Measurement matters: Assessing personal qualities other than cognitive ability for educational purposes. *Educational Researcher, 44*(4), 237–251.

Duong, M. T., Pullmann, M. D., Buntain-Ricklefs, J., Lee, K., Benjamin, K. S., Nguyen, L., & Cook, C. R. (2019). Brief teacher training improves student behavior and student–teacher relationships in middle school. *School Psychology Quarterly, 34*(2), 212–221.

Durlak, J. A., & DuPre, E. P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology, 41*(3–4), 327–350.

Durlak, J. A., & Weissberg, R. P. (2011). Promoting social and emotional development is an essential part of students' education. *Human Development, 54*(1), 1–3.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*(1), 405–432.

Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., & Mac Iver, D. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and in families. *American Psychologist, 48*(2), 90–101.

Ervin, R. A., Miller, P. M., & Friman, P. C. (1996). Feed the hungry bee: Using positive peer reports to improve the social interactions and acceptance of a socially rejected girl in residential care. *Journal of Applied Behavior Analysis, 29*(2), 251–253.

Evans, S. W., & Weist, M. D. (2004). Commentary: Implementing empirically supported treatments in the schools: What are we asking? *Clinical Child and Family Psychology Review, 7*(4), 263–267.

Every Student Succeeds Act, 20 U.S.C. §§ 6301 et seq. (2015).

Finn, J. D., & Rock, D. A. (1997). Academic success among students at risk for school failure. *Journal of Applied Psychology, 82*(2), 221–234.

Flora, S. R. (2000). Praise's magic reinforcement ratio: Five to one gets the job done. *The Behavior Analyst Today, 1*(4), 64.

Fowler, L. T. S., Banks, T. I., Anhalt, K., Der, H. H., & Kalis, T. (2008). The association between externalizing behavior problems, teacher-student relationship quality, and academic performance in young urban learners. *Behavioral Disorders, 33*, 167–183.

Fredricks, J., McColskey, W., Meli, J., Mordica, J., Montrosse, B., & Mooney, K. (2011). *Measuring student engagement in upper elementary through high school: A description of 21 instruments. Issues & answers. REL 2011-No. 098*. Greensboro, NC: Regional Educational Laboratory Southeast.

Fredricks, J. A., & McColskey, W. (2012). The measurement of student engagement: A comparative analysis of various methods and student self-report instruments. In *Handbook of research on student engagement* (pp. 763–782). Boston, MA: Springer.

Fredrickson, B. (2001). The role of positive emotion in positive psychology: The broaden-and-build theory of positive emotion. *American Psychologist, 56*, 218–226.

Fredrickson, B. L. (2013). Positive emotions broaden and build. *Advances in Experimental Social Psychology, 47*(1), 1–53.

Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological Science, 13*(2), 172–175.

Freedman, B. J., Rosenthal, L., Donahoe, C. P., Jr., Schlundt, D. G., & McFall, R. M. (1978). A social-behavioral analysis of skill deficits in delinquent and nondelinquent adolescent boys. *Journal of Consulting and Clinical Psychology, 46*(6), 1448–1462.

Furlong, M. J., You, S., Renshaw, T. L., Smith, D. C., & O'Malley, M. D. (2014). Preliminary development and validation of the Social and Emotional Health Survey for secondary school students. *Social Indicators Research, 117*(3), 1011–1032.

Furrer, C. J., Skinner, E. A., & Pitzer, J. R. (2014). The influence of teacher and peer relationships on students' classroom engagement and everyday resilience. In D. J. Shernoff & J. Bempechat (Eds.), *National Society for the Study of Education yearbook. Engaging youth in schools: Empirically-based models to guide future innovations* (Vol. 113, pp. 101–123). New York, NY: Columbia University, Teachers College.

Glick, B., & Goldstein, A. P. (1987). Aggression replacement training. *Journal of Counseling & Development, 65*(7), 356–362.

Goodenow, C. (1991, April). *The sense of belonging and its relationship to academic motivation among pre- and early adolescent students*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL. (ERIC Document Reproduction Service No. ED335151).

Gottman, J. M., & Levenson, R. W. (2000). The timing of divorce: Predicting when a couple will divorce over a 14-year period. *Journal of Marriage and Family, 62*(3), 737–745.

Green, O. H. (1992). Positive and negative emotions. In *The emotions* (pp. 171–189). Dordrecht, the Netherlands: Springer.

Greenberg, M. T., & Abenavoli, R. (2017). Universal interventions: Fully exploring their impacts and potential to produce population-level impacts. *Journal of Research on Educational Effectiveness, 10*(1), 40–67.

Gresham, F. M. (1981). Social skills training with handicapped children: A review. *Review of Educational Research, 51*(1), 139–176.

Gresham, F. M. (1986). Conceptual and definitional issues in the assessment of children's social skills: Implications for classifications and training. *Journal of Clinical Child Psychology, 15*(1), 3–15.

Gresham, F. M., Van, M. B., & Cook, C. R. (2006). Social skills training for teaching replacement behaviors: Remediating acquisition deficits in at-risk students. *Behavioral Disorders, 31*(4), 363–377.

Hamre, B. K., & Pianta, R. C. (2001). Early teacher–child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development, 72*(2), 625–638.

Hawken, L. S., Adolphson, S. L., Macleod, K. S., & Schumann, J. (2009). Secondary-tier interventions and supports. In G. D. Sailor, G. Sugai, & R. Horner (Eds.), *Handbook of positive behavior support* (pp. 395–420). New York, NY: Springer.

Heckman, J. J., & Kautz, T. (2012). Hard evidence on soft skills. *Labour Economics, 19*(4), 451–464.

Heckman, J. J., & Masterov, D. V. (2007). The productivity argument for investing in young children. *Applied Economic Perspectives and Policy, 29*(3), 446–493.

Henry, K. L., & Huizinga, D. H. (2007). School-related risk and protective factors associated with truancy among urban youth placed at risk. *The Journal of Primary Prevention, 28*(6), 505–519.

Hidi, S., & Harackiewicz, J. M. (2000). Motivating the academically unmotivated: A critical issue for the 21st century. *Review of Educational Research, 70*(2), 151–179.

Horner, R. H., & Sugai, G. (2015). School-Wide PBIS: An example of applied behavior analysis implemented at a scale of social importance. *Behavior Analysis in Practice, 8*(1), 80–85.

Horner, R. H., Sugai, G., Smolkowski, K., Eber, L., Nakasato, J., Todd, A. W., & Esperanza, J. (2009). A randomized, wait-list controlled effectiveness trial assessing School-Wide Positive Behavior Support in elementary schools. *Journal of Positive Behavior Interventions, 11*(3), 133–144.

Hughes, J., & Kwok, O. M. (2007). Influence of student-teacher and parent-teacher relationships on lower achieving readers' engagement and achievement in the primary grades. *Journal of Educational Psychology, 99*(1), 39–51.

Hunter, K. K., Chenier, J. S., & Gresham, F. M. (2014). Evaluation of Check In/Check Out for students with internalizing behavior problems. *Journal of Emotional and Behavioral Disorders, 22*(3), 135–148.

Individuals with Disabilities Education Act, 20 U.S.C. § 1400 (2004).

Jaycox, L. (2003). *Cognitive-behavioral intervention for trauma in schools*. Longmont, CO: Sopris West Educational Services.

Jenkins, J. M., & Oatley, K. (1996). Emotional episodes and emotionality through the life span. In C. Magai & S. H. McFadden (Eds.), *Handbook of emotion, adult development, and aging* (pp. 421–442). San Diego, CA: Academic Press.

Kazdin, A. E., & Blasé, S. L. (2011). Rebooting psychotherapy research and practice to reduce the burden of mental illness. *Perspectives on Psychological Science, 6*(1), 21–37.

Kendall, P. C., & Hedtke, K. A. (2006). *Cognitive-behavioral therapy for anxious youth: Therapist manual*. Ardmore, PA: Workbook Publishing.

Kring, A. M., & Sloan, D. M. (Eds.). (2009). *Emotion regulation and psychopathology: A transdiagnostic approach to etiology and treatment*. New York, NY: Guilford Press.

Kutash, K., Duchnowski, A. J., & Lynn, N. (2006). *School-based mental health: An empirical guide for decision-makers*. Tampa, FL: University of South Florida.

Langley, A. K., Gonzalez, A., Sugar, C. A., Solis, D., & Jaycox, L. (2015). Bounce back: Effectiveness of an elementary school-based intervention for multicultural children exposed to traumatic events. *Journal of Consulting and Clinical Psychology, 83*(5), 853–865.

LaRusso, M. D., Romer, D., & Selman, R. L. (2008). Teachers as builders of respectful school climates: Implications for adolescent drug use norms and depressive symptoms in high school. *Journal of Youth and Adolescence, 37*(4), 386.

Lazarus, R. S. (1991). *Emotion and adaptation*. New York, NY: Oxford University Press on Demand.

Levenson, R. W. (1994). Human emotion: A functional view. In *The nature of emotion: Fundamental questions* (Vol. 1, pp. 123–126). New York, NY: Oxford University Press.

Levin, H. M. (2012). More than just test scores. *Prospects, 42*(3), 269–284.

Lochman, J. E., & Wells, K. C. (2002a). Contextual social–cognitive mediators and child outcome: A test of the theoretical model in the Coping Power Program. *Development and Psychopathology, 14*(4), 945–967.

Lochman, J. E., & Wells, K. C. (2002b). The Coping Power Program at the middle-school transition: Universal and indicated prevention effects. *Psychology of Addictive Behaviors, 16*(4S), S40–S54.

Maag, J. W. (2001). Rewarded by punishment: Reflections on the disuse of positive reinforcement in schools. *Exceptional Children, 67*(2), 173–186.

Maggin, D. M., Zurheide, J., Pickett, K. C., & Baillie, S. J. (2015). A systematic evidence review of the Check-In/Check-Out program for reducing student challenging behaviors. *Journal of Positive Behavior Interventions, 17*(4), 197–208.

Mattison, E., & Aber, M. S. (2007). Closing the achievement gap: The association of racial climate with achievement and behavioral outcomes. *American Journal of Community Psychology, 40*(1–2), 1–12.

McDaniel, S. C., & Bruhn, A. L. (2016). Using a changing-criterion design to evaluate the effects of Check-In/Check-Out with goal modification. *Journal of Positive Behavior Interventions, 18*(4), 197–208.

Miller, F. G., Cook, C. R., & Zhang, Y. (2018). Initial development and evaluation of the student intervention matching (SIM) form. *Journal of School Psychology, 66*, 11–24.

Miller, L. M., Dufrene, B. A., Sterling, H. E., Olmi, D. J., & Bachmayer, E. (2015). The effects of Check-In/Check-Out on problem behavior and academic engagement in elementary school students. *Journal of Positive Behavior Interventions, 17*(1), 28–38.

Moote, G. T., Jr., Smyth, N. J., & Wodarski, J. S. (1999). Social skills training with youth in school settings: A review. *Research on Social Work Practice, 9*(4), 427–465.

National Research Council. (2013). *Education for life and work: Developing transferable knowledge and skills in the 21st century*. Washington, DC: National Academies Press.

National Research Council, Institute of Medicine. (2009). Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities. In *Board on children, youth, and families, division of behavioral and social sciences and education*. Washington, DC: The National Academies Press.

Nekvasil, E. K., & Cornell, D. G. (2012). Student reports of peer threats of violence: Prevalence and outcomes. *Journal of School Violence, 11*(4), 357–375.

Nekvasil, E. K., & Cornell, D. G. (2015). Student threat assessment associated with safety in middle schools. *Journal of Threat Assessment and Management, 2*(2), 98.

Nock, M. K., & Mendes, W. B. (2008). Physiological arousal, distress tolerance, and social problem-solving deficits among adolescent self-injurers. *Journal of Consulting and Clinical Psychology, 76*(1), 28–38.

Okonofua, J. A., Walton, G. M., & Eberhardt, J. L. (2016). A vicious cycle: A social–psychological account of extreme racial disparities in school discipline. *Perspectives on Psychological Science, 11*(3), 381–398.

Olweus, D., & Limber, S. P. (2010). Bullying in school: Evaluation and dissemination of the Olweus Bullying Prevention Program. *American Journal of Orthopsychiatry, 80*(1), 124–134.

Osher, D., Kidron, Y., Brackett, M., Dymnicki, A., Jones, S., & Weissberg, R. P. (2016). Advancing the science and practice of social and emotional learning: Looking back and moving forward. *Review of Research in Education, 40*(1), 644–681.

Owens, J. S., Lyon, A. R., Brandt, N. E., Warner, C. M., Nadeem, E., Spiel, C., & Wagner, M. (2014). Implementation science in school mental health: Key constructs in a developing research agenda. *School Mental Health, 6*(2), 99–111.

Panorama Education. (2018). *Social-emotional learning panorama assessment and playbook*. Retrieved July 29, 2018, from https://www.panoramaed.com/social-emotional-learning

Pianta, R. C. (2001). *STRS: Student-Teacher Relationship Scale: Professional manual*. Lutz, FL: Psychological Assessment Resources.

Proctor, R. W., & Dutta, A. (1995). *Skill acquisition and human performance*. Thousand Oaks, CA: Sage Publications, Inc..

Quin, D. (2017). Longitudinal and contextual associations between teacher–student relationships and student engagement: A systematic review. *Review of Educational Research, 87*(2), 345–387.

Renshaw, T. L., Long, A. C., & Cook, C. R. (2015). Assessing adolescents' positive psychological functioning at school: Development and validation of the Student Subjective Wellbeing Questionnaire. *School Psychology Quarterly, 30*(4), 534–552.

Reschly, A. L., & Christenson, S. L. (2012). Jingle, jangle, and conceptual haziness: Evolution and future directions of the engagement construct. In *Handbook of research on student engagement* (pp. 3–19). Boston, MA: Springer US.

Ruus, V. R., Veisson, M., Leino, M., Ots, L., Pallas, L., Sarv, E. S., & Veisson, A. (2007). Students' well-being, coping, academic success, and school climate. *Social Behavior and Personality: An International Journal, 35*(7), 919–936.

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality, 9*(3), 185–211.

Satcher, D. (2000). Mental health: A report of the surgeon general—executive summary. *Professional Psychology: Research and Practice, 31*(1), 5–13.

Scherer, K. R. (2001). Appraisal considered as a process of multilevel sequential checking. In K. R. Scherer, A. Schorr, & T. Johnstone (Eds.), *Appraisal processes in emotion: Theory, methods, research* (pp. 92–120). New York, NY: Oxford University Press.

Shochet, I. M., Dadds, M. R., Ham, D., & Montague, R. (2006). School connectedness is an under-emphasized parameter in adolescent mental health: Results of a community prediction study. *Journal of Clinical Child & Adolescent Psychology, 35*(2), 170–179.

Sinclair, M. F., Christenson, S. L., Evelo, D. L., & Hurley, C. M. (1998). Dropout prevention for youth with disabilities: Efficacy of a sustained school engagement procedure. *Exceptional Children, 65*(1), 7–21.

Sinclair, M. F., Christenson, S. L., & Thurlow, M. L. (2005). Promoting school completion of urban secondary youth with emotional or behavioral disabilities. *Exceptional Children, 71*(4), 465–482.

Spectrum K12 School Solutions. (2011). *Response to Intervention Adoption Survey 2011*. Retrieved June 5, 2019, from http://www.spectrumk12.com/rti/the_rti_corner/rti_adoption_report

Steinberg, L. (2001). We know some things: Parent–adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence, 11*(1), 1–19.

Sue, D. W., Capodilupo, C. M., & Holder, A. M. B. (2008). Racial microaggressions in the life experience of Black Americans. *Professional Psychology: Research and Practice, 39*, 329–336.

Sugai, G., & Horner, R. (2002). The evolution of discipline practices: School-Wide Positive Behavior Supports. *Child & Family Behavior Therapy, 24*(1–2), 23–50.

Sugai, G., & Horner, R. H. (2010). School-Wide Positive Behavior Support: Establishing a continuum of evidence based practices. *Journal of Evidence-Based Practices for Schools, 11*(1), 62–83.

Surber, C. F. (1984). Issues in using quantitative rating scales in developmental research. *Psychological Bulletin, 95*(2), 226–246.

Ttofi, M. M., Farrington, D. P., Lösel, F., & Loeber, R. (2011). The predictive efficiency of school bullying versus later offending: A systematic/meta-analytic review of longitudinal studies. *Criminal Behaviour and Mental Health, 21*(2), 80–89.

United States. President's New Freedom Commission on Mental Health. (2003). *Achieving the promise: Transforming mental health care in America*. Rockville, MD: President's New Freedom Commission on Mental Health.

Voelkl, K. E. (1997). Identification with school. *American Journal of Education, 105*(3), 294–318.

Voight, A., Hanson, T., O'Malley, M., & Adekanye, L. (2015). The racial school climate gap: Within-school disparities in students' experiences of safety, support, and connectedness. *American Journal of Community Psychology, 56*(3–4), 252–267.

Wagner, M., & Davis, M. (2006). How are we preparing students with emotional disturbances for the transition to young adulthood? Findings from the National Longitudinal Transition Study—2. *Journal of Emotional and Behavioral Disorders, 14*(2), 86–98.

Wang, M. T., & Degol, J. L. (2016). School climate: A review of the construct, measurement, and impact on student outcomes. *Educational Psychology Review, 28*(2), 315–352.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063–1070.

Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology, 90*(2), 202–209.

Williford, A. P., Maier, M. F., Downer, J. T., Pianta, R. C., & Howes, C. (2013). Understanding how children's engagement and teachers' interactions combine to predict school readiness. *Journal of Applied Developmental Psychology, 34*(6), 299–309.

Wilson, D. B., Gottfredson, D. C., & Najaka, S. S. (2001). School-based prevention of problem behaviors: A meta-analysis. *Journal of Quantitative Criminology, 17*(3), 247–272.

Wolfe, K., Pyle, D., Charlton, C. T., Sabey, C. V., Lund, E. M., & Ross, S. W. (2016). A systematic review of the empirical support for check-in check-out. *Journal of Positive Behavior Interventions, 18*(2), 74–88.

Wu, J. Y., Hughes, J. N., & Kwok, O. M. (2010). Teacher–student relationship quality type in elementary grades: Effects on trajectories for achievement and engagement. *Journal of School Psychology, 48*(5), 357–387.

Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist, 47*(4), 302–314.

Yeager, D. S., & Walton, G. M. (2011). Social-psychological interventions in education: They're not magic. *Review of Educational Research, 81*(2), 267–301.

Zins, J. E., Bloodworth, M. R., Weissberg, R. P., & Walberg, H. J. (2007). The scientific base linking social and emotional learning to school success. *Journal of Educational and Psychological Consultation, 17*(2–3), 191–210.

Chapter 13
Banking Time: A Dyadic Intervention to Improve Teacher-Student Relationships

Amanda P. Williford and Robert C. Pianta

Introduction

Supportive and sensitive teacher-student interactions and relationships are critical for children's academic and social success (Hamre, 2014; Sabol & Pianta, 2012). When a teacher establishes a warm and responsive emotional connection with a student, this increases the student's capacity to take advantage of learning opportunities (Pianta, Hamre, & Allen, 2012). Teacher-student relationships form over time through repeated interactions characterized by shared emotional engagement, teacher sensitivity and responsiveness, teacher support of children's autonomy, and low levels of conflict (Williford, Carter, & Pianta, 2016). Strong and sensitive teacher-child relationships are particularly salient resources for children who, for various reasons (e.g., low achievement, developmental delays, or the display of externalizing or internalizing behavior problems), are likely to experience the classroom setting as socially or academically challenging (Baker, Grant, & Morlock, 2008; Hamre & Pianta, 2005; O'Connor, Dearing, & Collins, 2011; Rhoad-Drogalis, Justice, Sawyer, & O'Connell, 2018). Certain children receive significantly more re-directive, corrective, and too often even negative feedback from teachers and peers during the school day (Reinke, Herman, & Newcomer, 2016; Van Acker, Grant, & Henry, 1996). When these students experience a strong relationship with a teacher, they are more likely to accept constructive feedback from their teacher without it negatively affecting their self-esteem or viewing such feedback as an attack on their character.

When students are paired with teachers who establish a positive emotional bond with them and meet their behavioral and regulatory needs in the classroom, students have increased capacity to take full advantage of what is being offered within the

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classroom and to be successful in school (Baker et al., 2008; Pianta et al., 2012). However, some students, such as those who display impulsive behavior or struggle to regulate their strong emotions, are more likely to experience relationships with their teachers marked by negativity and conflict, which results in increased problem behavior and lower achievement (Doumen et al., 2008). Having positive emotional connections to children is important to teachers as well. These relationships can be the reason teachers remain in or leave the profession—they are both the most rewarding and the most challenging aspects of teaching. For these reasons, targeting the quality of teacher-child interactions holds particular promise as an early intervention strategy. *Banking Time* (Pianta & Hamre, 2001) is a dyadic intervention intended to improve the quality of interactions between a teacher and a specific child, over time building a more positive teacher-child relationship.

Program Description

Banking Time comprises a set of practices designed for teachers to interact closely and positively with a specific student, in order to develop a strong and supportive relationship with that child (Pianta, Hamre, & Williford, 2011). *Banking Time* is adapted from parent training interventions that focus on increasing parents' sensitivity and responsiveness (e.g., Brinkmeyer & Eyberg, 2003). The reciprocal exchanges during *Banking Time* sessions influence each individual's cognitive model or schema of their relationship, creating a set of modified (more positive) expectations that guide subsequent behaviors and perceptions in the classroom (Pianta, 1999). This perspective emphasizes that the qualities of information—or *how* it is exchanged (e.g., tone of voice, contingency, reciprocity of behavior)—is more important than *what* is said or done. Thus, in *Banking Time*, teachers are highly constrained in their interactions with children in order to provide new information to the teacher and child about one another and to disrupt the cycle of expectations and behavior that result in negative teacher-child interactions and children's negative behavior in the classroom.

Essential Intervention Components

Banking Time is a set of short, dyadic sessions where the teacher and child engage in an activity chosen by the child. *Banking Time* practices involve the teacher's engagement in the child's chosen activity (i.e., teachers carefully observe the child's actions, narrate what the child is doing, label the child's emotions) while ensuring that the student leads the session (i.e., teachers limit teacher-directed practices such as choosing the activities, asking questions, giving praise, and using commands). Integral to *Banking Time* is a coaching model that supports teacher in the implemen-

tation and interpretation of the *Banking Time* strategies. Below we provide details on how to conduct a *Banking Time* session and Table 13.1 provides tips for implementation.

What Is a **Banking Time** *Session?*

Each *Banking Time* session is a one-on-one meeting between you and a child. Meetings are short in duration (about 10–15 minutes), occur regularly (3 times a week), and take place at specific locations. In each session you and the child participate together in an activity chosen by the child.

How Is **Banking Time** *Different from Typical Teacher-Student Exchanges?*

Sessions are child-driven—the child chooses the activity, leads the interaction, and guides the conversation. The teacher follows the child's lead, responds contingently to the child, and accepts the child unconditionally. Teachers refrain from reinforcing or punishing student behavior and avoid asking questions or otherwise controlling what happens during a session.

Some behavioral standards used in the classroom for a student may likely be different in a *Banking Time* session. For example, it would be acceptable for a student to *not* share markers with the teacher during a *Banking Time* session even though they would have to share them with the other students in the classroom. Additionally, students should be able to express negative emotions in ways that they may not be allowed to in the classroom. For example, if a child becomes frustrated and throws a block, the teacher would be encouraged to say something like "You threw down those blocks and look angry; the blocks seems frustrating for you" rather than something like "The classroom is not a place for throwing things; you need to pick up the blocks and take a break from playing with them."

What Do Teachers Do During a Session?

During a *Banking Time* session, the teacher (1) observes what the child is doing and feeling, (2) narrates what is observed, (3) labels the child's feelings and emotions, and (4) develops relational themes related to the session. These techniques are designed to increase the quality of the *teacher's* social-emotional skills (i.e., listening, perspective taking, empathy, compassion) to allow both the teacher and the student to be more responsive and connected to one another. Below we briefly describe the core *Banking Time* techniques.

