### Introduction

The Second Step Elementary digital program helps students acquire the skills, knowledge, and mindsets needed to persevere through challenges, set and achieve goals, handle strong emotions, better understand and connect with others, and resolve interpersonal conflicts. In addition, the program helps develop students’ executive-function skills and promotes a growth mindset (the belief that intelligence and abilities can be developed). Together these skills and mindsets contribute to positive classroom and school climates that serve as the foundation for academic and social success (Snyder et al., 2012).

### Brain Builders: Executive Function

Elementary students’ executive-function skills are vital for both academic achievement and the development of social-emotional competencies (Eisenberg et al., 2000; Shaw et al., 2003). Executive-function skills encompass various interrelated cognitive processes that enable students to ignore distractions (Klenberg et al., 2001), inhibit impulses (Ciairano et al., 2007), shift between various tasks (Zelazo et al., 2003), remember information (Ponitz et al., 2009), and solve complex problems (Zelazo et al., 2003). These cognitive processes also underlie a child’s ability to engage in flexible, goal-directed behaviors (Garon et al., 2008). Executive-function skills are associated with improved academic achievement and school readiness (Blair & Razza, 2007; Duncan et al., 2007; García-Madruga et al., 2016; Trentacosta & Izard, 2007). Children with strong executive-function skills are less likely to engage in impulsive behavior (Riggs et al., 2006) and more likely to demonstrate social-emotional skills like empathy (Decety & Svetlova, 2012; Riggs et al., 2006), emotion regulation (Riggs et al., 2006), and cooperative behaviors among peers (Ciairano et al., 2007).

Students’ executive-function skills can be improved through experiences and practice opportunities in the classroom (Ponitz et al., 2009). Students can develop executive-function skills through games with explicit rules that directly challenge and provide practice for these skills, such as “Simon Says” (Bodrova & Leong, 2018; Burchinal et al., 2000). With short activities called Brain Builders, the Second Step Elementary digital program supports the development of students’ executive-function skills—specifically, students’ attention, working memory, and inhibitory skills. These fun, interactive activities were designed to provide the direct and appropriately challenging practice that helps students develop their executive-function skills in Kindergarten through Grade 5. Embedded at the beginning of most lessons, the Brain Builder games provide students with a fun opportunity to strengthen their executive-function skills by playing along with an on-screen facilitator. Additionally, the Second Step Elementary digital program includes resources and embedded tips that help educators create conditions—such as orderly, predictable environments and scaffolded learning—that have been associated with development of executive-function skills (Center on the Developing Child at Harvard University, 2011).
Unit 1: Growth Mindset & Goal-Setting

Growth mindset, the belief that our abilities are malleable rather than fixed (Dweck et al., 2014), is the first topic in the Second Step® Elementary digital program because it supports learning across content areas.

A growth mindset is important to social-emotional development and success in school because our beliefs about changing our abilities influence the actions we take toward perseverance and resilience (Yeager & Dweck, 2012). Children who are taught and believe that their intelligence and social skills are flexible have stronger course-completion rates, have more success navigating school transitions, and are less aggressive when faced with peer victimization or exclusion (Yeager & Dweck, 2012; Yeager & Miu, 2011). Interventions to promote a growth mindset about intelligence and academic achievement have been shown to improve grades overall and increase the percentage of at-risk students who pass their classes (Dweck et al., 2014).

The Second Step Elementary digital program supports students in examining evidence and strategies that support a growth mindset by exploring the connection between improvement and practice or effort, normalizing mistakes as a part of learning, and using neuroscience to explain how and why our brains grow as we practice and improve our abilities. Understanding and endorsing these beliefs can improve students’ academic goals (they believe they can learn instead of thinking they’re unintelligent), attitudes toward effort in school (they believe trying hard creates success instead of believing they’re incapable), and responses to setbacks and difficulties (they don’t get derailed by mistakes, but try new strategies and work harder instead of giving up) (Yeager & Dweck, 2012). Additionally, some evidence suggests that providing children with growth mindset interventions before they engage in activities designed to develop executive-function skills supports the development of those skills (Autin & Croizet, 2012), which is why the Second Step Elementary digital program begins with instruction in growth mindset to support the effectiveness of the Brain Builder games throughout.

In the older elementary grades, the Second Step Elementary digital program builds on the foundation of growth mindset to teach students effective goal-setting. Mindset is closely related to how individuals’ approach and set goals (Dweck, 2009). Individuals with a growth mindset tend to set “mastery goals,” which are focused on improvement, as opposed to goals focused on performance compared to others (Poortvliet & Darnon, 2010). The use of mastery goals, in turn, is associated with increases in self-efficacy (Bong, 2009; Hulleman et al., 2010), positive personal relationships (Poortvliet & Darnon, 2010; Rodkin et al., 2013), increased empathy (Poortvliet & Darnon, 2010), and prosocial behavior, or behavior intended to help others (Hulleman et al., 2010; Ohtani & Okada, 2018; Yang & Frye, 2018). The Second Step Elementary digital program supports children in setting achievable mastery goals that are both collective and individual, making effective plans, and identifying strategies and resources to help them follow through on goals, including how to deal with roadblocks and how to modify plans when necessary.

Unit 2: Emotion Management

Emotions play a large and complex role in children’s success inside and outside the classroom. Children’s ability to process and manage emotions is related to how children effectively use executive-function skills like attention and working memory, influences how children approach and solve problems (C. Blair, 2002; Kwon et al., 2017), and can catalyze and support motivation and engagement (Trentacosta & Izard, 2007; Valiente et al., 2012, 2014). Greater emotion knowledge improves social competence and decreases both internalizing problems (for example, experiencing depression and anxiety) and externalizing problems (for example, exhibiting aggression) (Trentacosta & Fine, 2010). Children’s emotion knowledge and emotion-management skills predict their social skills, quality of friendships, peer acceptance (B. L. Blair et al., 2015), and teachers’ perceptions of children’s social competence among their peers (Contreras et al., 2000). Students with poor emotion-management skills are prone to acting impulsively based on their emotions rather than using problem-solving skills, such as analyzing situations, anticipating consequences, and planning (Donohew et al., 2000; Simons et al., 2004). Taken together, having better emotion-management skills helps students cope in more effective ways (Zalewski et al., 2011) and enables students to employ many of the other skills taught in the program, such as perspective-taking and problem-solving.

In the Second Step Elementary digital program, students learn to use behavioral and contextual clues to identify and label emotions in themselves and others. The program helps students process their emotions by teaching them...
to identify the causes, signs, and consequences of their emotions as well as how their emotions relate to their