Table 13.1 Tips for *Banking Time* implementation

Banking Time
A set of techniques designed to build positive, supportive teacher-child relationships
• Regularly scheduled 1:1 teacher-child play sessions for 10–15 minutes 3 times a week
• Quiet location, free from distractions
• Child-led (not the time to "teach" or ask questions)
• Not contingent on the child's behavior (not a reward or punishment)
Observing
Carefully watching and taking mental note of the child's behavior, words, and feelings, as well as your own thoughts and feelings
*How do I **observe**?*
• Spend a few moments watching before joining in
• Note the child's words, behavior, and feelings
• Notice the child's focus and attention
• At intervals during the session, take a few minutes to simply observe (stop, watch, and listen)
Narrating
*What is **narrating**?*
• Describing out loud what the child is doing—sportscaster
• Listening to the child's words and repeating them with slight modification—reflection
• Nonverbally, quietly imitating what the child is doing (does not need to be *exactly* what the child is doing)—imitation
Labeling
Communicating out loud the child's emotional state
*How do I **label**?*
• Pay attention to the child's verbal and nonverbal communication
• Once you have identified an emotion, reflect it back to the child in a quietly neutral way
• Label both positive and negative emotions
Relational Themes
Convey a message to a child about the importance of your relationship with him. The themes provide words to go along with the child's emotional experience during Banking Time sessions. Relational themes provide a "bridge" between sessions and classroom
*What are some example **relational themes**?*
• I can be a helper
• I am interested in you
• I am consistent
• You do things well

Banking Time	
DOs	**DON'Ts**
Preparing for a session	
• Plan a consistent meeting time	• Schedule during one of the child's favorite activities
• Create a small, private space	
• Inspect provided *Banking Time* materials, and gather additional materials individualized for the child	• Tell the child that the sessions will occur "if he behaves"
• Explain the upcoming sessions to the child	
During a session	

Table 13.1 (continued)

• Follow the child's lead • Observe the child's actions • Narrate the child's actions and words • Label the child's emotions, both positive and negative • Develop relational themes • Allow the child freedom to move between activities and toys during the session	• Direct the activity • Ask questions • Give commands • Require the child to follow game rules • Teach the child a skill • Criticize the child's behavior • Punish the child • Cut sessions short because you are busy • Stop the session for minor misbehavior
After a session	
• Discuss with the child any major misbehaviors and consequences • Complete your Session Notes and store on your Teacher Clipboard • Reflect on the *Banking Time* session • Look for opportunities to incorporate relational themes into everyday interactions • Meet with your consultant to discuss *Banking Time* techniques and any concerns	• Take away a *Banking Time* session as a punishment • Use the *Banking Time* materials box during regular play • Stop thinking about relational themes

   Observing is carefully watching and taking mental note of the child's behaviors, words, and feelings as well as your own thoughts and feelings. Taking time to "sit back" and watch allows the child to take initiative and lead the session. When teachers observe children, they should consider how the child chooses to approach the activity and whether and how the child chooses to engage the teacher.

   Narrating is describing out loud what the child is doing with an interested tone of voice. It can also include nonverbal communication with the child. When narrating it is important to maintain a neutral and interested tone. Narrating is limited to describing only what the child is doing, not teaching him a new skill or directing his actions. Teachers can narrate by using the "sportscaster" technique and simply say out loud what the child is doing. Teacher can also use reflection by listening to the child's words and repeating them with slight modifications. Finally, teachers watch what the child is doing and imitate them (e.g., if the child is drawing a house, the teacher can draw a house). Although narrating is important, it is equally important to make time for observing quietly during the session.

   Labeling is communicating out loud the child's emotional state. For example, if the student's actions indicate frustration (the child throws down a toy and says, "I can't make it work!"), the teacher would label that emotion as frustration ("You seem frustrated with that toy."). Labeling communicates to the child that the teacher is attending to the child's feelings. Students often have more difficulty communicating their negative feelings, such as anger, frustration, sadness, fear, and anxiety. Similarly, teachers sometimes have difficulty talking about children's negative emotions in a neutral manner. Being mindful to label negative emotions, in addition to

positive emotions, ensures that the student knows that they are accepted unconditionally.
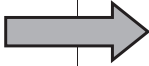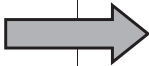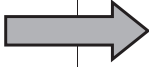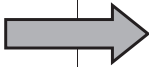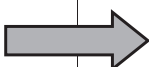
Relational themes convey a message to the student about the importance of your relationship with them. The themes provide words to go along with the child's emotional experience during the *Banking Time* sessions. They may identify a pattern that seems to be important to both you and this particular child during the interactions. Developing relational themes helps to define the importance of the relationship for the child and the teacher. The theme should be simple and consistent. When developing relational themes, teachers should consider the kind of message they want to convey to the student about the relationship. The relational themes you choose will be different for each individual child you work with, as they will reflect the needs of each particular child. For example, if a student overly asks for assistance, the teacher may choose a theme of "You do things well" and work to convey this message during *Banking Time* sessions and in the classroom. Relational themes can also be helpful in understanding the rationale behind some of the *Banking Time* techniques. For example, both observing and narrating can support the theme "I am interested in you." Table 13.2 provides some examples of *Banking Time* techniques and the relational themes they can support.

In combination, these practices help the teacher understand their student more completely—their preferences, how they approach frustrating situations, what they need from their teachers, etc. This new information increases the capacity of the teacher to respond sensitively to the student back in the classroom. Because children experience their teachers being sensitive and responsive to them during *Banking Time* sessions, they feel more connected to their teacher and more likely to be motivated to engage in the classroom and accept feedback from their teacher.

How Are Teachers Supported to Implement Banking Time*?*

Banking Time includes materials and procedures for a coach or consultant to support teachers to conduct the sessions with high quality and to extend what teachers learn back into the classroom. The coach role can be filled through a variety of school personnel including school psychologists, guidance counselors, and supervisory or mentoring teachers. Coaches help the teacher with the logistics of fitting *Banking Time* into their busy schedules, choosing materials for sessions, understanding and implementing the *Banking Time* techniques (observing, narrating, labeling, and developing relational themes), and navigating challenges that might occur when working with a particular child. Typically, coaches would meet with teachers every other week. The coach process includes analysis of the teacher's own *Banking Time* practice via reviewing video-recorded *Banking Time* sessions in order to improve the quality of implementation.

Table 13.2 *Banking Time* behaviors and relational themes

Banking Time techniques		Relational theme conveyed
Observing, narrating, and labeling	→	I am interested in you
Maintaining the session even after the child misbehaves Labeling negative emotions	→	I accept you
Stating that you are available to help if the child needs you	→	Adults can be helpers
Sticking to the *Banking Time* schedule	→	I am consistent I will be here for you
Being accepting of mistakes and allowing discussion of feelings Labeling both positive and negative emotions	→	You are safe with me
Including activities in which the child will be successful	→	You do things well
Maintaining contact and composure by using a calm, soothing voice even when the child is upset or angry Making sure that sessions are not contingent on the child's behavior	→	I will be here even when things get tough
Labeling accurately Responding to requests for help	→	I understand the signals you send me

Summary of Research

Banking Time is an intervention designed to be used across grade levels. To date, the effects of *Banking Time* on teacher and student functioning have been examined in samples of preschool children. For young children, *Banking Time* shows good promise as an effective intervention across several studies. In a nonexperimental

study of 252 teachers, use of *Banking Time* was associated with greater teacher-reported closeness with students (Driscoll, Wang, Mashburn, & Pianta, 2011). In another study, Head Start teachers assigned to *Banking Time* versus a control condition reported increased relationship closeness and improvements in children's frustration tolerance, task orientation, and reduced conduct problems (Driscoll & Pianta, 2010). More recently, in a randomized controlled trial (RCT), Vancraeyveldt et al. (2015) combined an adapted version of *Banking Time* with teacher training and behavior modification techniques, and it was effective in reducing teacher's report of children's externalizing behavior as reported by 175 teachers. Follow-up analyses indicated that positive effects were present after the first component (adapted *Banking Time*) was implemented.

A recent large-scale randomized controlled trial (RCT) tested the impact of *Banking Time* in a sample of 470 preschoolers displaying elevated externalizing behavior (Williford et al., 2017). Classrooms ($n = 173$) were randomized into one of three conditions: *Banking Time*, Child Time (a time-controlled condition where teachers spent the same amount of individual time with children but had no constraints how they interacted with children), and Business as Usual (BAU). Children in *Banking Time* and Child Time were reported by their teachers to show declines in disruptive behaviors from baseline to end of year. In terms of teacher behavior, only *Banking Time* teachers demonstrated lower negativity in their interactions with children during a structured task at postintervention. Embedded within this larger RCT, Hatfield and Williford (2017) used a quasi-experimental design to examine cortisol patterns of a subsample of children across the three conditions. Cortisol is a hormone that is critical in helping the body respond to stress. Only children who experienced *Banking Time* showed a significant decline in cortisol that children who experienced *Banking Time* experienced a reduced stress response during the preschool day that children in the other conditions did not experience.

Using three treatment conditions provided an opportunity to test the "active ingredients" in *Banking Time* that would not have been possible if we had compared *Banking Time* to BAU only. We found some positive impacts for both *Banking Time* and Child Time. To reduce children's display of negative behavior, teachers may not need to dedicate as much focus on the specific *Banking Time* strategies and, instead, receive support to interact with children positively in activities that are enjoyable for children and teachers. However, we also found unique positive findings to support the use of *Banking Time* over and above spending increased time with the child. We suspect that the focus of *Banking Time* to unconditionally accept the child may be particularly important for a child to be able to experience the teacher and the classroom as safe and secure. These results speak to the need for additional research that more comprehensively and precisely measures both the targeted child outcomes and also the processes that affect them.

We have also examined *Banking Time* implementation to learn more about the components of the intervention that may contribute to positive intervention effects. Williford, Wolcott, Whittaker, and LoCasale-Crouch (2015) examined implementation of *Banking Time* and found adequate levels of dosage and quality across the intervention trial. On average, teachers regularly submitted videos to and met with

their consultants. Teachers also used expected *Banking Time* practices effectively, maintained child-led sessions, and limited teacher-directed practices. In addition, as rated by their consultants, teachers' openness to the intervention and involvement during their consultancy suggested that teachers were engaged with the intervention. However, there was significant heterogeneity in implementation—although on average we saw good implementation of *Banking Time*, there were some teachers who did not implement with fidelity, others that implemented reasonably well, and others who implemented in an ideal way. This is not unusual in intervention trials in which the program is delivered by educational practitioners rather than researchers or consultants (Cappella et al., 2016; Downer, LoCasale-Crouch, Hamre, & Pianta, 2009). Understanding whether variability in implementation is linked to teacher and child behaviors is important for knowing how much support teachers may need to implement *Banking Time* well.

A recent study capitalized on the *Banking Time* efficacy trial to examine associations between *Banking Time* practices and the quality of teacher-child interactions (LoCasale-Crouch et al., 2018). This study used variation in teachers' enactment of *Banking Time* practices during a structured play-task, outside *Banking Time* sessions, to examine relations between such practices and the quality of teacher-child interactions. Teacher-child interactions were observed and coded for all teacher-child dyads that participated in the *Banking Time* efficacy trial, regardless of their treatment condition (i.e., *Banking Time*, Child Time, or Business as Usual). Use of expected *Banking Time* practices was positively related with sensitive and responsive teacher-child interactions. The use of restricted *Banking Time* practices predicted both positive and negative (i.e., high directiveness and teacher negativity) interactions. This inconsistent pattern found for restricted *Banking Time* practices may be explained by the use of a composite that grouped different practices together. For example, asking questions was restrictive in the sense that it gives the teacher, rather than the child, more control over the session. However, there is abundant evidence that asking questions, when implemented appropriately, is actually related to improved teacher-child interactions and child outcomes (e.g., Bailey, Denham, & Curby, 2013). This suggests the need to further unpack the intervention, to better understand how *Banking Time* works and what may be the active ingredients of this teacher-child relationship intervention.

In recent work, we examined observed fidelity within video-recorded *Banking Time* sessions. Only children whose teachers were attuned to the child (i.e., observing and narrating the child's actions) made greater gains in observed positive engagement with the teacher in the classroom, underscoring that teachers' attunement with the child matters for the child to seek interactions with and proximity to the teacher in the classroom. Teachers' attunement with the child during *Banking Time* sessions was also associated with gains in teachers' observed emotional support in the classroom, suggesting that teachers' attunement with the child matters for teachers to be more sensitive to children's needs and perspectives (Alamos, Williford, & LoCasale-Crouch, 2018).

In summary, the research to date provides evidence that when teachers spend individual time with children where they attune to child, it can improve children's

behavioral outcomes, teacher behavior toward children, and teacher-child interactions for young children and their teachers. Given the current emphasis on academics that has rapidly extended into preschool, this research serves as a reminder that attending to relationships between children and teachers should not be lost in the desire to close achievement gaps.

Banking Time has been examined for efficacy only in the preschool population, and so we do not yet know how effective this intervention is in older grades. However, the intervention was designed to be used across grades from toddlerhood through secondary. The *Banking Time* practices of observation, narration, labeling, and relational themes stay the same regardless of the age of the student. What does change is the choice of activities over time and the session likely becomes more verbal over time. For example, in preschool, teachers often narrate through imitation or by playing the same way the child is playing (if the child is rolling a car, the teacher would roll a car also). As *Banking Time* sessions become more conversational as children develop, the teacher must be intentional about making sure the student continues to drive the interaction. For example, the teacher needs to be careful to reflect and label emotions but not begin asking questions or otherwise probe for more information. Rather, the teacher should allow the child to drive what is discussed in the session. Although research is needed to replicate the positive effects of *Banking Time* in other samples of students, there is reason to believe this can be an effective intervention for teachers and students across grade levels.

Conclusion

Strong and sensitive teacher-student relationships are a critical mechanism for students to feel secure and motivated within the classroom and for teachers to remain invested in their profession. For a variety of reasons, some students are not well connected with their teachers and are at-risk for feeling that they do not belong in the classroom and thus are more likely to disengage from classroom activities and miss critical learning opportunities—both academic and social-emotional. *Banking Time* is an intervention designed to improve the affective bond between a teacher-child dyad through a set of one-on-one meetings, giving the teacher-child dyad regular opportunities to interact. Sessions take place within the school setting and occur regularly (3 times per week for 6–8 weeks) for scheduled, short periods of time (e.g., 10 minutes). *Banking Time* is an intervention that is well suited to be used in classrooms at scale. Teacher implements the intervention, it takes place in short increments of time during the school day, and it includes the role of a coach to facilitate implementation. In sum, *Banking Time* is an affective intervention that evidences good usability, transportability, and sustainability within the school context.

References

Alamos, P., Williford, A. P., & Locasale-Crouch, J. (2018). Understanding Banking Time implementation in a sample of preschool children who display early disruptive behaviors. *School Mental Health, 10*, 437–449.

Baker, J. A., Grant, S., & Morlock, L. (2008). The teacher-student relationship as a developmental context for children with internalizing or externalizing behavior problems. *School Psychology Quarterly, 23*, 3–15.

Bailey, C. S., Denham, S. A., & Curby, T. W. (2013). Questioning as a component of scaffolding in predicting emotion knowledge in preschoolers. Early Child *Development and Care, 183*, 265–279.

Brinkmeyer, M. Y., & Eyberg, S.M. (2003). Parent-child interaction therapy for oppositional children. In Alan E. Kazdin (Ed.) Evidence-based psychotherapies for children and adolescents. (pp. 204–223) New York: Guilford.

Cappella, E., Jackson, D. R., Kim, H. Y., Bilal, C., Holland, S., & Atkins, M. S. (2016). Implementation of teacher consultation and coaching in urban schools: A mixed method study. *School Mental Health, 8*(2), 222–237.

Doumen, S., Verschueren, K., Buyse, E., Germeijs, V., Luyckx, K., & Soenens, B. (2008). Reciprocal relations between teacher–child conflict and aggressive behavior in kindergarten: A three-wave longitudinal study. *Journal of Clinical Child & Adolescent Psychology, 37*, 588–599.

Driscoll, K. C., & Pianta, R. C. (2010). Banking Time in head start: Early efficacy of an intervention designed to promote supportive teacher–child relationships. *Early Education and Development, 21*, 38–64.

Driscoll, K. C., Wang, L., Mashburn, A. J., & Pianta, R. C. (2011). Fostering supportive teacher–child relationships: Intervention implementation in a state-funded preschool program. *Early Education & Development, 22*, 593–619.

Downer, J. T., Locasale-Crouch, J., Hamre, B., & Pianta, R. (2009). Teacher characteristics associated with responsiveness and exposure to consultation and online professional development resources. *Early education and development, 20*, 431–455.

Hamre, B. K. (2014). Teachers' daily interactions with children: An essential ingredient in effective early childhood programs. *Child Development Perspectives, 8*(4), 223–230.

Hamre, B. K., & Pianta, R. C. (2005). Can instructional and emotional support in the first-grade classroom make a difference for children at risk of school failure? *Child Development, 76*, 949–967.

Hatfield, B.E., & Williford, A. P. (2017). Cortisol patterns for young children displaying disruptive behavior: Links to a teacher-child, relationship-focused intervention. *Prevention Science, 18*, 40–49.

LoCasale-Crouch, J., Williford, A., Whittaker, J., DeCoster, J., & Alamos, P. (2018). Does fidelity of implementation account for changes in teacher-child interactions in a randomized controlled trial of Banking Time? *The Journal of Research on Educational Effectiveness, 11*, 35–55.

O'Connor, E. E., Dearing, E., & Collins, B. A. (2011). Teacher-child relationship and behavior problem trajectories in elementary school. *American Educational Research Journal, 48*(1), 120–162.

Pianta, R. C. (1999). *Enhancing relationships between children and teachers*. Washington, DC: American Psychological Association.

Pianta, R. C., & Hamre, B. (2001). *Students, teachers, and relationship support (STARS)*. Lutz, FL: Psychological Assessment Resources.

Pianta, R. C., Hamre, B. K., & Allen, J. P. (2012). Teacher-student relationships and engagement: Conceptualizing, measuring, and improving the capacity of classroom interactions. In *Handbook of research on student engagement* (pp. 365–386). New York, NY: Springer US.

Pianta, R. C., Hamre, B. K., & Williford, A. P. (2011). *Banking Time* (Unpublished manual). University of Virginia.

Reinke, W. M., Herman, K. C., & Newcomer, L. (2016). The brief student–teacher classroom interaction observation: Using dynamic indicators of behaviors in the classroom to predict outcomes and inform practice. *Assessment for Effective Intervention, 42*(1), 32–42.

Rhoad-Drogalis, A., Justice, L. M., Sawyer, B. E., & O'Connell, A. A. (2018). Teacher–child relationships and classroom-learning behaviours of children with developmental language disorders. *International Journal of Language & Communication Disorders, 53*(2), 324–338.

Sabol, T. J., & Pianta, R. C. (2012). Recent trends in research on teacher–child relationships. *Attachment & Human Development, 14*(3), 213–231.

Van Acker, R., Grant, S. H., & Henry, D. (1996). Teacher and student behavior as a function of risk for aggression. *Education & Treatment of Children, 19*, 316–334.

Vancraeyveldt, C., Verschueren, K., Wouters, S., Van Craeyevelt, S., Van den Noortgate, W., & Colpin, H. (2015). Improving teacher-child relationship quality and teacher-rated behavioral adjustment among externalizing preschoolers: Effects of a two-component intervention. *Journal of Abnormal Child Psychology, 43*, 243–257.

Williford, A. P., Carter, L. M., & Pianta, R. C. (2016). Attachment and school readiness. In J. Cassidy & P. Shaver (Eds.), *The handbook of attachment: Theory, research, and clinical applications* (3rd ed.). New York, NY: Guilford Press.

Williford, A. P., LoCasale-Crouch, J., Whittaker, J. V., DeCoster, J., Hartz, K. A., Carter, L. M., … Hatfield, B. E. (2017). Changing teacher-child dyadic interactions to improve preschool children's externalizing behaviors. *Child Development, 88*, 1544–1553.

Williford, A. P., Wolcott, C. S., Whittaker, J. E., & LoCasale-Crouch, J. (2015). Classroom and teacher characteristics predicting the implementation of Banking Time with preschoolers who display disruptive behaviors. *Prevention Science, 16*(8), 1054–1063.

Part V
Cognitive Engagement

Chapter 14
Strategies and Interventions for Promoting Cognitive Engagement

Angie J. Pohl

Vignette 1

Nevaeh is a 16-year-old sophomore at Washington High School in an urban city in the Northeast. Nevaeh is very social and has many friends at school and in her neighborhood. She is on the school dance team and practices at least 2 hours every night. She also teaches a dance class for 4–6-year-olds twice a week at a local dance studio. She hopes to be a professional dancer or a dance teacher someday. Regarding school performance, Nevaeh has demonstrated proficiency on the state math, reading, and writing exams; however, she failed geometry and freshman English and is currently failing her sophomore biology and Algebra II class. She is behind in credits toward graduation and has a GPA of 1.75 (about a C-Average). Nevaeh's teachers describe her as social, friendly, and polite but underachieving and unmotivated. When asked about why she believes she has failed courses, she explains that she is often bored in class, doesn't see the relevance of what she's learning to her future ("why do I need to know geometry to be a dancer?"), and doesn't do her homework. She would rather spend time practicing dance or hanging out with friends than spending time on homework she doesn't care about.

Discussion: What are Nevaeh's strengths? In what ways is Nevaeh demonstrating engagement? In which subtype(s) of engagement does Nevaeh need improvement? In which indicators of cognitive engagement would intervention benefit Nevaeh? What strategies might you use to support Nevaeh's engagement?

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Vignette 2

Raul is a 12-year-old 6th grader at Monroe Middle School in a Southwest suburban city. Raul is an extremely hard-working student who has learned the value of hard work and education from his parents who both regularly talk with Raul about how important getting an education is for his future. Raul loves video games and is good at them, and he wants to design games when he grows up. He believes that with effort and doing well in school he can achieve his goal. In school, Raul is earning mostly Bs and Cs in his classes. His teachers describe him as a hard worker (and explain that they give him credit for his effort, even when his work is not demonstrating mastery of the content), but as someone who needs extra support throughout a task to complete it. He has a difficult time starting a task, often feeling overwhelmed as he tries to figure out where to begin. He also has difficulty breaking tasks down into manageable chunks and is not sure what to do when he gets stuck, trying the same strategies over and over again. He spends time in tutoring before and after school for help with his homework.

Discussion: What are Raul's strengths? In what ways is Raul demonstrating engagement? In which subtype(s) of engagement does Raul need improvement? In which indicators of cognitive engagement would intervention benefit Raul? What strategies might you use to support Raul's engagement?

What Is Cognitive Engagement?

Definition

Cognitive engagement can be defined as students' investment in their learning, valuing of their learning, directing effort toward learning, and using learning strategies to understand material, accomplish tasks, master skills, and achieve goals (Reschly, Appleton, & Pohl, 2014). Cognitive engagement refers to both students' motivation to learn and the extent to which they act on that motivation and utilize cognitive and metacognitive strategies to regulate their learning (Fredricks, Blumenfeld, & Paris, 2004).

While the above is the definition we will use for the purpose of this chapter, there is no clear agreement on the definition of cognitive engagement across researchers. As noted by Reschly and Christenson (2012), there exists conceptual haziness about the construct of student engagement in general, due in large part to the fact that the study of student engagement is a relatively new field that draws on research from the perspectives of dropout prevention (e.g., Finn, 1989; Rumberger, 1995), school reform (e.g., NRC, 2004), and motivation (e.g., Skinner, Furrer, Marchand, & Kinderman, 2008), and overlaps with research from the field of psychology. These different perspectives have led to multiple definitions and subtypes of student engagement, including multiple conceptualizations of cognitive engagement which

suffers from some of the same conceptual haziness. Fredricks and her colleagues (2004) explain that research on cognitive engagement comes from research emphasizing a psychological investment in learning (e.g., Connell & Wellborn, 1991; Newmann, Wehlage, & Lamborn, 1992) and on research emphasizing self-regulated learning (e.g., Pintrich & De Groot, 1990; Zimmerman, 1990) while also overlapping with the academic literature on motivation (e.g., Ames & Archer, 1988; Brophy, 1987; Dweck, 1986).

While some researchers may prefer to focus on a particular perspective, Fredricks and colleagues (2004) argued that the study of cognitive engagement would benefit from the integration of each of these perspectives. As Appleton, Christenson, Kim, and Reschly (2006) contended, engagement and motivation may be separate constructs, but they are related, in that motivational beliefs are a necessary precursor to actively investing time and effort into a task and utilizing cognitive and metacognitive strategies. Motivational beliefs also aid in sustaining one's effort throughout a task. With these considerations in mind, this chapter is written from the premise that both motivation to learn and utilizing learning strategies are intricately entwined in the concept of cognitive engagement and that intervention, therefore, may target both aspects to foster greater engagement. So, while for research purposes it may be important to differentiate aspects of cognitive engagement such as investment, motivation, and self-regulation, there is less need to differentiate for the purposes of intervention and we benefit from considering all aspects of cognitive engagement as we design interventions.

Indicators

How do you know if a student is cognitively engaged in their learning? This is challenging because cognitive engagement is considered a "covert" subtype of engagement, meaning it is not readily observable or measurable—it is really about the internal processes happening within students' minds as they approach a learning task. However, despite being covert, educators may detect some of the following indicators of cognitive engagement through think alouds, discussions with students, surveys or questionnaires, or through written records of thinking, planning, and progress monitoring.

The indicators in Table 14.1 describe what one might expect to see or hear from students who are cognitively engaged. Recognizing the indicators of cognitive engagement that are present and absent for students will help to identify students who would benefit from interventions and also inform the selection of appropriate interventions (Sinclair, Christenson, Lehr, & Anderson, 2003). Students may be successful in school without exhibiting all of the indicators of cognitive engagement, but particularly if there are concerns with students' academic or behavioral engagement such as concerns about grades, attendance, or behavior, examining indicators of cognitive engagement may help inform interventions to increase cognitive engagement and in turn increase academic or behavioral engagement.

Table 14.1 Indicators of cognitive engagement

Broad Indicators	Specific Indicators	Examples of Evidence of the Indicator that Could Be Gathered Students…
Investment in learning/ motivation to learn	Valuing of learning	• Say "I want to"—they want to engage in a learning task and can explain why • Articulate the relevance of the learning to their short-term and long-term goals • Articulate an appreciation for the learning that will result from completing a task • Demonstrate interest and enthusiasm in their learning • Enjoy challenging learning tasks
	Demonstrating self-efficacy	• Believe they have the skills, knowledge, and ability to succeed on a task or in learning • Believe they have control over their learning
	Setting personal mastery goals and attributing success to effort	• Set personal mastery goals in which they approach the task as an opportunity to improve their competence (rather than as an opportunity to perform better than others or complete the task to please the teacher) • Attribute success to things within their control such as effort and strategy use • Take academic risks and are willing to make mistakes knowing that they can learn from them
	Investing time, attention, and effort in learning	• Give up other activities (even preferred ones) to complete a task • Spend enough time on a task to demonstrate mastery • Maintain concentrated attention to the learning task • Exert mental energy on a task • Report trying hard on a task • Persist on the task, even when it gets difficult • Go above and beyond what is required for a task
Use of cognitive and metacognitive strategies to self-regulate one's learning	Appraising the task and one's ability to accomplish the task	• Determine the requirements of the task • Consider whether or not they have the skills to be successful on the task • Make a judgment about whether or not the task is relevant to their personal goals • Consider their interest in the task • Consider how much effort and time the task will take, what they may have to give up to complete the task, and whether or not they are willing to give the task their time and effort

Table 14.1 (continued)

Broad Indicators	Specific Indicators	Examples of Evidence of the Indicator that Could Be Gathered Students…
	Planning	• Articulate long-term and short-term goals • Set specific, proximal goals related to the learning task • Create and record an action plan for completing a task and/or meeting a goal • Break down large projects into manageable chunks • Make a to-do list, use their agenda/assignment book, calendar, or other means of tracking their tasks • Consider which strategies will help in completing the task
	Using specific study skills or learning strategies	• Utilize specific strategies such as note-taking, previewing texts, reading comprehension techniques, summarizing, outlining, mnemonic devices, and test preparation strategies • Remain focused on the learning task • Remove distractions
	Monitoring progress and adjusting strategies	• Self-monitor their completion and the accuracy of their completion of tasks • Self-monitor progress toward short-term and long-term goals • Engage in self-questioning to check for understanding, appropriateness of strategies selected to complete a task, productivity (amount completed), and accuracy (level of correctness) • Seek help when needed • Use strategies to stay motivated such as setting up self-rewards or engaging in self-talk
	Self-evaluating and reflecting	• Compare their performance to established expectations or rubrics • Compare their performance to past performance or a pre-assessment to check for improvement and growth • Evaluate whether or not they met their short-term goals • Evaluate outcomes to determine if their selected strategies for completing the task were the best strategies given the circumstances or whether different strategies should be employed in the future • Reflect on how they feel about their performance on the task and the final product

For example, for a student like Nevaeh, there are concerns about both her academic and cognitive engagement. She has poor grades and is behind in credits earned, and this appears to be the result of low cognitive engagement. She is demonstrating some indicators of cognitive engagement such as goal setting, evidenced by her long-term goals, and self-regulation skills, evidenced by her ability to complete a task if she puts her mind to it. We also know that there are some indicators she is not displaying such as not seeing the connection between her current academic work and her future goals and so not investing in her learning nor applying self-regulated learning strategies. Her lack of cognitive engagement seems to stem from not valuing the learning. Intervention efforts with Nevaeh then should start by building on the indicators that she is demonstrating and targeting the lack of perceived relevance of her schoolwork. In contrast, Raul sees the relevance of his schoolwork to his future goals and puts forth great effort toward completing a task, but he has difficulty employing strategies to control his learning. He is invested in his work but shuts down when he encounters daunting multi-step tasks or questions that he is unsure how to answer. Interventions with Raul would likely focus on teaching self-regulated learning strategies such as chunking assignments, study skills, and help-seeking to help Raul more efficiently master his learning tasks and goals.

Facilitators

In addition to indicators, facilitators of cognitive engagement, contextual factors that influence students' level of engagement, are also important to recognize because they have implications for designing interventions. The extent to which students engage cognitively in their learning is influenced by facilitators such as the classroom goal structure (e.g., Ames & Archer, 1988; Meece, Anderman, & Anderman, 2006), teacher expectations for student success (e.g., Rubie-Davies, 2010; Tyler & Boelter, 2008), peers' valuing of learning (e.g., Ryan, 2000), and families' expectations for their children (e.g., Murray, 2009; Taylor & Lopez, 2005). Note that these facilitators extend across contexts in which students learn and develop, and each is an alterable variable that can be considered as a target for intervention.

Particularly important in facilitating cognitive engagement is ensuring support for students' psychological needs. Students have innate psychological needs for autonomy, belonging, and competence (Ryan & Deci, 2000). In particular, when students' need for autonomy and competence are met, they are likely to be cognitively engaged in school. Practices that support autonomy and competence and serve as facilitators of cognitive engagement include such practices as ensuring learning is of interest to students, allowing students choice and voice in their learning, focusing on learning for the sake of learning (rather than for a grade or for a test), scaffolding learning to ensure students experience success throughout the process, as well as creating a classroom environment in which it is safe to make mistakes and try again (Ryan & Deci, 2009).

In returning to Raul, an example of a facilitator of cognitive engagement is his parents' valuing of education, which in turn impacts Raul's own valuing. A facilitator that could be targeted for intervention is the level of the work provided to him. Teachers may look at instructional match to ensure work is at Raul's level and not leading to frustration. When interventions are discussed later in the chapter, the focus will be largely on facilitators within the school environment, which researchers have agreed are critical to promoting cognitive engagement (e.g., Ames, 1992).

Why Is Cognitive Engagement Important?

In general, cognitive engagement has been linked with many positive outcomes for students including academic achievement (e.g., Greene, Miller, Crowson, Duke, & Akey, 2004; Miller, Greene, Montalvo, Ravindran, & Nichols, 1996; Pintrich & De Groot, 1990; Rodríguez & Boutakidis, 2013); mental health (Roeser, Eccles, & Strobel, 1998; WHO, 2005); life satisfaction, well-being, and overall self-esteem (Maton, 1990). Reschly and Christenson (2012) also suggest that cognitive engagement influences students' academic and behavioral engagement. For example, when students see value in their learning, they are more likely to engage in observable behaviors consistent with school success such as attending class, completing homework, and earning credits.

To understand the importance of cognitive engagement more specifically, it is necessary to look at outcomes associated with each component of cognitive engagement: both students' motivation to learn and the extent to which students act on that motivation and utilize cognitive and metacognitive strategies to regulate their learning. In the following section, a description of each broad indicator of cognitive engagement and research supporting its importance is provided.

Motivation to Learn and Personal Investment in Learning

Motivation refers to students' desire to learn, to do well in school, and to pursue future goals (e.g., Covington, 2000; Deci & Ryan, 1985; Eccles & Wigfield, 2002; Zimmerman & Schunk, 2008). Motivation runs throughout cognitive engagement, for example in informing the tasks in which students choose to engage, the goals they set for themselves, their belief in their ability to succeed, the effort they put into completing a task, the strategies they choose for completing a task, the level of mastery they display in completing a task, and their satisfaction with their performance (e.g., Eccles & Wigfield, 2002; Zimmerman & Kitsantas, 1999; Zimmerman & Schunk, 2008). Motivation to learn goes hand-in-hand with personal investment, which is about acting on that motivation and putting forth time, effort, and mental energy into mastering knowledge, skills, and learning (Newmann et al., 1992). If students are personally invested in their learning, they are intrinsically motivated—they are committed to and actively engaged in taking control of their own deep

learning. Motivation to learn and personal investment are characterized by valuing of learning, demonstrating self-efficacy, setting meaningful goals and attributing success in meeting those goals to effort, and investing time and effort. Each of these components is malleable and therefore important to understand as they inform understanding of intervention efforts described in the next section.

Valuing of learning In considering if students value a given learning task, one might ask: Do the students see the task as relevant to their future? Do they see the task as having some inherent value? Are they interested in the task? Do they see the task as helping them learn and grow? Students who are cognitively engaged demonstrate valuing of their learning, including a perceived relevance and value of the learning task and interest in the task. If they value their learning, they are more likely to put in time and effort to complete the task (e.g., Ainley, 2012; Miller & Brickman, 2004; Wigfield & Eccles, 2000).

Researchers have demonstrated a relationship between the perceived relevance and value of learning and academic achievement (Greene et al., 2004; Miller et al., 1996), mastery goal orientation (Debacker & Nelson, 1999; Greene et al., 2004), use of self-regulated learning strategies (Miller & Brickman, 2004), persistence and effort in their learning (Miller et al., 1996), and school completion (Lovelace, Reschly, Appleton, & Lutz, 2014). For example, Miller and Brickman (2004) asserted that students who perceive their schoolwork as important to achieving their future goals are more likely to value the work and engage in self-regulated learning in order to move closer to reaching their proximal goals and ultimately their future goals. Lovelace and colleagues (2014) found that the higher a 9th-grade student's rating of their future aspirations and goals (as measured by the Student Engagement Instrument with items such as school is important for achieving my future goals, going to school after high school is important, my education will create many future opportunities for me), the more likely they were to graduate on time and the less likely they were to drop out of school.

Concerning task interest, Ainley (2012) contends that "when there is a match between students' individual interest and specific contextual affordances, students readily embrace the activity expressing enjoyment, concentration, and a desire to find out more" (p. 287). In other words, when students are interested in the task, they are more likely to invest their time and effort into completing the task. In addition to prompting initial engagement in the task, Ainley also argues that interest will help to sustain students' engagement in the task. In a study with 7th- and 8th-grade students, Ainley, Hidi, and Berndorff (2002) found that topic interest (in this case, whether or not a book appealed to students based on the title) led to an affective response for students that determined whether or not they would engage with the reading task. For some, lack of topic interest led to the students feeling bored or uninterested which in turn led to them discontinuing the task. For others, the title was interesting, prompting a positive affective response which made them more likely to engage in the reading task. Interestingly, researchers have found that if students have a general interest in school and learning then when given even a boring task they are able to engage in strategies to enhance their interest and

maintain their engagement in the task in order to complete the task (Sansone & Thoman, 2005; Sansone, Weir, Harpster, & Morgan, 1992).

Self-efficacy Academic self-efficacy refers to students' belief in their ability to succeed on a given learning task. The more students believe they can succeed on a task, the more likely they are to engage in undertaking the task (e.g., Bandura, 1986; Pintrich & Garcia, 1991; Schunk & Pajares, 2009; Zimmerman & Martinez-Pons, 1990). Self-efficacy is an important indicator of cognitive engagement because it serves as a determinant of whether a student chooses to actively engage in a learning task or not, affects performance during engagement of the task, and is changed based on self-feedback gathered during the task and self-evaluative feedback upon completion of the task (Schunk, 1989).

Descriptive research at the secondary level has confirmed consistently the relationship between self-efficacy and self-regulated learning and academic achievement (e.g. Pajares, 1996; Pintrich & De Groot, 1990; Schunk, 1991; Zimmerman, Bandura, & Martinez-Pons, 1992). In looking at several studies conducted with middle school students, Pintrich (1999) reported significant positive relationships between students' reported use of self-regulated learning strategies and their self-efficacy and between their self-efficacy and academic performance. In one such study, Pintrich and De Groot (1990) examined seventh-graders' self-efficacy, motivation, cognitive strategy use, effort management, and academic performance. They found that self-efficacy was significantly, moderately correlated with cognitive strategy use and self-regulation. Results from regression analysis indicated that self-efficacy and self-regulation were significant predictors of academic performance as measured by average grade on schoolwork artifacts. Zimmerman et al. (1992) utilized path analysis to study the relationship between academic self-efficacy, self-efficacy for self-regulated learning, and academic achievement. They found that academic self-efficacy affected academic achievement directly and indirectly by raising high school students' grade goals. Results indicated that when students had higher belief in their ability to perform well academically, they set higher academic goals for themselves, which in turn led to higher academic performance.

Students build self-efficacy over time by reflecting on their previous successes, and students who repeatedly experience failure on academic tasks can become discouraged learners (Schunk, 1991). While high expectations from school staff and family members are important, ultimately students must believe they have the ability and control over their learning in order to engage in the learning and succeed.

Goal orientation and growth mindset Learners' goal orientations, as defined by achievement goal theorists, refer to the different ways that learners approach, engage in, and respond to learning tasks (Ames, 1992). Researchers differentiate between two main types of goal orientations: mastery and performance goals (referred to alternatively as learning and ability or task-involved and ego-involved goals; e.g., Ames & Archer, 1988; Dweck & Leggett, 1988; Maehr & Nicholls, 1980). Mastery goals are those that orient the learner "toward developing new skills, trying to understand their work, improving their level of competence, or achieving a sense of

mastery based on self-referenced standards" (Ames, 1992, p. 262). Conversely, performance goals are those that orient the learner toward trying to prove their ability through doing better than others, surpassing expectations, or achieving success with little effort (Ames, 1992). Research has demonstrated consistently that students who approach learning with a mastery goal orientation engage in more self-regulated learning behaviors (e.g., Ames, 1992; Dweck & Leggett, 1988; Pintrich & De Groot, 1990), report higher levels of effort (e.g., Grant & Dweck, 2003; Miller et al., 1996; Wolters, 2004), and exhibit greater persistence at difficult tasks (Elliot & Dweck, 1988; Stipek & Kowalski, 1989) than do students who approach learning from a performance goal orientation. The research in this area for learners of all ages is vast and well-developed (Hulleman, Schrager, Bodmann, & Harackiewicz, 2010).

Related to students' goal orientations are their mindsets. Mindset refers to students' beliefs about whether intelligence and ability are fixed or malleable with effort, how they view failure and success, and the effort they put into schoolwork. Mindset is highly associated with goal orientation because students who operate from a growth mindset, or one in which they view their ability as changeable through effort and attribute success to effort and hard work, are more likely to set mastery goals for themselves, whereas students who operate from a fixed mindset, or the belief that they cannot change their ability and that their performance is determined by their ability, are more likely to set performance goals (e.g., Ames & Archer, 1988; Blackwell, Trzesniewski, & Dweck, 2007; Dweck & Leggett, 1988). Researchers have demonstrated that when students attribute previous academic successes and failures to their own level of effort, they are more likely to put forth effort again in the future (e.g. Ames & Archer, 1988; Dweck & Leggett, 1988; Weiner, 1986). Effort and mindset are also strongly related to self-efficacy, with students with higher self-efficacy being more likely to put forth effort to achieve their goal (e.g. Pintrich, 1999; Pintrich & De Groot, 1990; Tuckman & Sexton, 1990). Therefore, much of the research on effort and mindset also overlaps with goal orientation and self-efficacy, and some sample findings have already been presented.

Investing time, attention, and effort in learning The aforementioned motivational beliefs—valuing of learning, self-efficacy, mastery goal orientation, and growth mindset—are determinants to students investing their time, attention, and effort in their learning or into a given learning task. A model that aligns with these motivational beliefs and helps to guide understanding of why or why not a student would choose to engage in putting forth effort into a learning task was proposed by Eccles and colleagues (1983) and known as the expectancy-value model of motivation. The model, put into formula format as Motivation = Expectancy + Value − Cost, describes the factors that students internally process and weigh when determining whether or not to actively participate in the task.

Expectancy They consider their expectancy for success on the learning task (similar to self-efficacy)—do they have the skills and ability to do the task, do they believe their effort will lead to learning, do they believe they know what is expected

of them and can meet those expectations, and do they believe they have the support they need if they experience difficulty?

Value Students also consider and weigh the value of the learning task—are they personally interested in the task, does it connect to their goals, does the task allow for choice and personal control, and do they see the task as resulting in learning that will help them grow and develop? When considering value, students may also look outside the intrinsic value of the learning and consider whether the learning will bring them some extrinsic benefit such as a good grade or reward, as well as if they will experience a positive interaction with their peers or teacher through engaging in the task.

Cost Though included in the model when first proposed, more attention has been brought to cost in recent years (Barron & Hulleman, 2015; Hulleman et al., 2010). Cost refers to what a student might have to give up to engage in the learning task or other negative consequences of engaging in the task. Students must consider the amount of effort and time needed for the activity, the other activities that are competing for their time and energy, and the activities they may miss out on. They also must consider how they will react to the learning task—will it bring anxiety or stress or will it be physically uncomfortable? Each of these costs is weighed against the predicted benefits to determine whether or not a student will put forth energy, effort, and time into a task.

As students are internally weighing these factors, they are already cognitively engaging with the learning task. The result of their weighing determines whether they keep that engagement going and to what extent they engage or put in time, effort, and energy. Should they choose to continue engaging, throughout the task they will continually weigh whether the benefits offset the costs, and when they encounter difficulties, they will especially lean on their motivational beliefs in determining whether or not to persist.

Persistence, or student's continued cognitive engagement and putting forth effort despite encountering obstacles, is linked to self-efficacy, goal orientation, and mindset. Students who believe they can work through the obstacle, who believe their effort and hard work will eventually pay off, and who set mastery goals are more likely to persist in their behavior toward achieving a goal (e.g., Duckworth & Seligman, 2005; Elliot & Dweck, 1988; Grant & Dweck, 2003; Miller et al., 1996; Wolters, 2004). This persistence is related to positive school outcomes for students. For example, Duckworth and Seligman (2005) studied 8th graders' self-discipline (ability to persist, delaying gratification, controlling impulses) and found it to be positively correlated with outcomes such as grades and standardized test scores. Martin and Marsh (2008) found that high school students' academic buoyancy (students' ability to persist in the face of typical academic setbacks) is related to a reduction in negative outcomes such as anxiety, fear of failure, and uncertain control.

Use of Cognitive and Metacognitive Strategies to Control One's Learning

The other broad indicator of cognitive engagement is the use of strategies to self-regulate one's learning. In discussing investing time, attention, and effort in learning, we have already begun the discussion of acting on motivational beliefs. Indeed, strategies used to control effort and persist are examples of self-regulated learning strategies. Self-regulated learning has been defined as students strategically directing their thoughts, feelings, and behaviors toward attaining personal learning goals (Schunk, 2001). Examples of strategies include analyzing tasks, setting goals, planning, organizing the environment, eliminating distractions, rehearsing, summarizing, monitoring progress, and self-reflecting on one's learning (Zimmerman, 1989). Certainly, motivational beliefs are part of this self-regulation of learning. The higher a students' self-efficacy, the more they value the learning task, and the more driven they are by mastery, the more likely they are to use strategies to control their learning; and reciprocally, as they engage in using strategies, the higher their self-efficacy, the greater their interest in learning, and the more appropriate their learning goals are (e.g., Cleary, 2006; Pintrich & De Groot, 1990; Schunk & Zimmerman, 1994).

Self-regulated learning strategy use has been related consistently to academic achievement and other positive school outcomes, especially in secondary students. Researchers have found that self-regulated learning strategy use by high school students significantly correlated with and positively predicted students' academic achievement (Cleary, 2006; Greene et al., 2004; Zimmerman & Martinez-Pons, 1986). Cleary (2006) also discovered that high school students who reported greater use of strategies also reported fewer maladaptive behaviors. In regard to middle school students, Pintrich and De Groot (1990) found that 7th-grade students who reported the greatest levels of self-regulated strategy use also reported the highest levels of achievement, and Wolters and Pintrich (1998) found that students use of strategies predicted their semester grades in core subjects. Finally, Wang and Eccles (2012) examined students' engagement trajectories from grades 7 to 11 and found that as students' cognitive engagement declined (specifically their use of self-regulatory strategies), their GPA and educational aspirations for the future also declined.

The benefits of cognitive engagement to student learning and student success in school are undeniable. This being the case, let's explore how to promote students' cognitive engagement.

How Can We Promote Cognitive Engagement?

The good news is that intervention studies have repeatedly demonstrated that motivational beliefs can be fostered and self-regulated learning strategies and processes can be taught and learned (e.g., Blackwell et al., 2007; Harris & Graham, 1999;

Hattie, 2009; Meece et al., 2006). Knowledge of the indicators and facilitators of cognitive engagement serves as a basis for designing interventions that promote cognitive engagement by helping us understand the need to target both students' will to engage in a learning task and their skill in using self-regulated learning strategies to do so. Planning appropriate and effective interventions, therefore, requires understanding students' specific needs in regard to their will and skill. For example, as mentioned previously, Neveah's need is one of will. She has demonstrated she has the skills to self-regulate her learning when she commits to doing so, but intervention should focus on increasing her investment to ensure she is engaging cognitively consistently across subjects. For Raul, his need is skill development. He is motivated to learn but lacks the strategies to be able to self-regulate his learning.

Strategies and interventions presented here target both will and skill and are organized by indicators (though intervention targets described also include facilitators). Thinking in terms of the Multi-tiered Systems of Support/Response to Intervention frameworks, the strategies and interventions provided here are appropriate for application school- or class-wide to serve all students, as well as appropriate to be tailored to serve small groups or individual students based on their specific needs. At the end of the section is an overview of formalized intervention programs targeting the development and implementation of self-regulated learning strategies.

Strategies and Interventions to Promote Motivation to Learn and Personal Investment— "Will"

Valuing of learning   Two key targets for intervention when considering students' valuing of learning are (1) ensuring students have identified their interests and long-term goals that are of value to them and (2) designing learning tasks to ensure relevance, value, and interest.

Long-term goal setting   When students have personal goals in mind, they are more likely to see the relevance of a task and work harder and longer to finish it (Greene & Miller, 1996). Having personal goals can also help students direct their choices, attention, and effort toward activities that will help them achieve their goals and can give students more positive feelings and satisfaction while they are in school or completing school work (Zimmerman, 2008). Goals can help give struggling students the motivation they need to engage in school. Strategies to encourage long-term goal setting include:

- Facilitate future-oriented thinking. Help students vision their future and set long-term goals to achieve that vision.
  - Guide students in expressing their "possible selves" for the future (Borkowski & Thorpe, 1994).

– Some students have difficulty imagining their possible futures. Help students to understand what possibilities might exist for them in the future (Miller & Brickman, 2004; Oyserman, 2008).
– Start helping students identify their dreams for their future early in their education so that they have multiple opportunities over time to imagine possible futures for themselves.

- Instruct students in setting short-term goals that will help them to achieve their long-term goals.
- Allow autonomy in goal setting. When students decide what their long-term goals are for themselves, they are more likely to commit to them (Brophy, 2004).
- Help students to see the connection between their current attitudes and behaviors and their long-term goals and future selves (Simons, DeWitte, & Lens, 2004).

Design learning tasks to ensure relevance, value, and interest When developing learning tasks for students, consider the following:

- Get to know students' short-term and long-term goals.

  – Design learning tasks that are directly linked to those goals.
  – Discuss possible connections between the tasks and students' goals.
  – Explain the purpose of classroom activities and how they can help students in achieving their long-term goals.

- Design and implement authentic, real-world tasks to teach curricular standards. Authentic work, or work that students perceive as meaningful, valuable, significant, worthy of effort, and that is connected to the real world, fosters cognitive engagement (Newmann et al., 1992).
- Work with students to identify their interests and then incorporate students' interests into academic tasks when possible. Student interest in the academic task is another source of motivation to engage and sustain engagement with the academic task (Ainley, 2012).

  – Provide a *hook*—meaning they are activities that immediately trigger students' interests and draw them into engaging in the tasks by being novel, attractive, challenging, or uncertain; and/or provide a *switch*—meaning they are activities that engage the students by offering opportunities for the students to engage in activities that are related to their interests or valued activities (Ainley, 2012).
  – Teach students strategies for enhancing interest in tasks they may perceive as boring, such as turning the task into a game, working cooperatively with others, and making connections between the task and their own interests.

- Allow students choices in the method and pace of learning.
- Where possible, work with teachers to allow students who perform poorly on tests to improve their work, as this turns evaluation into a learning opportunity for students. If teachers use external rewards for student performance, encourage

them to individualize these to the students who need them most as motivation to put forth effort (Ames, 1992).

Self-efficacy Students acquire information to help them assess their self-efficacy through four main sources: their past or present performance on tasks, observations of peers or other models, persuasion, and physiological or emotional reactions (Bandura, 1997). Supporting students in developing their self-efficacy involves helping students reflect on their existing sources of information about their ability to succeed as well as creating opportunities to gather information from sources. Schunk and Mullen (2012) suggest the following strategies to foster student self-efficacy:

- Work with students to set reachable, short-term goals so that they can experience success. Increase the level of challenge in these goals over time. If they can experience even small successes, their self-efficacy is likely to increase.
- Provide specific, relevant, ongoing feedback to students about their performance so that they have real-time information on which to judge their self-efficacy.
- Provide students with specific feedback that praises effort and the use of specific strategies in learning a skill or completing a task. This promotes students' feeling of control over their learning.
- Allow students to observe and work with students similar to themselves who can model how to learn target skills. Students who observe students like them being successful are more likely to feel like they too can be successful.

Goal orientation and growth mindset Interventions to promote a mastery goal orientation and a growth mindset can target students' beliefs and skills directly and/or the classroom structure which can serve as a facilitator.

Mastery goal orientation
- Help students to establish mastery goals that are associated with a desire to learn new things, interest in the subject material, working hard, and using feedback to improve their achievement on the next assignment. Support this by providing mastery-oriented learning opportunities—those that require them to learn a new skill and demonstrate improvement rather than just earn a grade or a score.
- Teach students to set "Personal Best" goals. These are specific goals in which students set goals to improve upon their own learning or score. For example, if a student is practicing his spelling words and spells 12/20 correctly that becomes his personal best score. When he goes to attempt another round of spelling the words, he may set a goal to beat his personal best and improve his score to 14/20 words. These goals allow students to experience both success and challenge in their learning (Ginns, Martin, Durksen, Burns, & Pope, 2018).
- Allow students who perform poorly on tasks, assignments, projects, or tests to improve their performance by using feedback they've been provided and applying different strategies, knowledge, or skills.

- Help students develop action plans to achieve their goals. Action plans should include the goal, action steps to reach the goal, supports and resources they may need to reach the goal, and how they will know when they've achieved their goal.
- Provide students the push they need to get started and keep going. Students are motivated to act on their goals as a function of: (1) how likely they are to be successful (expectancy) and (2) how much they think they will benefit from it (value). The student believing he/she will succeed does make it more likely that the student will succeed (Wigfield & Eccles, 2000).
- Integrate "TARGET" (Ames, 1992; Epstein, 1989) into lesson planning. Ames developed the system based on classroom dimensions that encourage students to take on either a mastery or performance goal orientation. TARGET reminds educators to structure their class for a mastery orientation by ensuring that *tasks* are meaningful and relevant, that *authority* is shared between the teacher and students, that all students are *recognized* for progress and effort, that *grouping* is heterogeneous and flexible, that *evaluation* is criterion-referenced, and that *time* is flexible in the class allowing for self-pacing when needed.

Growth mindset For a more extensive summary of strategies and interventions to promote a growth mindset in students, see Chap. 16 in this edition.

- Explicitly teach that the brain is a muscle that can grow and change and that intelligence is malleable (Blackwell et al., 2007).
- Create a classroom environment that makes it safe to make mistakes. Help students see failures or mistakes as learning opportunities.
- Praise effort and strategy use rather than intelligence (Mueller and Dweck, 1998).

Investing time, attention, and effort in learning As discussed earlier in the chapter, valuing of learning, self-efficacy, mastery goal orientation, and growth mindset are determinants to students investing their time, attention, and effort in their learning; therefore, interventions described above can be implemented to encourage students to take action and invest in their learning. Additional consideration is given here related to the "cost" component of the expectancy theory of motivation as well as to persistence.

Expectancy theory of motivation In returning to the formula for motivation based on the expectancy theory, Motivation = Expectancy + Value – Cost, strategies to promote expectancy and value have already been shared, what has not been discussed and is rarely discussed, are interventions related to cost. Costs are what tend to get in the way of a student being motivated enough to put forth effort for a learning task. For students, the costs may be just the sheer amount of time, effort, and work going into the task (task effort cost); the amount of effort and time not going toward a preferred task (outside effort cost); the things that they give up completely or miss out on due to their engagement in the task (loss of valued alternatives cost); and the negative emotions that arise due to the task or other costs (emotional cost; Flake, Barron, Hulleman, McCoach, & Welsh, 2015). Weighing these costs internally is an indicator of cognitive engagement. So what are some possible difficulties

students may encounter with weighing costs and how might educators help them past those barriers?

- Students may have difficulty internally processing through the costs and benefits. Perhaps they can't see past the costs to even be able to see the benefits. Engaging in dialogue with students and helping them outwardly process through the costs and benefits will teach students how to do this scaffolding internally in the future and help support them in putting forth the necessary effort in the moment.
- The emotional cost of a task may be so high that it clouds the ability to consider benefits or act on the task. For example, a student facing a test may experience significant anxiety. That anxiety may keep them from being able to cognitively process the value of taking the test. Helping the student develop coping strategies may help to mitigate the emotional cost.
- Students may be impulsive or unable to delay gratification, so the cost of missing out on something or putting energy toward something that is less preferred consistently keeps them from engaging in learning tasks. Helping students slow down, consider short- and long-term consequences of their choice to engage or not, and practicing delaying gratification may all support the students in weighing options more carefully and making the choice to engage.

Persisting Maintaining time, attention, and effort in learning throughout a learning task and especially in the face of challenges is difficult for many students. Persistence may be difficult simply because it is hard to maintain a high enough level of motivation and effort to complete a task, or because another activity is more interesting (returning to the expectancy model, the costs outweigh the benefits). Some of the following strategies from Wolters (2003) may be useful in helping students persist in their learning:

- Help them to be aware of their level of motivation and notice when it dips. This may help students begin to recognize when they need to implement strategies for persisting.
- Teach students to set proximal goals and to reward themselves when they reach those goals.
- Help students to break large tasks into smaller parts that are easier to tackle.
- Help students structure the environment to minimize distractions.
- Teach students to engage in self-talk, reminding themselves of their goals and the benefits associated with meeting those goals.
- Modify the task so that it is more interesting for the student or help them to modify for themselves. For example, turn the assignment into a game.

Each of these suggestions for promoting persistence entails teaching students a strategy for controlling or regulating their motivation and effort throughout a task, meaning they are self-regulated learning strategies. These interventions then are bringing us into promoting necessary student skills for cognitive engagement.

Strategies and Interventions to Promote Self-Regulated Learning Strategy Use—"Skill"

A meta-analysis of self-regulated learning strategy use indicated that students of all ages, elementary through adult, can be trained in using self-regulated learning strategies and that such training helps students develop an arsenal of strategies from which to choose while attempting different academic tasks in different learning contexts (Hattie, 2009). While some students may be able to take these strategies and apply them independently with ease, others may struggle with when to use which strategy and in which situations. For example, while they may easily self-regulate in playing a video game (setting goals for themselves prior to playing, planning out their strategy, monitoring their performance as they play, reflecting on what went well and what could have gone better at the end of a stage or "life", and then trying again), they may have difficulty applying the same strategic thinking as they approach a math worksheet. Many students would benefit from being explicitly taught and guided through the phases of self-regulated learning which correspond to strategic thinking before, during, and after engaging in a learning task (Zimmerman, 2000).

The intervention ideas presented here are organized by phase of self-regulated learning and by strategy (Zimmerman, 1989, 2000). Also provided is a student-friendly graphic representation of the three phases with questions that can help guide them through each phase of self-regulated learning (Fig. 14.1). This diagram may be used by students on their own as they approach a particular task or it may be used with someone supporting and guiding them through the phases verbally. The second approach has the benefit of making an internal process external and provides the opportunity for the educator to model thinking and prompt student thinking. As students gain experience using the diagram to guide them, the hope is that they will eventually internalize the process and be able to engage in self-regulated learning without need for visual or verbal prompting.

- *Forethought phase—planning* (Before I begin). Teach students the following strategies/skills:

  - *Task appraisal*. Teach students how to approach the task and prepare to get started. Help them to consider the requirements of the task, whether or not they have the skills to be successful on the task, their interest in the task, the amount of time and effort the task will take, what they may have to give up in order to complete the task, and whether or not they are willing to give the task their time and effort.
  - *Short-term and long-term goal setting* (see previous section for more specific ideas). Help students set specific goals for the task. Also, help students see the connection between the task and their future or long-term goals.
  - *Planning*. Guide students in creating an action plan for achieving their short-term, task-specific goals.
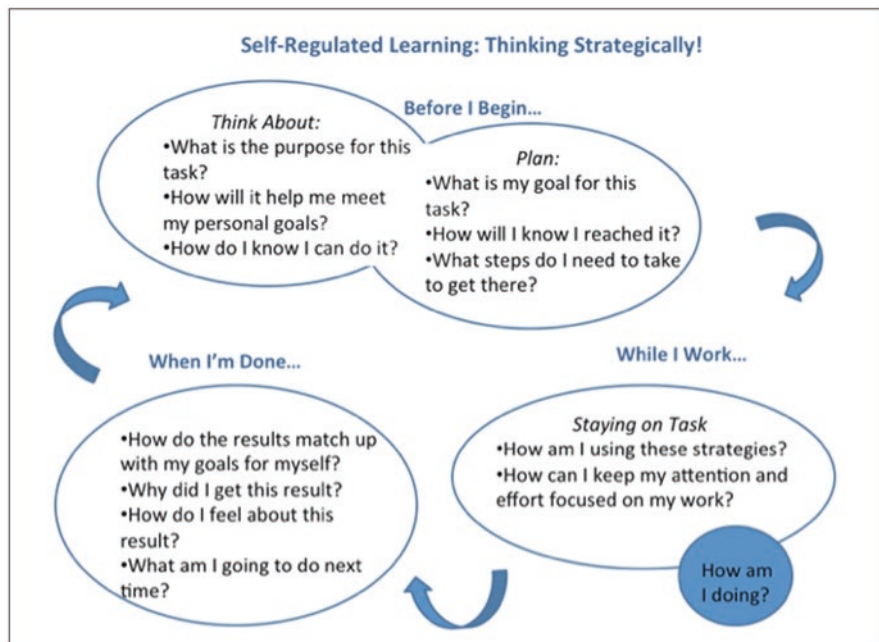
Fig. 14.1 Guide for discussing phases of self-regulated learning with students. (*Source:* From Pohl, Nelson, and Christenson (2012). *Check & Connect Mentor Resource Guide.* Printed with permission from the authors)

– *Organizing.* Teach students how to organize their materials, prioritize their activities, and manage their time. Teach chunking large assignments into manageable chunks.
– *Environmental structuring.* Help students to eliminate distractions in their environment or find a place that will best support them in meeting their goals. Do they need dim light or bright light? Music or no music? Should they keep their cell phone in the other room? What environment will be most conducive to learning for them?

  • This is a strategy that may be especially helpful to involve parents in supporting. Parents can assist students with structuring the home environment for learning by helping ensure they have a quiet, distraction-free place to work.

• *Performance control phase—managing and monitoring one's learning* (While I work).

– *Study Skills.* Teach study skills that will aid in mastery of learning goals and completion of the learning task with accuracy. Study skills are strategies that

help students learn, process, and remember new information. Some examples of study skills include (e.g., Gettinger & Seibert, 2002; Zimmerman, 1989):

- *Note-taking*—Teach different formats for effective note-taking such as Cornell notes, q-notes, two-column notes, concept mapping, and outlining.
- *Previewing text to increase reading comprehension*—Teach students to preview readings by looking for text clues such as the title, headings, and subheadings, and non-text clues such as pictures, tables, and diagrams.
- *Rehearsing and memorizing.* Teach students how to practice or rehearse information. Teach strategies for memorization such as mnemonic devices.
- *Keeping records.* Encourage students to record events or results. For example, help students keep a list of words they come across that they don't know as they read. This will help them monitor their progress and know when or how to adjust strategies.
- *Self-evaluate.* Prompt students to pause regularly in their work to check for understanding and accuracy and that they are on the right track for meeting their goals or the expectations of the task. Also encourage them to alter their strategies if what they are doing is not getting them the desired results.

– *Self-management strategies to maintain motivation and persist on the task.* When students get stuck, encounter a challenge, or grow tired or distracted, they may need support in selecting strategies that will help them stay motivated and stay on task. Teach students specific strategies to help them persist such as:

- *Self-talk.* Help students to engage in self-instructing or positive self-talk that will motivate them to keep going. For example, they may remind themselves of the value of the task or the benefit they will receive when they complete the task. Or they remind themselves that they've done something similar before or that they have the skills they need to be successful.
- *Self-consequating.* Teach students to set up a reward for meeting their goals. For example, if they study for another hour, they can take a break for 20 minutes and use their cell phone to connect with friends.
- *Make the task interesting.* Help the students find ways to make the task more interesting by turning it into a game or competition or looking for ways the task connects to their interests.
- *Help seeking.* Some students may not know how to ask for help or who to ask, or they may be uncomfortable asking because of how they might be perceived. Help students understand that asking for help is a valuable skill. Teach them how to ask for help, especially how to be specific and

> identify their point of confusion, and discuss options of who they can ask for support with different tasks, whether it be a teacher, parent, or peer.

- *Self-Reflection* (When I'm done)
  - Provide opportunities for students to reflect on both their process for completing the task and the outcome. Help them consider what went well, what could have gone better, and what they might do differently next time. Aid them in also considering whether their time and effort were worthwhile and whether they would be willing to invest that time and effort again in the future.

Formalized Interventions to Promote Cognitive Engagement

There exist few formal evidence-based interventions to promote components of cognitive engagement and even fewer with a strong evidence base. A brief overview of three formalized interventions with varying levels of evidence is presented in Table 14.2 with information about the intervention's purpose, target population, frequency and duration, description, and major research findings.

Table 14.2 Formal interventions to promote cognitive engagement

Brainology (Information drawn from https://www.mindsetworks.com/programs/brainology-for-schools)	
Purpose	Blended learning curriculum designed to teach students the understanding that their intelligence and abilities are not fixed and can be developed through effort.
Target Population	4th- to 7th-grade students Both high and low-achieving students Students in a full range of educational settings
Duration/ Frequency	Two times per week for 45 minutes
Program Description	Brainology is an interactive program that shows students how their brains—like their muscles—become stronger with effort and practice. With the help of animated characters, students learn about how the brain functions and learns, along with healthy habits, study techniques, self-regulation strategies, and other essential non-cognitive skills that help them to become effective learners. • Students interact with online content independently. • Teachers reinforce concepts with classroom lessons. • There is one online session for every 4 classroom lessons.
Research	Results from several studies show that students receiving the Brainology intervention earned statistically significantly higher GPAs, were more likely to attribute academic failure to lack of effort and study, earned higher scores on a standardized reading assessment, and reported higher engagement, greater life satisfaction, self-efficacy, and valuation of learning compared to students not receiving the intervention. (Romero, Paunesku, & Dweck, 2010; Paunesku, Goldman, & Dweck, 2011a, 2011b; Schmidt, Shumow, & Durik, 2012). Through an 2015 award from the IES Social and Behavioral Context for Academic Learning Program, researchers are now studying the efficacy of *Brainology* to improve students' growth mindset and academic learning.

Table 14.2 (continued)

The Self-Regulation Empowerment Program (SREP) (Information drawn from Chap. 15 in this volume)	
Purpose	Designed to provide support in engaging students in cycles of strategic action and reflection through modeling, feedback, and guided practices.
Target Population	Academically at-risk middle and high school students
Duration/ Frequency	Multiple times per week, typically over the course of 3–4 months
Program Description	SREP is a comprehensive psycho-educational intervention program designed to empower academically at-risk middle school and high school students to take on greater responsibility and strategic control over their learning and academic behaviors. Using a variety of instructional modules and guidelines, SREP coaches provide instruction in foundational SRL knowledge and seek to optimize students' motivation, strategic skills, self-awareness, and skills to adapt effectively when challenged during coursework. An important feature of SREP is that the instruction is directly linked with a particular content area or course. This feature enables students to develop and practice their SRL skills as they encounter challenges and obstacles inherent in those authentic learning contexts.
Research	Researchers have found that students receiving the intervention demonstrated a boost in their classroom test scores and showed a statistically significant increase in strategic thinking and reflection pre- to post-intervention (Cleary, Platten, & Nelson, 2008; Cleary & Platten, 2013; Cleary, Velardi, & Schnaidman, 2017).
Self-Regulated Strategy Development (SRSD) (Information drawn from IES What Works Clearinghouse SRSD Report https://ies.ed.gov/ncee/wwc/)	
Purpose	Designed to improve students' academic skills through a six-step process that teaches students specific academic strategies and self-regulation skills.
Target Population	Students in grades 2–12; particularly effective with students with learning disabilities
Duration/ Frequency	At least three times a week, and usually last 20–60 minutes
Program Description	The intervention begins with teacher direction and ends with students independently applying the strategy, such as planning and organizing ideas before writing an essay. More specifically, the six steps involve the teacher providing background knowledge, discussing the strategy with the student, modeling the strategy, helping the student memorize the strategy, supporting the strategy, and then watching as the student independently performs the strategy. A key part of the process is teaching self-regulation skills, such as goal-setting and self-monitoring, which aim to help students apply the strategy without guidance. The steps can be combined, changed, reordered, or repeated, depending on the needs of the student.
Research	Results from numerous studies with elementary and secondary students with and without disabilities demonstrated that the Self-Regulated Strategy Development is effective in helping students to improve their quality of, knowledge of, approach to, and self-efficacy in writing. The What Works Clearinghouse recognizes SRSD as having potentially positive effects on writing achievement for students with learning disabilities based on 9 studies that met their standards for consideration.

Summary

Cognitive engagement refers to students' investment in their learning, their motivation to learn, and the extent to which they use strategies to regulate their learning. Cognitive engagement, along with affective engagement, is a covert subtype of student engagement which is difficult to observe, but nonetheless important in promoting academic and behavioral engagement.

Despite cognitive engagement representing internal processes, there are indicators of whether or not students are engaging cognitively which can be detected through conversations with students; students recording of their thinking before, during, or after a task; or through questionnaires. Indicators include students' interest in their learning, perceived relevance of the learning, belief in their ability to be successful, willingness to put forth time and effort, setting of goals, and use of strategies to monitor their thinking and performance during a task. Each of these indicators represents alterable variables, so ideal targets for intervention. Additional targets for intervention are facilitators, or contextual factors, that influence whether or not a student engages such as the classroom goal structure, the praise a teacher gives, and the beliefs peers hold about the value of learning.

Interventions and strategies to promote cognitive engagement can target students' will and help them develop the motivational beliefs to be willing to commit to and invest in their learning and can also target students' skill and support them in developing the cognitive and metacognitive strategies to self-regulate their learning. And while there are few formal interventions, there exist many strategies and more informal interventions that can be implemented classwide, with small groups, or with individuals to support their cognitive engagement. The next two chapters present additional information on interventions to support self-regulated learning and growth mindset.

References

Ainley, M. (2012). Students' interest and engagement in classroom activities. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 283–302). New York, NY: Springer.

Ainley, M., Hidi, S., & Berndorff, D. (2002). Interest, learning and the psychological processes that mediate their relationship. *Journal of Educational Psychology, 94*, 545–561.

Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*, 261–271.

Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivational processes. *Journal of Educational Psychology, 80*, 260–267.

Appleton, J., Christenson, S. L., Kim, D., & Reschly, A. (2006). Measuring cognitive and psychological engagement: Validation of the Student Engagement Instrument. *Journal of School Psychology, 44*, 427–445.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1997) *Self-efficacy: The exercise of control.* New York: W.H. Freeman and Company.

Barron, K. E., & Hulleman, C. S. (2015). Expectancy-value-cost model of motivation. In J. D. Wright (Ed.), *International encyclopedia of the social & behavioral sciences* (Vol. 8, 2nd ed., pp. 503–509). Oxford: Elsevier.

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development, 78*(1), 246–263.

Borkowski, J. G., & Thorpe, P. K. (1994). Self-regulation and motivation: A life-span perspective on underachievement. In D. H. Schunk & B. J. Zimmerman (Eds.), *Self regulation of learning and performance: Issues and educational applications* (pp. 45–73). Hillsdale, NJ: Lawrence Erlbaum Associates.

Brophy, J. (2004). *Motivating students to learn* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.

Brophy, J. E. (1987). Socializing students' motivation to learn. In M. L. Maehr & D. Kleiber (Eds.), *Advances in motivation and achievement: Enhancing motivation* (pp. 181–210). Greenwich, CT: JAI Press.

Cleary, T. J. (2006). The development and validation of the Self-Regulation Strategy Inventory Self-Report. *Journal of School Psychology, 44*, 307–322.

Connell, J. P., & Wellborn, J. G. (1991). Competence, autonomy, and relatedness: A motivational analysis of self-system processes. In M. Gunnar & L. A. Sroufe (Eds.), *Minnesota symposium on child psychology* (Vol. 23). Chicago, IL: University of Chicago Press.

Covington, M. V. (2000). Goal theory, motivation, and school achievement: An integrative review. *Annual Review of Psychology, 51*, 171–200.

Cleary, T., Platten, P. & Nelson, A. (2008). Effectiveness of the Self-Regulation Empowerment Program with urban high school students. *Journal of Advanced Academics, 20*.

Cleary, T. J., Velardi, B., & Schnaidman, B. (2017). Effects of the Self-Regulation Empowerment Program (SREP) on middle school students' strategic skills, self-efficacy, and mathematics achievement. *Journal of School Psychology, 64*, 28–42.

Cleary, T. & Platten, P. (2013). Examining the correspondence between self-regulated learning and academic achievement: A case study analysis. *Education Research International, 2013*.

DeBacker, T. K., & Nelson, R. M. (1999). Variations on an expectancy-value model of motivation in science. *Contemporary Educational Psychology, 24*, 71–94.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York, NY: Plenum.

Duckworth, A. L., & Seligman, M. E. P. (2005). Self-discipline outdoes IQ in predicting academic performance of adolescents. *Psychological Science, 16*(12), 939–944.

Dweck, C., & Leggett, E. (1988). A social–cognitive approach to motivation and personality. *Psychological Review, 95*, 256–273.

Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist, 41*(10), 1040–1048.

Eccles, J., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J., & Midgley, C. (1983). Expectancies, values and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives*. San Francisco, CA: W. H Freeman.

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values and goals. *Annual Review of Psychology, 53*, 109–132.

Elliot, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology, 54*, 5–12.

Epstein, J. (1989). Family structures and student motivation: A developmental perspective. In C. Ames & R. Ames (Eds.), *Research on motivation in education* (pp. 259–295). New York, NY: Academic Press.

Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research, 59*, 117–142.

Flake, J., Barron, K., Hulleman, C., McCoach, B., & Welsh, M. (2015). Measuring cost: The forgotten component of expectancy-value theory. *Contemporary Educational Psychology, 41*, 232–244.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*, 59–109.

Gettinger, M., & Seibert, J. K. (2002). Contributions of study skills to academic competence. *School Psychology Review, 31*, 350–365.

Ginns, P., Martin, A. J., Durksen, T. L., Burns, E. C., & Pope, A. (2018). Personal Best (PB) goal setting enhances arithmetical problem-solving. *The Australian Educational Researcher*. Advance online publication. https://doi.org/10.1007/s13384-018-0268-9

Grant, H., & Dweck, C. S. (2003). Clarifying achievement goals and their impact. *Journal of Personality and Social Psychology, 85*, 541–553.

Greene, B. A., Miller, R. B., Crowson, H. M., Duke, B. L., & Akey, K. L. (2004). Predicting high school students' cognitive engagement and achievement: Contributions of classroom perceptions and motivation. *Contemporary Educational Psychology, 29*, 464–482.

Greene, B. A., & Miller, R. B. (1996). Influences on achievement: Goals, perceived ability, and cognitive engagement. *Contemporary Educational Psychology, 21*(2), 181–192.

Harris, K. R., & Graham, S. (1999). Programmatic intervention research: Illustrations from the evolution of self-regulated strategy development. *Learning Disability Quarterly, 22*(4), 251–262.

Hattie, J. A. C. (2009). *Visible learning: A synthesis of 800 meta-analyses relating to achievement*. Oxon, UK: Routledge.

Hulleman, C. S., Schrager, S. M., Bodmann, S. M., & Harackiewicz, J. M. (2010). A meta-analytic review of achievement goal measures: Different labels for the same constructs or different constructs with similar labels? *Psychological Bulletin, 136*, 422–449.

Lovelace, M. D., Reschly, A. L., Appleton, J. J., & Lutz, M. E. (2014). Concurrent and predictive validity of the Student Engagement Instrument. *Journal of Psychoeducational Assessment, 32*(6), 509–520.

Maehr, M., & Nicholls, J. G. (1980). Culture and achievement motivation: A second look. In N. Warren (Ed.), *Studies in cross-cultural psychology* (Vol. 2). London, UK: Academic Press.

Maton, K. (1990). Meaningful involvement in instrumental activity and wellbeing. *American Journal of Community Psychology, 18*, 297–320.

Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structure, student motivation, and academic achievement. *Annual Review of Psychology, 57*, 487–503.

Miller, R. B., & Brickman, S. J. (2004). A model of future-oriented motivation and self regulation. *Educational Psychology Review, 16*, 9–33.

Miller, R. B., Greene, B. A., Montalvo, G. P., Ravindran, B., & Nichols, J. D. (1996). Engagement in academic work: The role of learning goals, future consequences, pleasing others, and perceived ability. *Contemporary Educational Psychology, 21*, 388 422.

Murray, C. (2009). Parent and teacher relationships as predictors of school engagement and functioning among low-income urban youth. *The Journal of Early Adolescence, 29*(379), 404.

Martin, A. J., & Marsh, H. W. (2008). Academic buoyancy: Towards an understanding of students' everyday academic resilience. *Journal of School Psychology, 46*(1), 53–83.

Mueller, C. M., & Dweck, C. S. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of Personality and Social Psychology, 75*(1), 33–52.

National Research Council and the Institute of Medicine [NRC and IoM]. (2004). *Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: The National Academies Press.

Newmann, F. M., Wehlage, G. G., & Lamborn, S. D. (1992). The significance and sources of student engagement. In F. M. Newmann (Ed.), *Student engagement and achievement in American secondary schools* (pp. 11–39). New York, NY: Teachers College Press.

Oyserman, D. (2008). Possible selves: Identity-based motivation and school success. In H. Marsh, R. G. Craven, & D. M. McInerney (Eds.), *Self-processes, learning, and enabling human potential* (pp. 269–288). Charlotte, NC: Information Age Publishing.

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research, 66*(4), 543–578.

Paunesku, D., Goldman, D., & Dweck, C. S. (2011a). *Preliminary report: East Renfrewshire growth mindset study*. The Project for Education Research That Scales.

Paunesku, D., Goldman, D., & Dweck, C. S. (2011b). *Preliminary report: Secondary school mindset study*. The Project for Education Research That Scales.

Pintrich, P. R. (1999). The role of motivation in promoting and sustaining self-regulated learning. *International Journal of Educational Research, 31*, 459–470.

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*, 33–40.

Pintrich, P. R., & Garcia, T. (1991). Student goal orientation and self-regulation in the college classroom. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (pp. 371–402). Greenwich, CT: JAI Press.

Pohl, A., Nelson, J. A. G., & Christenson, S. L. (2012). *Check & Connect mentor resource guide*. Minneapolis, MN: Unpublished manuscript, Institute on Community Integration, University of Minnesota.

Reschly, A. L., Appleton, J. J., & Pohl, A. (2014). Best practices in fostering student engagement. In A. Thomas & P. Harrison (Eds.), *Best practices in school psychology* (6th ed.). Bethesda, MD: National Association of School Psychologists.

Reschly, A. L., & Christenson, S. L. (2012). Jingle, jangle, and conceptual haziness: Evolution and future directions of the engagement construct. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 3–19). New York, NY: Springer.

Rodríguez, J. L., & Boutakidis, I. (2013). The association of school engagement and achievement across three generations of Mexican American students. *Association of Mexican American Educators Journal, 7*, 5–16.

Roeser, R. W., Eccles, J. S., & Strobel, K. R. (1998). Linking the study of schooling and mental health: Selected issues and empirical illustrations at. *Educational Psychologist, 33*, 153–176.

Romero, C. L., Paunesku, D., & Dweck, C. S. (2010). *Preliminary report: Crittenden Middle School growth mindset study*. Project for Education Research That Scales.

Rubie-Davies, C. M. (2010). Teacher expectations and perceptions of student attributes: Is there a relationship? *British Journal of Educational Psychology, 80*, 121–135.

Rumberger, R. W. (1995). Dropping out of middle school: A multilevel analysis of students and schools. *American Educational Research Journal, 32*, 583–625.

Ryan, A. M. (2000). Peer groups as a context for the socialization of adolescents' motivation, engagement and achievement in school. *Educational Psychologist, 35*, 101–111.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68.

Ryan, R. M., & Deci, E. L. (2009). Promoting self-determined school engagement: Motivation, learning, and well-being. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook on motivation at school* (pp. 171–196). New York, NY: Routledge.

Sansone, C., & Thoman, D. B. (2005). Interest as the missing motivator in self-regulation. *European Psychologist, 10*(3), 175–186.

Sansone, C., Weir, C., Harpster, L., & Morgan, C. (1992). Once a boring task always a boring task? Interest as a self-regulatory mechanism. *Journal of Personality and Social Psychology, 63*, 379–390.

Schunk, D. H. (1989). Self-efficacy and achievement behaviors. *Educational Psychology Review, 1*, 173–208.

Schunk, D. H. (2001, Aug). *Self-regulation through goal setting*. ERIC Digests, Article CG-01–08.

Schunk, D. H., & Mullen, C. A. (2012). Self-efficacy as an engaged learner. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 219–235). New York, NY: Springer.

Schunk, D. H., & Pajares, F. (2009). Self-efficacy theory. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 35–53). New York, NY: Routledge.

Schunk, D. H., & Zimmerman, B. J. (1994). Self-regulation in education: Retrospect and prospect. In D. H. Schunk & B. J. Zimmerman (Eds.), *Self-regulation of learning and performance* (pp. 305–314). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Simons, J., Dewitte, S., & Lens, W. (2004). The role of different types of instrumentality in motivation, study strategies, and performance: Know why you learn, so you'll know what you learn! *British Journal of Educational Psychology, 74*, 343–360.

Sinclair, M. F., Christenson, S. L., Lehr, C. A., & Anderson, A. R. (2003). Facilitating school engagement: Lessons learned from Check & Connect longitudinal studies. *California School Psychologist, 8,* 29–41.

Skinner, E., Furrer, C., Marchand, G., & Kinderman, T. (2008). Engagement and disaffection in the classroom: Part of a larger motivational dynamic? *Journal of Educational Psychology, 100*, 765–781.

Stipek, D. J., & Kowalski, P. S. (1989). Learned helplessness in task orienting versus performance orienting testing conditions. *Journal of Educational Psychology, 81*, 384–391.

Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist, 26*(3), 207–231.

Schmidt, J.A., Shumow, L., & Durik, A. (2012). *Incremental Mindset and Utility for Science Learning and Engagement (IMUScLE): Presentation of Preliminary Findings.* Unpublished Report to IMUScLE Advisory board.

Taylor, R. D., & Lopez, E. I. (2005). Family management practice, school achievement, and problem behavior in African American adolescents: Mediating processes. *Applied Developmental Psychology, 26*, 39–49.

Tuckman, B. W., & Sexton, T. L. (1990). The relation between self-beliefs and self regulated performance. *Journal of Social Behavior and Personality, 5*, 465–472.

Tyler, K. M., & Boelter, C. M. (2008). Linking Black middle school students' perceptions of teachers' expectations to academic engagement and efficacy. *The Negro Educational Review, 59*, 27–44.

Wang, M. T., & Eccles, J. S. (2012). Adolescent behavioral, emotional, and cognitive engagement trajectories in school and their differential relations to educational success. *Journal of Research on Adolescence, 22*(1), 31–39.

Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York, NY: Springer-Verlag.

Wigfield, A., & Eccles, J. S. (2000). Expectancy–value theory of achievement motivation. *Contemporary Educational Psychology, 25*(1), 68–81.

Wolters, C., & Pintrich, P. R. (1998). Contextual differences in student motivation and self–regulated learning in mathematics, English, and social studies classrooms. *Instructional Science, 26*, 27–47.

World Health Organization. (2005). Mental health policy and service guidance package: Child and adolescent mental health policies and plans. http://www.who.int/mental_health/policy/essentialpackage1/en/

Wolters, C. A. (2003). Regulation of motivation: Evaluating an underemphasized aspect of self-regulated learning. *Educational Psychologist, 38*(4), 189–205.

Wolters, C. A. (2004) Advancing achievement goal theory: Using goal structures and goal orientations to predict students' motivation, cognition, and achievement. *Journal of Educational Psychology, 96*(2), 236–250.

Zimmerman, B., & Martinez-Pons, M. (1986). Development of a structured interview for assessing student use of self-regulated learning strategies. *American Educational Research Journal, 23*, 614–628.

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology, 81*, 329–339.

Zimmerman, B. J. (1990). Self-regulated learning and academic achievement: An overview. *Educational Psychologist, 25*(1), 3–17.

Zimmerman, B. J. & Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating grade, sex & giftedness to self-efficacy & strategy use. *Journal of Educational Psychology, 82*(1), 51–59.

Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology, 25*, 82–91.

Zimmerman, B. J. (2008). Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. *American Educational Research Journal, 45*(1), 166–183.

Zimmerman, B. J., Bandura, A., & Martinez-Pons. (1992). Self-motivation for academic attain-
    ment: The role of self-efficacy beliefs and personal goal setting. *American Educational
    Research Journal, 29*(3), 663–676.
Zimmerman, B. J., & Kitsantas, A. (1999). Acquiring writing revision skill: Shifting from process
    to outcome self-regulatory goals. *Journal of Educational Psychology, 91*, 1–10.
Zimmerman, B. J., & Schunk, D. H. (2008). Motivation: An essential dimension of self-regulated
    learning. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning:
    Theory, research, and applications* (pp. 1–30). New York, NY: Lawrence Erlbaum Associates.

Chapter 15
Core Components and Empirical Foundation of the Self-Regulation Empowerment Program (SREP) in School-Based Contexts

Timothy J. Cleary

Self-regulated learning (SRL) has emerged as a critical area of inquiry and interest among researchers and practitioners working in educational, clinical, sports, and health sciences contexts (Artino, Cleary, Dong, Hemmer, & Durning, 2014; Cleary, 2015; Kolovelonis, Goudas, & Dermitzaki, 2010; Suveg, Davis, & Jones, 2015). Broadly defined as a cyclical process through which individuals self-generate and sustain thoughts, feelings, and actions as they pursue personal goals (Efklides, 2011; Zimmerman, 2000), SRL is multi-dimensional in nature. It integrates meta-cognitive (planning, monitoring, reflection), cognitive, affective or motivational, and behavioral processes. Thus, although SRL is often labeled as a type of cognitive engagement (Cleary & Zimmerman, 2012), it also overlaps with the behavioral dimension, such as when students seek out help from teachers, record the errors they make on assignments, or draft an outline when preparing to write a persuasive essay (Cleary & Zimmerman, 2012; Graham & Harris, 2013).

In recent years, some researchers have recognized the need to develop school-based interventions that concurrently address the multi-dimensional aspects of SRL (Cleary, Velardi, & Schnaidman, 2017; Graham & Harris, 2013; Montague, Enders, & Dietz, 2014). In most cases, these intervention programs emphasize SRL skill instruction to optimize specific academic skills, such as reading comprehension, written expression, or mathematic problem-solving. Graham and Harris' Self-Regulated Strategy Development (SRSD) intervention program, which typically has been used to enhance written expression skills in K-12 populations, is widely recognized as a powerful intervention for enhancing the writing quality and regulatory processes of children (Graham & Harris, 2013; Graham, McKeown, Kiuhara, & Harris, 2012). In fact, in a recent meta-analysis of writing interventions, it was

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reported that SRSD exerted large effects on the writing skills of elementary school children (ES = 1.17), which surpassed the effects of non-SRSD writing interventions (ES = 0.59; Graham et al., 2012).

Despite the success of these SRL-infused academic skill interventions, much less attention has focused on support services that cultivate student competencies to manage the daily academic, motivational, and regulatory challenges that they naturally experience when completing coursework, long-term assignments, or studying for exams. The Self-Regulation Empowerment Program (SREP) was designed to provide this level of support. In short, SREP engages students in cycles of strategic action and reflection through modeling, feedback, and guided practice experiences (Cleary et al., 2017; Cleary & Platten, 2013). In this chapter, I provide an overview of the purposes, theoretical foundation, and core instructional components of SREP. I then review current research examining the effectiveness of SREP and conclude with areas of future research that can most aptly enhance our understanding of SREP and its effectiveness.

Theoretical and Instructional Foundations of SREP

SREP is a comprehensive psycho-educational intervention program designed to empower academically at-risk middle school and high school students to take on greater responsibility and strategic control over their learning and academic behaviors. Using a variety of instructional modules and guidelines, SREP coaches provide instruction in foundational SRL knowledge and seek to optimize students' motivation, strategic skills, self-awareness, and skills to adapt effectively when challenged during coursework (Cleary & Platten, 2013).

Theoretical Framework

SREP draws from multiple theoretical perspectives (e.g., social-cognitive, information processing, constructivist), but is primarily grounded in social-cognitive principles. Specifically, SREP is grounded in a three-phase cyclical model of SRL and a four-level model of SRL development (see Fig. 15.1; Cleary, Kitsantas, Pape, & Slemp, 2018).

Three-phase model of SRL The three-phase cycle of SRL represents the process through which individuals regulate and manage their behaviors, thoughts, and contexts during learning. Zimmerman (2000) has defined this regulatory process in terms of a goal-directed, cyclical feedback loop that includes three interdependent and sequential phases: forethought, performance control, and self-reflection. *Forethought* phase processes occur prior to learning and performance and include subprocesses, such as task analysis, goal-setting, and planning. Thus, before regulated learners approach a learning activity, such as reading a textbook or preparing
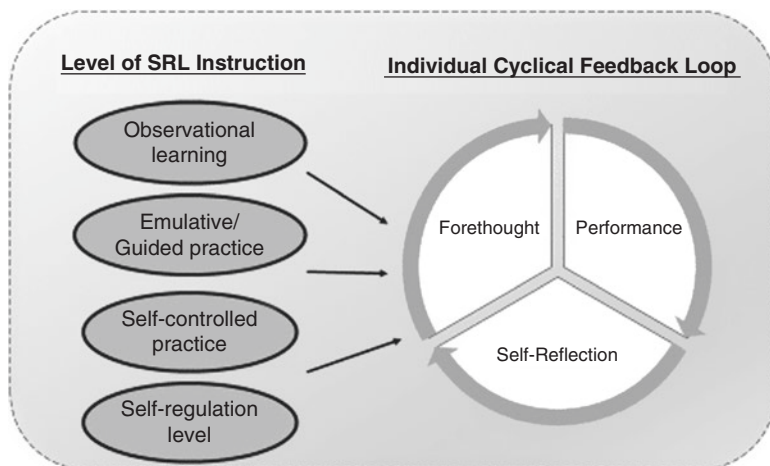
Fig. 15.1 A model depicting the link between levels of SRL development and instruction with individual SRL phases

for an exam, they strive to understand the requirements of the assignments, set specific goals, and then develop strategic plans regarding how to attain those goals.

During learning, which aligns with the *performance control* phase of the three-phase feedback loop, individuals will deploy self-control strategies to optimize their attention, learning, and self-management while also using monitoring tactics to track how well they are learning. It is during this enactment phase that regulated learners strategically attempt to learn and gather feedback about performance. This self-generated information (or external feedback from others) is used to engage in *self-reflection*. Like the other two phases of the feedback loop, Zimmerman (2000) depicts self-reflection as a series of subprocesses that collectively enable individuals to examine how well they performed (i.e., self-evaluation), the reasons for their performance (attributions), and the steps they need to take to improve and adapt (i.e., adaptive inferences). A cycle of SRL is considered complete when individuals use self-reflection reactions to guide forethought processes during subsequent learning. A core objective of SREP is to empower and enable school-aged children and adolescents to engage effectively in this form of strategic and cyclical thinking and action.

Four-level model of SRL development Historically, social-cognitive researchers have emphasized the influence of social agents (i.e., teachers, parents, peers) and socialization processes (i.e., feedback, modeling, collaboration) on the development of students' SRL skills and achievement. To capture this developmental process, Zimmerman (2000) proposed a model that specifies how distinct socialization processes operate in integrated and complementary ways across four levels: *observation*, *emulation*, *self-control*, and *self-regulation*. This model is based on the assumption that social influences predominate during the early stages of learning but become less influential as students become more skilled and assume greater responsibility over their learning efforts (Cleary et al., 2018; Zimmerman, 2004).

From this perspective, strategic learning often begins through vicarious mechanisms; that is, individuals learn by observing models demonstrating specific ways of thinking or the use of certain skills or strategies (Cleary, Zimmerman, & Keating, 2006; Zimmerman & Kitsantas, 1997). It is at this *observational* level when individuals develop a representation of the general form or essence of the observed skill. Research has shown that modeling can have a direct influence on student achievement and regulatory skills (Kitsantas, Zimmerman, & Cleary, 2000; Schunk, Hanson, & Cox, 1987).

After students acquire information regarding the modeled strategies or behaviors, they need to emulate or practice these strategies under supervision and guidance. At this *emulative level*, teachers, parents, or other social agents seek to refine the quality of students' strategic skills and behavior through feedback, guidance, and other types of social support. Ideally, teachers will typically create a structured, guided practice environment within which students can practice the modeled strategies while receiving feedback, SRL prompts, and/or opportunities to engage in interactive, collaborative dialogue (Schunk & Swartz, 1993; Zimmerman & Kitsantas, 2002). Because SREP tends to target students with underdeveloped strategic skills, the majority of SREP sessions are situated at the observational and emulation levels of SRL development.

At the *self-control level*, students are able to perform the modeled behaviors without much guidance or feedback from a teacher or more expert individual (Zimmerman, 2000). As compared to guided practice sessions that are structured and heavily influenced by the social agent, self-controlled practice sessions tend to be directed and managed by students, although the social agent can play a role in structuring practice and can provide assistance and feedback as determined by student needs and requests. At the final level, the *self-regulated level*, learners are able to engage proactively in cyclical thinking and action in a highly independent way by structuring their own practice sessions and applying their strategic and regulatory behaviors across situations and contexts (Zimmerman, 2004). A goal of SREP instruction is to closely guide students through the observation and emulative levels of development while also providing opportunities for student to self-direct and control aspects of additional practice sessions.

In sum, the four-level model of development delineates the instructional process through which teachers or others can guide students in their development of phase-specific SRL skills (see Fig. 15.1). SREP draws upon both of these frameworks to guide instructional activities.

Instructional Characteristics

SREP adheres to a flexible or semi-structured protocol approach to instruction that is administered by trained coaches to small groups of students multiple times per week, typically over the course of 3–4 months. To date, SREP coaches have involved graduate students, school counselors, school psychologists, or assistant principals

(Cleary et al., 2017; Cleary & Platten, 2013; Cleary, Platten, & Nelson, 2008; Cleary & Zimmerman, 2004). An important feature of SREP is that the instruction is directly linked with a particular content area or course. This feature enables students to develop and practice their SRL skills as they encounter challenges and obstacles inherent in those authentic learning contexts. The instructional modules and guidelines used in SREP can be categorized into one of three components: (a) foundational, (b) strategy learning and practice, and (c) self-reflection (Cleary et al., 2017). I summarize the purposes, timing of administration, and core instructional features for each of these components (see Table 15.1).

Foundational modules The foundation modules encompass the first 4–5 sessions of SREP, and thus set the stage for subsequent SREP instruction. It is during these introductory modules that students learn about the overall structure of SREP, the key monitoring forms and worksheets used throughout the program, and core forethought phase processes, such as task analysis, strategic planning, and goal-setting. SREP coaches also emphasize the importance of "strategic thinking," specifically in terms of how they approach learning activities and evaluate their success or failure. These foundation modules are administered only once and serve to simply introduce core SRL principles to students that will be revisited during subsequent SREP sessions and activities (Cleary et al., 2008).

Strategic instruction and practice Following these highly structured module-driven foundational sessions, the SREP coaches adhere to a structured yet more dynamic weekly instructional format called RAPPS (*R*eview, *A*nalysis, *P*ractice, *P*lan, *S*elf-direction; Cleary et al., 2017). SREP coaches use RAPPS to immerse students in a weekly feedback loop that emphasizes students' use of learning and SRL strategies within the target course (e.g., Algebra I, biology). The *Review (R)* and *Analysis (A)* steps are administered on the first SREP session of a given week. The *R* step involves a type of check-in or collaborative exchange between SREP coach and students regarding student successes and/or obstacles encountered when independently using strategies at home. The SREP coach encourages students in their group to share personal experiences about their use of strategies, which enables students to learn from each other and the coaches to gain insights about student experiences when practicing strategies on their own (self-controlled level of development). A weekly planning worksheet is used by students to monitor their strategy use at home and to record challenges that they experience (Cleary et al., 2017).

The SREP coach then engages students in *Analysis*, which involves group conversations about upcoming content/activities/tests in the target course as well as specific areas of challenge that each student might be experiencing. In essence, the SREP coach and students engage in collaborative planning about the strategies or skills that should be addressed during that current week of SREP sessions. In total, the *R* and *A* steps of RAPPS take approximately 5–8 minutes to complete and represent the reflection (Review) and forethought (Analyze) aspects of the weekly feedback loop.

Table 15.1 Key features and characteristics of core instructional components

Instructional component	Purposes	Timing of administration	Key instructional features
Foundational modules	• To build rapport • To enhance student knowledge of core SRL concepts and forethought phase processes (task analysis, goal-setting and planning) • To enhance student knowledge and skill in using monitoring worksheets	Administered during first 4–5 SREP sessions	• Use of structured modules • Rapport building activity • Causal attribution activity • Use of case scenarios to illustrate fore-thought processes • Initial modeling and guided practice for using monitoring worksheets

RAAPS instruction	• To immerse students in weekly cyclical feedback loops
	• To enhance student knowledge and skills in using learning and SRL strategies
	• To enhance student awareness about their strengths and weaknesses and quality of learning success
		Administered weekly on an on-going basis	• RAPPS instructional format
			  – Review
			  – Analyze
			  – Practice
			  – Planning
			  – Self-direction
			• Strategy explanation and modeling
			• Guided practice opportunities involving feedback, prompts, and collaborative exchanges

Self-reflection module	• To immerse students in performance outcome feedback loop • To engage students in structured reflection activities • To encourage students to self-evaluate in terms of prior grades and personal goals • To encourage students to make functional and positive attributions and adaptive inferences	Administered following each performance outcome (e.g., exam grade)	• Independent self-reflection activity • Graphing procedures • Reflection dialogues within SREP groups

Following the *R and A* steps, SREP coaches engage students in a sequence of modeling (observation level) and guided practice sessions (emulation level) to help student acquire and refine their use of learning and regulatory strategies. As part of this *Practice (P)* step, SREP coaches model strategies and then provide feedback, SRL prompts, and encouragement to students as they practice using these strategies. The majority of SREP sessions (60–70%) focus on this step because it involves

extensive practice opportunities for students to use strategies (e.g., self-quizzing, time management, help seeking) that can help them to effectively address and overcome the personal challenges that they experience (Cleary et al., 2017). The fourth step, *Planning (P)*, is administered during the last 5 minutes of the final SREP session in a given week. The SREP coach prompts students to develop a personal, individualized plan (using a strategy planning worksheet) regarding the strategies that students will attain to use when completing upcoming coursework.

The last step in RAPPS, *Self-direction (S),* differs from all other steps because it is not directed by the SREP coach and typically occurs outside of the school context. It is during this step that students use their strategy plan worksheet (the previous step) to guide their thinking and approach to their schoolwork. Students have the opportunity to use the worksheet as a tool to record the various challenges they experienced when using strategies. The ultimate purpose of this final step is to provide students with self-controlled practice opportunities that enable them to develop greater responsibility for making decisions about when and how to implement and monitor their use of strategies.

Self-reflection module The final component of SREP instruction involves a *self-reflection module*. This module is administered after students receive feedback about their performance on the target academic outcomes (e.g., test grades). Thus, in contrast to the foundational modules, which are only administered a single time, the self-reflection module is administered each time students receive performance feedback about the target outcome of interest (e.g., test grades), typically every 3–4 weeks. As part of this reflection process, the SREP coach guides students through a highly systematic process of self-reflection that enables them to address specific reflection phase questions: "*how well did I do?*" (self-evaluation); "*what are the reasons why I performed this way?*" (attributions); "*am I satisfied with my performance?*" (satisfaction/affect), and "*what do I need to do to improve?*" (adaptive inferences). SREP coaches use a *Self-Regulation Graph* (see Cleary & Platten, 2013) as the instructional tool through which to help students reflect in adaptive, empowering ways. For example, students are taught to evaluate their performance relative to personal goals or prior test grades (rather than based on norms), to focus on strategic causes of their performance, and to identify strategies that one needs to use and refine in order to improve. Specifically, the SREP coach strives to get students to think about success or failure in terms of variables that are controllable and most directly linked to success; that is, their effort in using learning and regulatory strategies emphasized during SREP (Borkowski, Weyhing, & Carr, 1988; Cleary et al., 2017; Clifford, 1986).

Empirical Studies Involving SREP

To date, researchers have used mixed model case study designs and experimental methodologies to examine the effects of SREP (Cleary et al., 2008; Cleary et al., 2017; Cleary & Platten, 2013) on the achievement and SRL skills of academically

at-risk middle school and high school students in STEM content areas (e.g., mathematics, biology). All studies have been similar in that they targeted an ethnically diverse group of adolescents who exhibited marginal to proficient academic skills based on standardized academic tests, but who demonstrated poor classroom performance on classroom-based exams, with grades ranging from C to F. Based on school records, the participants were not reported to possess a learning disability, but were identified by their teachers as exhibiting some type of regulatory deficit (i.e., poor organization, time management, etc.).

Two of the studies utilized a case study embedded within a pretest-posttest methodology (Cleary et al., 2008; Cleary & Platten, 2013). These studies were similar in that the authors sampled 9th grade students enrolled in a biology course, provided identical SREP instructional procedures, administered a multi-dimensional SRL assessment approach (i.e., self-report questionnaires, teacher ratings, SRL microanalytic protocols, and field note observations), and used classroom-based exam scores (raw scores were converted to z-scores based on overall class performance) to track performance for in-class biology exams. In terms of achievement gains of students receiving SREP, the two studies reported promising results. Cleary et al. (2008) targeted five students and found that the average z-score gain on classroom-based biology exams (calculated by comparing the baseline test average to the intervention test average) was approximately 0.70, with all students showing positive gains. Stated differently, while the SREP students exhibited below average classroom-based biology test grades at baseline (relative to the class mean), they exhibited above average scores on the classroom exams taken during the intervention. Cleary and Platten (2013) included four students in their study and reported a similar trend in improved biology test scores, although the average *z*-score gain of 0.38 was lower than the previous study. Again, all students in this study showed positive *z*-score gains in performance.

Both of these studies used reliability change index (RCI) scores to examine pretest-posttest changes in the SREP students' use of regulatory strategies and self-efficacy beliefs, as conveyed via self-reports and teacher ratings. The results were somewhat mixed. Using the SREP group average on self-report questionnaires and teacher ratings, Cleary et al. (2008) observed statistically significant pretest-posttest gains across frequency of strategy use. SREP students also showed significant gains in self-efficacy for learning and performance. Cleary and Platten (2013) reported RCI scores at the individual level. Interestingly, although statistically significant pretest-posttest gains in student SRL were found when using teacher ratings of student SRL behaviors in the classroom, no such gains were found when students' self-reports of their SRL behaviors were used.

Across both studies, however, qualitative analyses revealed important shifts in students' strategic thinking and reflections *during* the intervention. For example, Cleary et al. (2008) indicated that the nature of individuals' attributions following tests grade improved in quality over time; that is, the attributions became more focused on specific strategies and behaviors rather than overly broad or uncontrollable factors. Cleary and Platten (2013) conducted an intensive qualitative analysis that integrated data across field notes, microanalytic questions, questionnaires, and

teacher ratings. Of particular importance was that although all students showed positive shifts in achievement (based on *z*-scores) at various points during the intervention, students who attended SREP on a more regular basis displayed more frequent practice of regulatory and learning strategies and demonstrated more adaptive shifts in their strategic thinking exhibited the most robust shifts in performance.

Although these two case studies offer promising empirical support for SREP and the hypothesized link between SRL training and achievement, the internal validity of these studies was weak. Cleary et al. (2017) used experimental methodology to more rigorously examine the effects of SREP on students' SRL skills and overall achievement. In addition to differences in research design, the current study was unique because it focused on middle school mathematics and included about *6 hours less* total instructional time (due to logistical constraints at the school). Cleary et al. (2017) also differed from the initial SREP case studies because it used school staff members as SREP coaches rather than research assistants, and utilized a standardized measure of mathematics achievement rather than classroom exam grades. However, all SREP investigations have used virtually identical instructional procedures targeting highly similar samples; that is, students were from diverse ethnic backgrounds with many being from economically disadvantaged situations.

In this study, a total of 44 students were randomly assigned to a SREP condition or comparison group. The two groups received an identical number of hours of instructional support (approximately 12 hours over 28 sessions) and were administered identical assessment measures (questionnaires, microanalytic SRL questions, test preparation scenario) at all phases of the project. However, they differed in terms of the nature of the remedial instruction. The majority of instruction received by SREP students involved the core components of SREP (i.e., foundational modules, RAPPS instruction, and self-reflection modules), although approximately 20% of the sessions were devoted to some type of mathematics instruction or practice. In contrast, the instruction provided to the comparison group involved direct instruction in mathematics concepts and afforded students the opportunities to practice solving mathematics problems, to ask questions of two mathematics teachers, and to work collaboratively with peers on mathematics homework problems (Cleary et al., 2017).

In terms of achievement, the authors were primarily interested in examining trends in student performance on quarterly standardized tests (total of six tests) of mathematics skills across 2 years of middle school. A two-way mixed model design revealed that the pattern of achievement scores across 7th and 8th grades for the SREP students was distinct and more positive than the trend for the comparison group. Follow-up analysis also revealed that although the two conditions only differed in achievement in the first semester of 8th grade, the SREP group revealed above average performance on every exam in 8th grade, whereas the comparison group displayed consistently below average scores.

The authors also observed statistically significant group differences in students' strategic thinking and reflection when using contextualized SRL measures, such as microanalytic questions and case scenarios. In short, SREP students were more

likely to make judgments about performance in terms of strategies, draw conclusions about the need to adapt strategies during future learning, and develop more comprehensive strategic plans as they studied for exams (Cleary et al., 2017). Similar to Cleary and Platten (2013), no significant group differences emerged across student SRL when self-report questionnaires were used.

The aforementioned three studies also examined the social validity of SREP. Across all studies, students, teachers, and/or parents were asked to complete a short question targeting their perceptions of the acceptability of SREP procedures and the importance of the program for student success. Across all studies, the various consumers of SREP reported very favorable perceptions. Cleary et al. (2008) and Cleary and Platten (2013) reported that the average social validity scores were consistently strong across students, teacher, and parents. In the most recent study, Cleary et al. (2017) assessed the perceptions of students at posttest as well as the perceptions of students and SREP coaches at 2-month follow-up. The student ratings were comparable to prior research, with SREP coach ratings being exceptionally strong.

Conclusion and Future Directions

Given that SREP components are grounded in two well-developed theoretical models and the extant SRL empirical literature, and given that the initial findings regarding SREP effectiveness are quite positive, SREP offers promise as a useful and effective school-based academic intervention for improving the academic and SRL functioning of academically at-risk youth. However, it is also clear that research on SREP is still in its infancy and thus needs to be expanded and refined.

In terms of the effects of SREP on student achievement, a more refined analysis of the short-term and long-term achievement outcomes of SREP is warranted. It may be beneficial to examine whether SREP influences certain types of academic outcomes but not others (classroom-based performance relative to standardized exams). Future research may also want to consider the nature of the student populations that have been studied. To date, although SREP studies have focused on samples that were ethnically diverse and from distinct socioeconomic backgrounds, the samples have been fairly narrow or homogeneous in other regards. For example, across all studies, the participants have been in either the 7th or 9th grade, did not possess a learning or other form of disability, and were failing or near failing in a core content area class. Thus, at this point, it is not clear whether SREP can be effective for elementary school children or for students with particular disabilities, such as a learning disability and other disorders that involve significant processing or executive function challenges, such Attention Deficit Hyperactive Disorder (ADHD; Cleary et al., 2017). It would also be of interest to investigate whether SREP can positively influence students across the continuum of academic achievement status, such as students in gifted programs or in honors classes, as well as those who are performing at an average level but who strive to perform higher.

Finally, because SREP has only been administered as a pull-out, support service for students who are not diagnosed with a disability (Tier II), it is also of interest to explore how SREP fits within the broader continuum of Response to Intervention or Multi-Tiered Systems of Support service delivery models. Thus, how can SREP be modified for mainstreamed classroom contexts (Tier I) and how feasible is it to use SREP as a highly intensive, individualized support program for students with disabilities in Special Education (Tier III)? These are important questions to address because they can further enhance our understanding of how the three-phase cycle of SRL and the four-level of SRL development need to be embedded across different levels of school-based intervention support and with different populations of students. From my perspective, all students can benefit from learning how to think and act in strategic, regulatory ways as they learn in school.

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References

Artino, A. R., Cleary, T. J., Dong, T., Hemmer, P. A., & Durning, S. J. (2014). Exploring clinical reasoning in novices: A self-regulated learning microanalytic assessment approach. *Medical Education, 48*(3), 280–291. https://doi.org/10.1111/medu.12303

Borkowski, J., Weyhing, R., & Carr, M. (1988). Effects of attributional retraining on strategy-based reading comprehension in learning-disabled students. *Journal of Educational Psychology, 80*(1), 46–53.

Cleary, T. J. (Ed.). (2015). *Self-regulated interventions with at-risk youth: Enhancing adaptability, performance, and well-being*. Washington, D.C.: American Psychological Association.

Cleary, T. J., Kitsantas, A., Pape, S. L., & Slemp, J. (2018). Integration of socialization influences and the development of self-regulated learning (SRL) skills: A social-cognitive perspective. In G. A. D. Alief & D. McInerney (Eds.), *Big Theories Revisited* (2nd ed., pp. 269–294). Charlotte, NC: Information Age Publishing.

Cleary, T. J., & Platten, P. (2013). Examining the correspondence between self-regulated learning and academic achievement: A case study analysis [special issue]. *Educational Research International, 2013*, 272560.

Cleary, T. J., Platten, P., & Nelson, A. (2008). Effectiveness of the Self-Regulation Empowerment Program with urban high school students. *Journal of Advanced Academics, 20*(1), 70–107.

Cleary, T. J., Velardi, B., & Schnaidman, B. (2017). Effects of the Self-Regulation Empowerment Program (SREP) on middle school students' strategic skills, self-efficacy, and mathematics achievement. *Journal of School Psychology, 64*, 28–42.

Cleary, T. J., & Zimmerman, B. J. (2004). Self-Regulation Empowerment Program: A school-based program to enhance self-regulated and self-motivated cycles of student learning. *Psychology in the Schools, 41*(5), 537–550.

Cleary, T. J., & Zimmerman, B. J. (2012). A cyclical self-regulatory account of student engagement: Theoretical foundations and applications. In S. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 237–258). New York, NY: Springer.

Cleary, T. J., Zimmerman, B. J., & Keating, T. (2006). Training physical education students to self-regulate during basketball free throw practice. *Research Quarterly for Exercise and Sport, 77*(2), 251–262.

Clifford, M. M. (1986). The comparative effects of strategy and effort attributions. *British Journal of Educational Psychology, 56*, 75–83.

Efklides, A. (2011). Interactions of metacognition with motivation and affect in self-regulated learning: The MASRL model. *Educational Psychologist, 46*(1), 6–25.

Graham, S., & Harris, K. R. (2013). Improving learning disabled students' skills at composing essays: Self-instructional strategy training. *Exceptional Children, 56*(3), 201–214.

Graham, S., McKeown, D., Kiuhara, D., & Harris, K. R. (2012). A meta-analysis of writing instruction for elementary school children. *Journal of Educational Psychology, 104*(4), 879–896.

Kitsantas, A., Zimmerman, B. J., & Cleary, T. J. (2000). The role of observation and emulation in the development of athletic self-regulation. *Journal of Educational Psychology, 92*(4), 811–817.

Kolovelonis, A., Goudas, M., & Dermitzaki, I. (2010). Self-regulated learning of a motor skill through emulation and self-control levels in a physical education setting. *Journal of Applied Sport Psychology, 22*(2), 198–212.

Montague, M., Enders, C., & Dietz, S. (2014). Effects of cognitive strategy instruction on math problem solving of middle school students with learning disabilities. *Learning Disability Quarterly, 34*, 262–272.

Schunk, D. H., Hanson, A. R., & Cox, P. D. (1987). Peer-model attributes and children's achievement behaviors. *Journal of Educational Psychology, 79*, 54–61.

Schunk, D. H., & Swartz, C. W. (1993). Goals and progress feedback: Effects on self-efficacy and writing achievement. *Contemporary Educational Psychology, 18*(3), 337–354.

Suveg, C., Davis, M., & Jones, A. (2015). Emotion regulation interventions for youth with anxiety disorders. In T. Cleary (Ed.), *Self-regulated interventions with at-risk youth: Enhancing adaptability, performance, and well-being* (pp. 137–156). Washington, D.C.: American Psychological Association.

Zimmerman, B. J. (2000). Handbook of self-regulation. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13–39). San Diego, CA: Academic Press.

Zimmerman, B. J. (2004). Sociocultural influence and students' development of academic self-regulation: A social-cognitive perspective. In D. M. McInerney & S. V. Etten (Eds.), *Big theories revisited* (pp. 139–164). Greenwich, CT: Information Age.

Zimmerman, B. J., & Kitsantas, A. (1997). Developmental phases in self-regulation: Shifting from process goals to outcome goals. *Journal of Educational Psychology, 89*(1), 29–36.

Zimmerman, B. J., & Kitsantas, A. (2002). Acquiring writing revision and self-regulatory skill through observation and emulation. *Journal of Educational Psychology, 94*(4), 660–668.

Chapter 16
Promoting Growth Mindset to Foster Cognitive Engagement

Angie J. Pohl and Julie Ann G. Nelson

Student Mindset Examples

Josh is an 11th grade student taking all AP classes. He has a 4.0 GPA and describes school as easy for him. He spends little time on his homework and studying for tests and does well. Josh has been in talented and gifted classes and honors classes his whole school career, and he has always been labeled the smart one in his family. His teachers, his family, and Josh all have high expectations for his future. Josh is struggling in his AP Calculus class. This is the first class that has been challenging for him. He's considering dropping it because he doesn't want to negatively affect his GPA and he's afraid of looking like he's not smart enough to handle the material.

Asha is a 5th grade student who loves playing the clarinet and does well in her math class, but she hates reading. She'll spend hours practicing her clarinet and doesn't mind doing her math homework (it comes pretty easily for her), but she spends little time on reading homework. For as long as she can remember, she has been in special reading groups. She knows she's not good at reading—never has been and never will be. In class, she pretends to do the reading program on the computer and pretends to silent read during independent reading time, but she really doesn't see the point of putting forth the effort. She'd rather be practicing her clarinet—she loves practicing and seeing her growth from barely playing a song to playing it with ease.

Andre is an 8th grade student who is new at school this year. For the first month or two of school, things were going ok—Andre was keeping up with his school-work and earning passing grades. But then the work started getting harder and the assignments started piling up. Andre began to avoid work; he would ask to use

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the bathroom or to go to the nurse frequently and would spend most of the hour out of class. In the classroom, he might be found socializing with his friends or trying to get a rise out of some of his classmates. This often resulted in power struggles with teachers and sometimes led to disciplinary referrals, with Andre spending an increasing amount of time in the main office. Now, at the end of the school year, Andre has stopped even trying to work on assignments and is failing most of his classes.

Precious is an 8th grader who signed up for an honors science and an honors language arts course for the first time this year. While she enjoyed her classes in the past, she didn't feel challenged enough. She talked to her counselor about the move and her counselor warned her that the honors courses would be more work and she may not get As like she's been used to getting. Precious explained that she wasn't concerned about the extra work—she loves learning and wants to be challenged to learn in her classes. She is happy with her decision. She's working harder than ever before, staying after with her teachers frequently for extra help, and earning Bs, but she is excited about being pushed.

What kind of mindset do each of these students have toward their academics? What practices and interventions might be utilized to support each of these students' engagement and academic success?

Our Focus

What motivates each of the students above to engage in or disengage from their learning? To put forth effort or to give minimal effort? To be willing to make mistakes or to avoid mistakes? To persist in the face of challenges or to give up? Researchers have demonstrated that a host of inter-related noncognitive factors contribute to students' willingness to engage in their learning such as their beliefs about their ability to succeed, their goals for learning, their sense of connectedness or belonging, and their perception of the relevance or value of the learning. In this chapter, we will focus on students' beliefs about their intelligence, ability, and effort and how to increase student engagement, particularly cognitive engagement, through promoting a growth mindset.

What Does Mindset Mean?

During development, children form beliefs or mindsets about their intelligence and ability. Those who believe that ability or intelligence is something a person is born with and that it cannot be changed, have an entity theory of intelligence or fixed mindset. Those who believe intelligence and ability are malleable and can change over time are said to have an incremental theory of intelligence or growth mindset. These mindsets are shaped by multiple influences: messages and feedback from

parents and educators, culture, and personal experiences of success and failure. These mindsets in turn impact how children perceive learning, how they face challenges, and how they deal with success and failure. Children with a growth mindset believe that they can change their intelligence or ability through hard work, practice, effort, and using the right strategies. They are more likely to attribute success and failure to effort they put forth (or lack of effort in the case of failure) and the strategies they used. Children with a fixed mindset believe that they have little control over their intelligence. They tend to attribute their successes and failures to their ability (either "I did well because I'm smart" or "I didn't do well because I'm not smart enough") (Dweck, 1986).

Why Promote a Growth Mindset?

Growth mindset is considered advantageous because the belief that intelligence can be developed leads to students being more willing to embrace challenges, persist when they encounter setbacks, view effort as a means to mastering new things, and learn from critical feedback (Dweck, 2006). Students operating from a growth mindset in school perceive learning and putting forth effort as a way to grow their intelligence and get better at something. They see mistakes as opportunities to learn from what didn't work and try again with different strategies. When they fail, they are not deterred from trying again because they believe they haven't mastered the learning target or skill yet, but that there is still an opportunity to do so. Additionally, a recent study demonstrated a positive relationship between growth mindset and resilience, school engagement, and psychological well-being (Zeng, Hou, & Peng, 2016).

Fixed mindset or the belief that intelligence is static leads to students being more likely to avoid challenges, give up when there are obstacles, see effort as futile, become defensive when receiving critical feedback, and feel threatened by the success of others (Dweck, 2006). Depending on how they perceive their own intelligence or ability, learning in school is seen as either a chance to prove their smartness or fail again. They are flustered by obstacles and mistakes because they become worried about failing and not looking smart or believe that they will not be able to overcome the obstacles. Students with a fixed mindset often demonstrate learned helplessness and give up in the face of challenges or ensure they do not put themselves in the position where they may encounter a challenge.

Given the benefits of growth mindset such as willingness to put forth effort and persist through challenges, it is not surprising that researchers have found a positive relationship between growth mindset and academic achievement. For example, Blackwell et al. (2007) followed four cohorts of seventh grade students through eighth grade and examined the relationship between their mindset and their achievement as measured by course grades. They found significant positive correlations between a growth mindset and effort beliefs, learning goals, low helpless attributions (how much they believed ability caused their failure), and use of effort-based

strategies. Seventh and 8th graders' mindsets were found to be significant predictors of mathematics achievement, and when prior math achievement was controlled for, students with growth mindsets and mastery goal orientations outperformed students with fixed mindsets in math.

Additionally, researchers have demonstrated that a growth mindset may serve as a protective factor or buffer against the effects of poverty and effects of stereotype threat on academic achievement. In a study of 10th graders from different income levels in Chile, researchers found that though students from low-income homes were less likely to have a growth mindset, those who did were more likely to exhibit academic performance similar to their wealthier peers (Claro, Paunesku, & Dweck, 2016). Aronson, Fried, and Good (2002) conducted an intervention study with college students and found that teaching a growth mindset to students, particularly African American students, helped them resist stereotype threats (student awareness of negative stereotypes about the intelligence of African American versus White students) and perform better in college than their peers in the control group. All students receiving the intervention also reported viewing intelligence as more malleable, enjoying the educational process more, and valuing academics more than did their peers in the control conditions. African American students receiving the intervention still perceived the threat of the negative stereotypes during their school experience, but the intervention likely aided in changing how they responded to that threat and how they were able to overcome it successfully. Good et al. (2003) conducted an intervention study with junior high school students and found that students, particularly female students, receiving a growth mindset intervention increased their math standardized test scores as compared to students in the control condition. Results indicated that focusing on promoting growth mindset in the intervention helped to negate the stereotype threat that females and students of color tend to face regarding their performance on standardized math tests. Interventions aimed at counteracting stereotype threat and improving achievement for females, students of color, and students from low-income families continue to be created and evaluated (Aronson, Cohen, McColskey, & Montrosse, 2009).

What Are the Mindsets of Our Student Examples?

Let's consider the mindsets of our students described in the opening of the chapter and the advantages of growth mindset and the disadvantages of a fixed mindset for each student.

Precious is an example of a student with a growth mindset. She loves to be challenged and to learn new things. She has strategies for persisting when she struggles like putting in extra time and effort and asking for help. She is less concerned with her grades than with learning new things. She is prouder of the effort and work she puts in to earning a B in her advanced classes than she is in easily earning an A in unchallenging classes.

As Josh is considering whether or not to drop his Calculus class, he is exhibiting a fixed mindset. He is concerned about maintaining his reputation as a smart student and afraid that poor performance or struggling in Calculus will make others question his intelligence. Because he has avoided challenges or rarely encountered them in the past, he is unprepared to deal with them now. Putting in effort and asking for help are strategies he identifies as signs of weakness or failure. He is also questioning whether he has the ability to handle the material and is considering avoiding the class and the possibility of failure rather than facing the challenge.

Precious clearly has a growth mindset and Josh a fixed mindset. Asha's mindset is a bit more difficult to decipher from the description provided because she displays a mixed mindset—both growth and fixed mindsets in different contexts. This is common—rarely do people exhibit a growth mindset all of the time; instead, most people display a mixture of mindsets. Asha demonstrates a growth mindset when it comes to music. She enjoys practicing her clarinet and will put forth time and effort to help her get better. She understands she won't be able to easily play a piece right away and is willing to make mistakes and keep trying in order to improve. The same is not true of her academics. She puts forth just enough effort to maintain the impression that she is good at math, but sees no value in putting forth effort in reading, because it is something she's not good at and will never be able to get better at. She has a fixed mindset when it comes to her academics. It is important to note that people may have mixed mindsets—different mindsets in different areas of their life. Students in our schools may have different mindsets toward different academic subjects and toward extracurricular activities like sports or music. Some may spend hours improving their skills at a video game but may not believe the same time and effort will help them improve their skills at school.

Andre has a fixed mindset for academics, and he is different from the other students in how he appears to his teachers and peers. Although Josh and Asha engage in behaviors that may have a negative impact on their own growth and learning, like pretending to read or choosing an easier class, Andre's behaviors are more obvious and disruptive to the classroom. Andre knows he is behind on his schoolwork, and because he has a fixed mindset, he does not believe he will be able to learn the things he doesn't understand and be able to catch up. This is difficult for him to accept, and rather than be forced to think about how he isn't smart enough, he becomes defensive and avoidant, chooses other activities he knows he's good at, like socializing, and avoids work altogether. He doesn't really like getting in trouble with his teachers, but it's better than having to face classwork that reminds him every day about how (based on his fixed mindset beliefs) he's not smart and never will be. Furthermore, because Andre is social and highly attuned to what his peers think, he'd rather they believe he is choosing not to do the work than that he can't do it. It is easy to miss looking at students like Andre through a mindset lens, because their behaviors distract from what is going on inside.

How Can We Promote a Growth Mindset?

Fortunately, as discussed by some of the studies referenced above, mindsets are malleable and students can be taught to adopt a growth mindset associated with increased effort, persistence despite challenge, and better performance (Blackwell et al., 2007). A host of intervention studies have demonstrated that brief interventions can have long-term effects on students' mindsets and ultimately their school success. Research-based intervention and strategy ideas for promoting a growth mindset are listed below.

1. *Explicitly teach a growth mindset.*

Many intervention studies focused on promoting growth mindset have included a specific intervention aimed at teaching students explicitly about how their brains work and how they can develop their intelligence and ability. Blackwell et al. (2007) conducted an intervention study to determine if they could teach 7th grade students to approach work from a growth mindset and in turn perform better academically. Results indicated that the students in the control group saw a drop in their grades from the beginning of 7th grade to the end, as is typical for junior high students, but students in the experimental condition saw no such drop, indicating that explicitly teaching students about the control they have over their brains and ability led to them performing better academically.

Blackwell and colleagues' study, like many, was a small-scale intervention study that was carefully managed. Wanting to explore whether interventions like this one and other mindset interventions could be scaled up and easily implemented in schools (where the conditions are not so tightly managed), Paunesku and his colleagues (2015) studied the effects of two online interventions with over 1,600 high school students. Both interventions were designed to help students persist when they encountered academic difficulties. One intervention directly taught students about the malleability of intelligence and included students reading an article about how the brain changes and reorganizes given students' learning, use of strategies, and effort. The other intervention focused on helping students to see the purpose of their learning and how their school academic tasks tied to their future goals. The researchers found that both interventions helped students, especially those at risk for dropping out, raise their grades and perform satisfactorily in their core courses. The study demonstrated the potential of scaling up brief, inexpensive mindset interventions.

So what are some possible components of explicitly teaching a growth mindset?

(a) Teach how the brain works and that it is a muscle that can become stronger and smarter through learning, effort, and hard work. Explain that working on challenging tasks can help grow their intelligence.

(b) Emphasize that mistakes and failures are not weaknesses but learning opportunities and opportunities to grow their brains even more.

(c) Emphasize that ability and intelligence are developed, not born and that all the people we think of as successful in their fields have had to work hard to become so.

(d) Teach about the two types of mindsets—growth and fixed mindset and the advantages and disadvantages of each. Help students to identify their current mindset.

(e) Teach them how much fun a challenging task is, how interesting and informative errors are, and how great it is to struggle with something and make progress. Most of all, teach them that by taking on challenges, making mistakes, and putting forth effort, they are making themselves smarter.

 (f) Use the discussion starters at the end of this chapter to help guide your discussions with students about growth mindset, effort, and persistence.

2. *Utilize effort-based and strategy-use praise and feedback and avoid ability-based praise.*

Despite the common belief that all praise is good, researchers have repeatedly demonstrated that praising children's intelligence harms their motivation and their performance and can lead to the development of a fixed mindset. For example, in a study of 5th graders who were praised for either intelligence or hard work, those praised for intelligence showed less persistence, less enjoyment in their learning, poorer performance, and more concern about how they performed in relation to their peers after failure than did those praised for effort. They also were more likely to attribute their failures to low ability and believe that ability was fixed (Mueller & Dweck, 1998). When considering the praise we give children, Carol Dweck explains that "In fact, every word and action can send a message. It tells children—or students, or athletes—how to think about themselves. It can be a fixed-mindset message that says: *You have permanent traits and I'm judging them.* Or it can be a growth-mindset message that says: *You are a developing person and I am interested in your development.*" (Dweck, 2006, p. 168)

The suggestion then is that when interacting with students, use language that reflects a growth mindset. Rather than praising students by telling them that they are smart, good at math, a natural athlete, etc., tell them you know they are working hard, perhaps despite a difficult task, and learning a lot. Praise them for the strategies they are using and the time they are dedicating to practicing. Praise them for the improvements they are making due to their efforts. Ask them questions about their process and their choices. Ask them how they deal with setbacks and challenges. Ask them how they feel about overcoming obstacles, persisting, failing, and eventually succeeding. Students hear the messages their teachers and other adults send about the value of effort and ability in the classroom, they internalize these messages, and these messages shape their view of their intelligence and its malleability. However, beware that all praise targeting effort is not equal. Avoid giving empty praise or praise for effort when the student is dealing with a failure. A student who has just failed a math test and is praised for "studying hard and trying his best" may interpret the praise to mean, "I didn't believe you could do any better" and "working hard doesn't always pay off," interpretations that threaten motivation, self-efficacy, and the willingness to try again. Instead, the teacher could explore the strategies used by the student and the places he stumbled and then work with him to try different strategies to master the material.

3. *Provide opportunities for students to be successful and help students develop self-efficacy.*

Student self-efficacy refers to students' beliefs about their ability to achieve their academic goals (Zimmerman, 2000). The stronger students' self-efficacy beliefs, the more likely they are to participate in their learning, put forth effort, persist in the face of challenges, and succeed in accomplishing what they set out to accomplish. Through that experience, they are part of a recursive loop of seeing that success can come through their effort and their strategies, they have agency in their learning, and they have control over their intelligence and their ability. This then continuously shapes an incremental theory of intelligence or a growth mindset.

The reverse is also true. If a student continuously experiences failure, despite effort and use of a variety of strategies, they may develop low self-efficacy, attribute their failure to their low ability, feel like they are not able to change their ability or intelligence, and be less likely to keep putting forth effort. Therefore, it is critical that educators provide opportunities for students to be successful in their learning—to see that their effort and their strategies can lead to their success. Providing learning materials at the students' instructional level, scaffolding challenging tasks, and teaching strategies for approaching challenges can all help to set students up for successful learning. And when students experience success, celebrate! Praise students for their effort, use of strategies, and persistence toward reaching their goals. Encourage students to reflect on their achievements and how they were able to achieve their goals.

4. *Share growth mindset role models.*

Provide students with examples of people who have exhibited a growth mindset in their learning, work, or achievements. Share stories of students like them, people they may know from their community, or famous people and discuss the role effort, failure, persistence, and motivation played in those individuals' journeys to success. Some resources for these stories might include local newspaper articles, magazines for kids and teens, books, and online videos. For example, you may show a video about Michael Jordan and his basketball success. You could discuss how Michael Jordan developed his talent through hard work, practice, skill building, learning from mistakes, and persisting. Keep in mind that though stories about famous people may be engaging to students, stories about people in whom students can see themselves tend to be the most effective for modeling.

5. *Emphasize that a failing grade does not mean the student is a failure.*

Work with students to view failures as opportunities to learn for future assignments. Students with performance goals in particular are likely to become avoidant after a failure, especially if they have expended a great deal of effort toward performing the task. Help students examine which strategies they used on the task, whether they were helpful, and help them select a more effective set of strategies to use on similar future tasks.

6. *Provide actionable feedback with opportunities for resubmission.*

Another strategy to help prevent students from becoming defensive and avoidant after a failure is to provide high-quality feedback and opportunities for resubmission. Feedback is most helpful for promoting a growth mindset when it focuses on a few action steps, emphasizes process as well as product, provides specific information requested by students, and most importantly, allows students the opportunity to revise and resubmit their work before it is graded (Nicol & MacFarlane-Dick, 2006). Giving students a chance to edit their work according to external feedback allows them an opportunity to learn for the next assignment. This feedback can be provided by a teacher or within a peer learning model. When students have a chance to request specifically what they want feedback on, it also helps them to develop a sense of competence and control over their learning and performance. When students do not have an opportunity to resubmit their work, they are more likely to focus on a poor grade and react defensively, which may even lead to avoiding future effort altogether (Ames, 1992; Zimmerman, 2000). Opportunities for resubmission show students that making errors and subsequently correcting them is part of the learning process, opening the door to the understanding that effort is more important than ability in determining school success.

7. *Discourage social comparison.*

Encourage students to compare their achievement to their own personal best, rather than to how other students in the classroom are doing. This can be achieved through setting goals based on previous work or grades and then comparing the results.

8. *Establish the relevance of assignments to promote intrinsic motivation.*

When students see the inherent value of a task and its relevance to their personal goals, they are more motivated to engage in the task and put forth effort toward achieving it (Assor, Kaplan, & Roth, 2002). Encourage teachers to discuss the purpose for each task at the outset and encourage students to link this purpose to their personal future goals. For example, how will successfully completing this task help the student get to college, become a better writer, or be a more confident presenter?

9. *Establish a mastery-oriented classroom.*

Students' approach to and engagement in their learning, also called their goal orientation, is intricately linked with how they view their intelligence. Students with a growth mindset tend to operate from a mastery or learning goal orientation, meaning they are striving to learn a new skill, understand material, increase ability, or accomplish a challenging task. Students with a fixed mindset tend to operate from a performance or ability goal orientation in which they are striving to prove their competence (Elliot & Dweck, 1988). In other words, students with a fixed mindset have goals to prove their intelligence; students with a growth mindset are focused on improving their intelligence. Students with mastery goals are often intrinsically interested in learning the subject matter, and their achievement goal is to work toward a personal sense of mastery over learning the content. These students understand that effort, more importantly than intrinsic ability, is what determines academic

success. Students with mastery goals are also more likely to use deeper cognitive strategies and regulate their own learning (Greene & Miller, 1996). Helping students to develop mastery goals is likely to help them see the connection between effort and outcomes, choose challenging courses and tasks, and become more self-regulated learners.

Teachers play a major role in the type of achievement goals their students adopt. Teachers can promote the adoption of mastery goals in several ways. By allowing students choices in the method and pace of learning where possible, teachers promote students' autonomy and therefore their self-regulated learning and engagement; this can also enhance interest, which has been shown to be an important factor in determining students' levels of motivation (Assor, Kaplan, & Roth, 2002; Siegle, Rubenstein, Pollard, & Romey, 2010). Explaining the purpose for classroom activities and how it can help students in the long term also promotes relevance of the task to the student. Where possible, teachers allow students who perform poorly on tests to improve their work, as this turns evaluation into a learning opportunity for students. If teachers use external rewards for student performance, encourage them to individualize these to the students who need them most as motivation to put forth effort (Ames, 1992).

Recent research has also demonstrated the importance of the teacher and the type of environment the teacher creates in influencing the effectiveness of a mindset intervention. In the study, teachers implemented an intervention designed to teach 7th graders that their ability in science is malleable. Researchers found that the students who experienced the most positive outcomes, including sustained growth mindset and higher achievement in science, had a teacher who emphasized mastery goals, learning, effort, and growth mindset throughout her classroom, not just during the intervention (Schmidt, Shumow, & Kackar-Cam, 2015). These findings confirm the need to create a mastery-oriented classroom in which instruction, tasks, assessments, and feedback all encourage students to put forth effort and use strategies to learn and continue to develop their intelligence.

10. *Understand your own mindset.*

That last point brings us to the importance of educators understanding their own beliefs and how they impact their students. Educators may hold varied beliefs about their students' ability to learn and to succeed, about their students' ability to change their intelligence, and about their own mindset and their own ability to help shape others' mindsets. These beliefs, whether conscious or unconscious, are passed on to their students through their attitudes, actions, interactions with students, and how they structure their classroom and instruction. Educators themselves would benefit from reflecting on their own mindset and beliefs, spending time learning more about mindset and how children learn, and working on promoting their own growth mindset (Brooks, Brooks, & Goldstein, 2012).

Activity

Consider the students described at the opening of this chapter—Josh, Asha, Andre, and Precious. Take time to reflect on their mindsets. Which of the above practices and interventions might be utilized to support each of these students' mindsets, engagement, and academic success?

Summary

In this chapter, we focused on students' beliefs about their intelligence, ability, and effort, and how to increase student engagement through promoting a growth mindset. Growth mindset is the belief that intelligence and ability are malleable and can change over time. Fixed mindset is the belief that ability or intelligence is something a person is born with and that it cannot be changed. Students with a growth mindset are more likely to engage in their learning, embrace challenges, persist when they encounter setbacks, view effort as a means to mastering new things, learn from critical feedback, and ultimately achieve greater success academically.

The research on growth mindset, interventions to promote growth mindset, and the link between growth mindset and student engagement continues to be conducted. The existing research indicates that a growth mindset can be shaped through interventions, and that these interventions do not need to be complicated, time intensive, or expensive. They can be implemented in schools and classrooms by educators. Some interventions are additions to what educators already implement in their classes, and others offer a new way of approaching the way they teach. We offered 10 strategies for educators to consider utilizing to foster a growth mindset and in turn increase cognitive engagement.

1. Explicitly teach a growth mindset.
2. Utilize effort-based and strategy-use praise and feedback and avoid ability-based praise.
3. Provide opportunities for students to be successful and help students develop self-efficacy.
4. Share growth mindset role models.
5. Emphasize that a failing grade does not mean the student is a failure.
6. Provide actionable feedback.
7. Discourage social comparison.
8. Establish the relevance of assignments to promote intrinsic motivation.
9. Establish a mastery-oriented classroom.
10. Understand your own mindset.

Discussion Starters for Promoting a Growth Mindset, Effort, and Persistence

Reflecting on Your Mindset

- What mindset do you hold?

    – Consider the following statements from *Mindset: The New Psychology of Success* (Dweck, 2006) and determine which best matches your own thinking.

        (i) Your intelligence is something very basic about you that can't change very much.
        (ii) You can learn new things, but you can't really change how intelligent you are.
        (iii) No matter how much intelligence you have, you can always change it quite a bit.
        (iv) You can always substantially change how intelligent you are.

    – Statements 1 and 2 are the fixed mindset statements. Statements 3 and 4 reflect the growth mindset.

- What does it mean to have that mindset?
- How do you think that mindset affects how you do in school?
- What are times when you have more of a fixed mindset? More of a growth mindset?

    – What triggers you to have more of a fixed mindset?

- What can you do to change your mindset to a completely growth mindset or to maintain a growth mindset?
- How do you think having a growth mindset can impact your learning?
- How could your teachers, mentors, friends, parents or family help you have a growth mindset?
- What is a positive statement or affirmation you can repeat to yourself when you begin studying or prepare to take a test that will help put you in the right mindset for success?

    – Write the affirmation 3 times. One time use "I", one time use "you" and one time use your name. E.g., I can finish all my homework each week. You can finish all your homework each week. Karen can finish all her homework each week.

Tackling Assignments

- What is the purpose for this assignment?
- Why are you doing it, or why does your teacher want you to do it?
- Why is this task important?
- How will this assignment help you meet your personal goals?
- What will you learn by doing this assignment?
- How can what you learn help you outside of school?
- How confident are you that you can be successful on this task? How do you know you can do it? What have you learned about activities like this in the past?
- What is your goal for this activity? How can it help you to reach your bigger goals?
- How will you know you reached it? What will it look like when it's done right?
- What steps do you need to take to get there?
- What strategies will you need to use? How will you manage your time?
- How hard are you willing to try on this assignment? What would make you more willing to try?

Persisting When the Assignment Is Boring

- How can you make this more interesting for yourself?
- How does it connect to your life?
- How will completing this assignment help you to reach your goals?
- How will you feel when you've completed this assignment well?
- Break the assignment into parts. What is your goal for each part?
- How can you reward yourself for meeting your goal for each part (e.g., after you finish 20 math problems you can play the Wii for 10 minutes)?
- What can you keep telling yourself to help keep you motivated?

Persisting When the Assignment Is Difficult

- What other strategies could you try?
- Break the assignment into parts. What is your goal for each part? How can you reward yourself for meeting your goal for each part?
- Who can you ask for help or talk through the assignment with?

Overcoming Setbacks

- Reflect on the outcome.

  - Was this outcome expected?
  - Why did this outcome occur? What is the cause of the outcome (try to lead students toward attributing poor outcomes to lack of effort, use of ineffective strategies, or lack of knowledge or skills)?
  - What could you have done differently to get a different outcome?
  - What can you do in the future to change the outcome?

- What did you learn from this outcome?
- What strategies do you need to learn to be able to complete this task successfully?
- How much effort did you put in to the task? How did your effort impact your outcome?

References

Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*(3), 261–271.

Aronson, J., Cohen, G., McColskey, W., & Montrosse, B. (2009). *Reducing stereotype threat in classrooms: A review of social-psychological intervention studies on improving the achievement of Black students*. Washington, D.C.: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, US Department of Education.

Aronson, J., Fried, C., & Good, C. (2002). Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence. *Journal of Experimental Social Psychology, 38*, 113–125.

Assor, A., Kaplan, H., & Roth, G. (2002). Choice is good, but relevance is excellent: Autonomy enhancing and suppressing teaching behaviors predicting students' engagement in schoolwork. *British Journal of Educational Psychology, 27*, 261–278.

Blackwell, L. S., Trzesniewski, K., & Dweck. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development, 78*, 246–263.

Brooks, R., Brooks, S., Goldstein, S. (2012). The power of mindsets: Nurturing engagement, motivation, and resilience in students. In Christenson, S. L., Reschly Army L., & C. Wylie (Eds.), *Handbook of research on student engagement* (pp. 541–562). New York, NY: Springer.

Claro, S., Paunesku, D., & Dweck, C. S. (2016). Growth mindset tempers the effects of poverty on academic achievement. *Proceedings of the National Academy of Sciences, 113*, 8664–8668.

Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist, 41*(10), 1040–1048.

Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York, NY: Random House.

Elliot, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology, 54*, 5–12.

Good, C., Aronson, J., & Inzlicht, M. (2003). Improving adolescents' standardized test performance: An intervention to reduce the effects of stereotype threat. *Journal of Applied Developmental Psychology, 24*(6), 645–662.

Greene, B. A., & Miller, R. B. (1996). Influences on achievement: Goals, perceived ability, and cognitive engagement. *Contemporary Educational Psychology, 21*, 181–192.

Mueller, C. M., & Dweck, C. S. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of Personality and Social Psychology, 75*(*1*), 33 52.

Nicol, D. J., & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in Higher Education, 31*, 199–218.

Paunesku, D., Walton, G. M., Romero, C., Smith, E. N., Yeager, D. S., & Dweck, C. S. (2015). Mindset interventions are a scalable treatment for academic underachievement. *Psychological Science, 26*(6), 784–793.

Schmidt, J. A., Shumow, L., & Kackar-Cam, H. Z. (2015). Teacher effects in outcomes of a growth mindset intervention in seventh grade science classes. *Middle Grades Research Journal, 10*(2), 17–32.

Siegle, D., Rubenstein, L. D., Pollard, E., & Romey, E. (2010). Exploring the relationship of college freshmen honors students' effort and ability attribution, interest, and implicit theory of intelligence with perceived ability. *The Gifted Child Quarterly, 54*(2), 92–101.

Zeng, G., Hou, H., & Peng, K. (2016). Effect of growth mindset on school engagement and psychological well-being of Chinese primary and middle school students: The mediating role of resilience. *Frontiers in Psychology, 7*, 1873.

Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13–39). Orlando, FL: Academic Press.

Epilogue

Concluding Thoughts from the Editors

This book has been in the works for a long time. A number of years ago, we had planned to write a book about dropout prevention based on our work with Check & Connect. Instead, our interests evolved, shifting from dropout prevention to school completion with competence. Our interest in student engagement also evolved, from recognizing it as a cornerstone of school completion efforts to viewing student engagement as a construct that is critical for all students, elementary through college. The core components of Check & Connect, such as systematic monitoring of alterable indicators, and the lessons we learned working with youth, families, and schools (e.g., promoting autonomy, belonging, and competence; relationship-building; timely and early intervention) provided a blueprint for our work integrating strategies and interventions to enhance student engagement at universal and more intensive levels of service. We discovered that in many cases, research-based strategies, recommendations, and formal interventions do not vary in terms of purpose or orientation but rather in intensity of efforts, which further speaks to universality of engagement targets for students' school success.

In the last few pages of this book, we summarize what we view as the essential considerations for practice.

Student engagement is a beneficial organizing construct for educators. It has been suggested that student engagement is a meta-construct that unifies different areas of research related to children and youth (e.g., motivation, participation, student–teacher relationships; Fredricks, Blumenfeld, & Paris, 2004). What that means in a practical sense is that student engagement allows us to think broadly about students' school experiences; recognize the interrelated complexity of their emotions, cognitions, and behavior; and consider how interventions may complement each other or even target more than one type of engagement (e.g., fostering affective engagement through promoting positive relationships may also encourage participation in school, increasing behavioral engagement) with a common goal of

promoting positive outcomes for youth. So, rather than an intervention to improve reading skills and another related to peer relationships, it is the desire to enhance student engagement for completion with competence that underlies both. Another implication of the student engagement framework is the importance of students' perspectives—we can't know whether students experience support, have goals for high school completion and college, feel like they belong—without asking them directly. Student engagement is more than observed behavior; it is students' emotion, cognition, *and* behavior. In addition, the student engagement intervention framework is focused on positive outcomes, not just identification of risk.

A lesson we learned early in Check & Connect still applies: *Engaging students at school with learning and promoting positive outcomes requires more than improving attendance or behavior.* In Check & Connect, school completion has been defined as high school graduation with sufficient academic and social competence to ensure the availability of postsecondary options. If school completion is the distal goal, proximal goals on the path to school completion include attending school, engaging in school, and investing in one's future. In the varied studies of Check & Connect (Chap. 1), we have learned that students showing signs of disengagement may be at different points on this continuum of attend-engage-invest, and interventions vary depending on the goal the students need to work toward most immediately. The main goal for some disengaged students is to *attend* school and move toward a high school diploma. Students may attend school without feeling connected, engaged, motivated, or invested in their learning; in fact, they may be trying to avoid a negative outcome or punishment (e.g., truancy, dropping out) rather than focusing on choosing to attend to create options for their future. So, while attendance is not sufficient to ensure students are graduating with competence or future opportunities, it is a necessary condition for school completion. Once students are attending, the goal shifts to increasing their *engagement* at school and with learning, helping students see the value in school (cognitive engagement), feel connected at school (affective engagement), and make academic progress toward school completion (academic engagement). When students engage, they are more likely to keep attending, knowing that school is important and worth their time and effort because it will lead to more opportunities in their future. Optimally, for students who have demonstrated engagement, the goal becomes *investing* in their future—ensuring they are ready for college, career, and life. This means supporting students with developing their college and career knowledge and helping students not only create a vision for their future but also a plan for investing their time, energy, and skills into achieving that vision.

The question we should ask in our approach to student assessment and data management is, *have we created an assessment to intervention link?* In the dropout field and educational research more generally, we are adept at predicting which students will fail, whether that is on a high-stakes assessment, grade retention, or high school dropout. We've long struggled with having data but not being able to use that information for effective intervention. Student engagement is promising, in that indicators of engagement are directly tied to student performance in both short and long terms, *and* these indicators are alterable. Some student engagement indicators are

useful for identifying risk, others for monitoring progress or as targets of intervention. It would be disappointing if student engagement was just another way to predict failure and not used to guide and monitor interventions.

Finally, *promoting successful school completion requires a system that is oriented toward enhancing student engagement and school completion for all students*. The impetus for this conclusion comes from different places. First, student engagement is a construct that is relevant for all students. Why would we focus only on those at greatest risk? Second, intensive interventions are delivered within a school context. Students don't become re-engaged in a vacuum—those intensive efforts exist within a school. To add to this complexity, the school itself is its own unique context. Just as students bring unique characteristics to schooling, so too, does the school. It is for these reasons that there is not one intervention that works in every situation, every time. Thus, efforts to treat intensive interventions as add-ons, ignoring the broader system, are much less effective. This reality of this widely held maxim has been apparent since the earliest days of tiered models of service delivery (e.g., Bollman, Silberglitt & Gibbons, 2007; Graden, Stollar, Poth, 2007; Kovaleski, 2007). Engaging students is no different. What student engagement and school completion offer are unification of efforts across levels of schooling—elementary, middle, and high school and also tiers of support (universal and more intensive practices).

Our interest in the potential of student engagement as a unifying framework for intervention and school completion is undiminished and has grown. The compilation of practical, research-based strategies and interventions in this volume builds upon several years of work (Christenson et al., 2008; Reschly, Appleton, & Pohl, 2014; Reschly, Pohl, Christenson, & Appleton, 2017). Many of the strategies and programs described in this book are not new; rather, it is that student engagement brings them together with a shared goal. In addition, we are excited about the growth in student engagement interventions over the last decade (Fredricks, Reschly, & Christenson, 2019) and expect and look forward to continuing to update, extend, and refine the evidence-base of, and practical recommendations for, student engagement interventions. Adopting a student engagement focus provides practically and empirically based intervention possibilities. Although we have been highlighting student engagement interventions, we are keenly aware that we have not captured all possibilities. Should you have an intervention that has worked well in your school context, please share it with us (engagementinterventions@gmail.com).

Academic Engagement Summary

What Is Academic Engagement?

Academic engagement refers to student participation in academic tasks. Students who are academically engaged are on task, paying attention to instruction, working to complete academic tasks, turning in assignments, completing homework, earning passing grades, and earning credits towards graduation.

How Is Academic Engagement Measured?

Academic engagement is readily observed. For that reason, typical school measures are the most convenient ways to measure academic engagement. Homework completion rate, grades, and credits earned can all be used to determine a student's level of academic engagement. The higher the indicator, the greater is the student academic engagement. Academic engaged time or time on task can be measured through periodic checks throughout the class as to whether or not a student is on task. For example, at 10 minute intervals, Ms. Robins checks whether or not Tim is on task in his math class. Tim was on task 5/6 checks each day this week. That means Tim was on task about 83% of the time. These indicators of academic engagement can be used to establish a baseline of student academic engagement as well as to monitor progress.

What Are Some Research-Based Strategies for Increasing Academic Engagement?

Peer-Assisted Learning Strategies (PALS)

PALS was described in Chap. 5. PALS is a peer-tutoring program used to supplement a school's core reading or mathematics program. Students work together in pairs, alternating between the roles of tutor and tutee. Pairs work together to complete guided instruction and practice activities. The intervention provides opportunities for social interaction, multiple opportunities for each student to ask and respond to questions, and opportunities to receive specific, timely feedback. Through PALS, students are likely to increase their time engaged in academic tasks and their academic skills, thereby increasing their overall academic engagement. PALS can be used as a class-wide, universal intervention or as a targeted intervention with a smaller group of students.

Homework, Organization, and Planning Skills (HOPS) Intervention

HOPS was described in Chap. 6. The HOPS intervention aims to specifically teach students skills needed for academic success including how to organize materials, manage homework, plan, and manage time. Within the intervention, teachers explicitly teach skills for success and utilize tracking sheets to monitor and allow students to self-monitor their progress in utilizing the skills taught. HOPS can be implemented at the whole class, small group, or individual level and has been shown to be effective in increasing student organization and student homework completion (Table 1).

Table 1 Additional academic engagement intervention ideas

Tier	Strategy description
Universal	• Establish clear routines and procedures to minimize opportunities for students to get off task and instructional time lost • Implement high-quality instructional practices including providing clear directions, direct instruction, multiple opportunities to respond, guided practice, and frequent feedback • Provide opportunities for student choice and voice • Utilize culturally proficient practices that allow all students multiple opportunities to interact and collaborate, to have a voice within the class, learn multiple perspectives, and see their own culture and other cultures reflected in the texts • Explicitly teach skills for academic success such as goal setting, managing homework, and study strategies • Facilitate home-school support for learning through regular communication with families, projects that require family or community involvement, and sharing ideas for how families can support learning in the home • Ensure homework given is at the appropriate level, follows time guidelines (10-minute rule per grade (e.g., 1st grade = 10 minutes/night, 4th grade = 40 minutes/night), and supports instruction already delivered (not new content) • Target cognitive and affective engagement, mediators of academic engagement, with interventions
Targeted/ intensive	• Explicitly teach skills for academic success such as goal setting, managing homework, and study strategies • Explicitly teach academic skills, such as reading or math skills, that may be serving as a barrier to academic progress • Utilize after school programs (tutoring, homework help). Seek out and utilize college outreach programs and tutors for students • Intensify partnering and communication efforts with families (e.g., home-school notes, assignment notebooks, enrichment activities) • Implement individual self-monitoring interventions

Note: Adapted from Christenson et al., (2008) and Reschly et al., (2014, 2017)

How Do You Select an Intervention to Increase Academic Engagement?

In selecting an intervention, first identify the student need. If the reason for low academic engagement is a "can't do" issue—the student doesn't have the skills to engage academically—focus on skill building. Ensure you take time to identify the skills that need to be explicitly taught, whether organization, time management, study skills, or foundational math and reading skills. For reading or math skills or interventions to address academic issues, see the What Works Clearinghouse (https://ies.ed.gov/ncee/wwc/) for ideas. If the reason for low academic engagement is a "won't do" or motivational issue, target affective or cognitive engagement (see upcoming sections for ideas).

Behavioral Engagement Summary

What Is Behavioral Engagement?

Behavioral engagement refers to student participation in school and school-related activities and demonstrating appropriate school behaviors. Students with high behavioral engagement attend school regularly, follow school policies and codes of conduct, arrive to class on time, come prepared for class, actively participate in class activities, and participate in extracurricular or co-curricular activities.

How Is Behavioral Engagement Measured?

Like academic engagement, behavioral engagement is readily observed and so may be measured by using information already collected or easily gathered by school personnel. Indicators of behavioral engagement include attendance (including absences and tardies), office referrals, disciplinary consequences such as detention or suspension, PBIS reward tickets earned, and participation in extracurricular activities. Educators may also use behavior charts to monitor particular behaviors such as class preparedness and following class expectations. These measures may be used to establish a baseline of behavioral engagement and to monitor progress and effectiveness of interventions over time. The better the attendance, the lower the discipline incidents, and the greater the participation in school and community activities, the higher the level of behavioral engagement.

What Are Some Research-Based Strategies for Increasing Behavioral Engagement?

Positive Behavioral Interventions and Supports (PBIS)

PBIS, explained in Chap. 10, is a multi-tiered system of supports to prevent problem behavior and increase behavioral engagement. Within a PBIS system, universal or Tier I supports are in place school-wide to prevent problem behavior and include such practices as teaching expected behavior and acknowledging or rewarding students for demonstrating expected behavior. Tier II or targeted interventions and Tier III or intensive interventions support small groups of students or individual students who need additional supports beyond the Tier I supports to be able to meet behavioral expectations and increase their behavioral engagement. More information about implementing PBIS can be found at https://www.pbis.org/.

Good Behavior Game

The Good Behavior Game, described in detail in Chap. 9, is a class-wide, universal intervention to support positive behavior within the classroom by rewarding students for using appropriate behavior during instructional time. The class is divided into teams and points are given when inappropriate behavior is displayed. The team(s) with the lowest number of points at the end of a designated amount of time earns a reward. The game includes a variation in which multiple teams may earn the reward if they score below a preset amount of points. The game has been shown to lead to reduced disruptive behaviors and increased appropriate behaviors in class.

Check In, Check Out (CICO)

CICO, discussed in Chap. 11, evidenced-based Tier 2 or targeted behavioral intervention proved to increase behavioral engagement in school. Students involved in CICO check in before school daily with a positive adult role model within the school. During the check in, they review school behavioral expectations, review their progress yesterday, and receive their daily progress report which they bring to each of their classes. Throughout the day, teachers complete the progress report and give immediate feedback to students on their behavior. At the end of the day, students check out with the same positive adult from the morning and receive feedback and earned reinforcement/incentive. Students then share their daily progress report with their families (Table 2).

Resources on specific Tier I, II, and III behavioral interventions can be found online at websites such as the University of Missouri Evidence-Based Intervention Network at http://ebi.missouri.edu/ and PBIS World https://www.pbisworld.com/.

How Do You Select an Intervention to Increase Behavioral Engagement?

In selecting an intervention, it's important to identify the behavior of concern and then the cause or function of the behavior. For example, if a student is regularly late to class, the behavior of concern is tardiness. The root cause of that behavior then needs to be determined and should be the target for the intervention. Is the student late because they do not have enough time to navigate from their previous class to the next? Is it because they are stopping to talk with friends? Do they not use the most efficient route to class? Are they stopping at their locker when perhaps they do not have time? When the root cause is determined, an intervention that targets that root cause should be selected.

Table 2 Additional behavioral engagement intervention ideas

Tier	Strategy description
Universal	• Establish school-wide and class-wide behavior expectations • Teach, model, and praise or reinforce expected behaviors • Ensure teachers are trained in effective classroom management • Eliminate barriers to participation in extracurricular activities • Actively promote extracurricular activities to all students and personally invite students to participate • Implement a school-wide/class-wide reward system to reinforce behavioral engagement – Respond to inappropriate behavior objectively and fairly
Targeted/intensive	• Design an intervention specifically targeting the behavior of concern • Reinforcement-based individual interventions • Daily behavior report cards • Behavioral contracting • Check In/Check Out • Mentoring & Counseling • Check & Connect • Early risers

Note: Adapted from Christenson et al., (2008) and Reschly et al., (2014, 2017)

Affective Engagement Summary

What Is Affective Engagement?

Affective engagement refers to students' feelings toward school such as their identification with school, a sense of belonging at school, and perceived connection to teachers, school staff, and peers at school. The safer and more connected a student feels at school, the higher their affective engagement. Affective engagement is thought to be a precursor to academic and behavioral engagement. The more affectively engaged a student is, the more likely they are to attend school, participate in school, and demonstrate social emotional and academic success.

How Is Affective Engagement Measured?

Unlike academic and behavioral engagement, affective engagement is more difficult to observe and, therefore, extra effort must be taken to measure it. Student perception is the best indicator of affective engagement, so routinely asking students how they feel at school and about their connections to peers and adults at school is the most direct way to elicit student perception. This can be done informally through conversation or through brief surveys or more formally using existing measures of affective engagement and constructs related to affective engagement (discussed in Chaps. 3 and 12). An additional indirect measure of affective engagement schools

have utilized is a dot activity completed during a staff meeting or professional development. For this activity, a list of all students in the school is printed and posted on a wall. Staff (teachers, administrators, counselors, educational assistants, etc.) is given sheets of dot stickers and asked to place a sticker next to the names of students with whom they feel they have a positive relationship (defined as knowing something personal about the student and their family and believing that the student would feel comfortable coming to them with a personal issue). The more stickers a student has, the more perceived connections they have within the school and the higher their affective engagement is expected to be. Pairing this activity with a student survey on how many positive relationships they have with adults in the school can lead to insightful conversations and the ability to relatively and easily identify students with few or no self-perceived or teacher-perceived connections within the school.

What Are Some Research-Based Strategies for Increasing Affective Engagement?

Banking Time

Banking Time, described in Chap. 13, is a structured intervention designed to promote positive teacher–student relationships. Within the intervention, teachers meet with individual students and engage in an activity selected by the student. During the activity, students take the lead while teachers limit their teacher-directed practices (like asking questions, giving praise, etc.). Instead, teachers observe and comment on what the student is doing and how the child might be feeling. These interactions lead to stronger, more positive relationships between teachers and students, increasing students' affective engagement and improving their behavioral outcomes.

Check & Connect

Described in detail in Chap. 1, Check & Connect is a comprehensive intervention designed to enhance student engagement for marginalized, disengaged students in grades K-12. While it doesn't specifically target affective engagement, it is an example of an evidence-based intervention that systematically connects disengaged students with caring adults and works to increase their connection to school. In *Check & Connect*, students are paired with a mentor who regularly monitors student engagement variables (e.g., absences, tardies, behavioral referrals, grades, credits) and connects with the students to provide personalized, timely interventions to increase engagement and success in school.

How Do You Select an Intervention to Increase Affective Engagement?

As with each subtype of engagement, it is important to understand what is keeping the student from engaging affectively. Is it lack of peer connections? Lack of connections to caring adults? Bullying? Lack of perceived safety? Not identifying with school? Once you've determined the underlying cause of the disaffection, you can select or develop an intervention that directly targets that cause or need. For example, if the student is not connected to any adults in the school, you may connect them to a mentor who will check in with them regularly. If they are not connected to peers, you may invite them to be a part of a lunch bunch or social skills group with prosocial peers (Table 3).

Table 3 Additional affective engagement intervention ideas

Tier	Strategy description

Universal	• Build and maintain positive relationships with students
	  – Ask open-ended questions to get to know students
	  – Actively listen
	  – Maintain a 5:1 ratio of positive to negative interactions
	  – Engage in brief relationship check-ins with students
	• Respond to problem behavior with empathy and random acts of care/kindness (e.g., leaving a note for the student, positive phone call home)
	• Intentionally cultivate positive emotional experiences. (e.g., providing specific praise, regularly greeting students by name, creating opportunities for personal connection, building on students' interests, taking an active interest in students personally, providing students with choice in their learning)
	• Minimize situations that provoke extreme/intense negative emotional reactions (e.g., teacher embarrasses student in front of peers)
	• Implement social emotional learning curriculum school-wide
	• Implement bullying prevention programs school-wide
	• Implement advisory programs with advisors monitoring engagement data.
	• Create opportunities within the school for students to be part of smaller teams or communities (e.g., middle school houses, advisories, smaller learning communities).
	• Enhance peer connections through peer-assisted learning strategies.
	• Combine social support for students from teachers, peers, parents, and community with high levels of academic press
	• Increase participation in extracurricular activities
	• Utilize culturally responsive practices to ensure all students feel valued and welcomed not in spite of, but because of their cultural differences.
	• Seek student voice in authentic ways and allow students to see how their input is used to inform decisions/practices
	• Connect with students' families. The more connected schools and families are, the more connected their children are likely to feel
	• See Chap. 12 for descriptions of the following universal interventions:
	  – Establish Maintain Restore (EMR) Method
	  – Wise Feedback
	  – My Teaching Partner
	  – RULER

(continued)

Table 3 (continued)

Tier	Strategy description
Targeted/intensive	• Systematically build relationships/connections for all students – Identify students who may not feel they have peer or adult connections at school and intentionally connect them to peers and/or caring adults • Implement a mentoring program (utilize volunteers, college students, staff members, etc., as staff members) • Provide support to students who are experiencing negative emotions • Problem-solve with students and assist with personal problems • Teach students how to regulate their emotions within school context • Improve generalizability, intervene across peer, family, and community contexts when possible • Utilize restorative discipline practices to focus on repairing harm and repairing relationships (rather than focusing on punishment) • Connect student to mental health supports within the school • Connect student and family to outside social emotional and mental health supports • Engage students in social skills groups or opportunities for interaction with positive peers such as lunch bunch groups or student leadership groups • Implement social emotional learning curriculum in small groups or individually • See Chap. 12 for descriptions of the following interventions: – FRIENDS Program – Coping Power Program – Anger Replacement Training (ART) – Cognitive Behavioral Intervention for Trauma in Schools (CBITS) – Check In/Check Out (CICO) – Positive Peer Reporting

Note: Adapted from Christenson et al., (2008) and Reschly et al., (2014, 2017)

Cognitive Engagement Summary

What Is Cognitive Engagement?

Cognitive engagement refers to students' investment and interest in their learning, motivation to learn, goal setting, perception of relevance of learning, effort directed toward learning, and use of self-regulated learning strategies. The more motivated and invested a student and the more effort they put into their school work, the greater their cognitive engagement.

How Is Cognitive Engagement Measured?

Like affective engagement, cognitive engagement is challenging to observe and student perception data, gathered formally or informally, are the typical means by which cognitive engagement is measured. Indicators of cognitive engagement

include: use of self-regulated learning strategies such as setting goals, managing time, using study skills, putting forth effort, maintaining self-efficacy and motivation, and persisting in the face of challenges; interest in learning; perceived relevance of school to personal aspirations; valuing of learning; and control of schoolwork.

What Are Some Research-Based Strategies for Increasing Cognitive Engagement?

Self-Regulation Empowerment Program (SREP)

SREP, described in Chap. 15, is an intervention developed to help secondary students become more strategic, motivated, and regulated during complex academic tasks. SREP focuses on training students in task analysis, goal setting, strategic planning, self-recording, self-evaluation, attributing success to strategies used, and adapting their approach to the task when it is challenging. Research conducted using SREP with secondary students has demonstrated promising results, with the intervention found to be related to increased strategic and regulatory thinking, planning, adapting of strategies, and attributing success to strategies rather than uncontrollable forces, as well as improved academic performance.

Additional cognitive engagement intervention ideas	
Tier	Strategy description
Universal	• Teach, model, and promote the use of self-regulated learning strategies such as planning, goal setting, self-monitoring of progress, strategy selection, and self-evaluation
	• Facilitate goal setting class-wide
	• Promote a mastery goal orientation class-wide
	– Utilize standards-based grading
	– Emphasize learning rather than compliance
	– Consider Epstein's (1989) TARGET model for strategies involving Task, Authority, Recognition, Grouping, Evaluation and Time
	• Keep the focus on understanding, skill development, and personal improvement (not personal attributes)
	• Promote a growth mindset through teaching, modeling, and providing opportunities to make mistakes and learn from those mistakes
	• Provide students with choices when completing assignments
	• Provide students with authentic, challenging assignments that relate to life outside of school and to their interests
	• Model learning strategies when teaching specific concepts. Provide student models when possible
	• Provide feedback that emphasizes self-control and the link between effort/practice and improvement
	• Provide professional development training to teachers (e.g., promoting a growth mindset, teaching self-regulated learning strategies, mastery learning, etc.)
	• Encourage parents to deliver messages related to motivational support for learning (high expectations, talk to students about school and schoolwork, valuing of education)

Targeted/ intensive	• Enhance student's personal belief in self through repeated contacts, goal setting, problem solving, and relationship building (e.g., Check & Connect). • Aid the student in defining goals for the future. Discuss the connection between education and those goals for the future • Explicitly teach cognitive and metacognitive strategies such as managing time, chunking assignments, studying for tests, using mnemonic devices, taking notes, making outlines, and comprehending textbooks • Implement self-monitoring interventions (e.g., graph progress toward goals) • Discuss the link between student's effort and the outcome/behavior/success achieved to increase the student's perceived self-control, self-efficacy, and self-determination • Provide specific, positive feedback emphasizing student effort and the strategies used to master a skill or complete a task • Design tasks that are specifically related to student's interests and/or future goals • Help the student set challenging but reachable goals so that he/she can experience success and draw on that success for motivation • Identify barriers to engage in a task such as distractions, poor self-efficacy, not know how to begin, etc. and then problem solve how to eliminate those barriers. • *Self-Regulated Strategy Development:* a writing strategies instructional approach in which the instructor explains, models, and prompts students' use of self-regulated strategies in completing an academic task. (Harris, Graham, Mason, & Friedlander, 1999).

Note: Adapted from Christenson et al., (2008) and Reschly et al., (2014, 2017)

How Do You Select an Intervention to Increase Cognitive Engagement?

In selecting an intervention to promote cognitive engagement, it is necessary to know what is leading to cognitive disengagement. Is the issue a lack of motivation to learn? Inability to see the relevance of the school work? A fixed mindset? Low self-efficacy? Or a lack of self-regulated learning skills? This can be identified through observation, formal and informal surveys, and talking with the student. Once the cause of the disengagement is identified, an intervention that directly targets that cause should be selected. For example, if a student does not see the relevance of school work, it would be important to work with the student to identify what they value and what their goals are for themselves and then help them to make connections between their school work and those values and goals. Another example is if a student has trouble starting a task because it feels overwhelming, the intervention selected may one to help the student break the task into manageable chunks and then create an incentive system for completing each chunk. This might look like taking a break and playing video games for 10 minutes after completing 10 math problems completed or talking with friends after completing each paragraph in a five paragraph essay. Whatever be the cause of the cognitive disengagement is to determined to be, the intervention should directly target that cause.

References

Bollman, K. A., Silberglitt, B., & Gibbons, K. A. (2007). The St. Croix River Education District model: Incorporating systems-level organization and multi-tiered problem-solving process for intervention delivery. In S. R. Jimerson, M. K. Burns, & A. M. VanDerHeyden (Eds.), *Handbook of Response to Intervention: The science and practice of assessment and intervention* (pp. 319–330). New York, NY: Springer.

Christenson, S. L., Reschly, A. L., Appleton, J. J., Berman, S., Spanjers, D., & Varro, P. (2008). Best practices in fostering student engagement. In A. Thomas & J. Grimes (Eds.), *Best practices in school psychology* (5th ed., pp. 1099–1119). Bethesda, MD: National Association of School Psychologists.

Fredricks, J., Reschly, A. L., & Christenson, S. L. (Eds.). (2019). *Handbook of student engagement interventions: Working with disengaged youth*. London, United Kingdom: Academic Press.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*, 59–109.

Graden, J. L., Stollar, S. A., & Poth, R. L. (2007). The Ohio Integrated Systems Model: Overview and lessons learned. In S. R. Jimerson, M. K. Burns, & A. M. VanDerHeyden (Eds.), *Handbook of response to intervention: The science and practice of assessment and intervention* (pp. 288–299). New York, NY: Springer.

Kovaleski, J. F. (2007). Potential pitfalls of Response to Intervention. In S. R. Jimerson, M. K. Burns, & A. M. VanDerHeyden (Eds.), *Handbook of response to intervention: The science and practice of assessment and intervention* (pp. 80–89). New York, NY: Springer.

Reschly, A. L., Appleton, J. J., & Pohl, A. (2014). Best practices in fostering student engagement. In A. Thomas & P. Harrison (Eds.), *Best practices in school psychology* (6th ed.). Bethesda, MD: National Association of School Psychologists.

Reschly, A. L., Pohl, A., Christenson, S. L., & Appleton, J. J. (2017). Engaging adolescents in secondary schools. In B. Schultz, J. Harrison, & S. Evans (Eds.), *School mental health services for adolescents* (pp. 45–77). New York, NY: Oxford University Press.

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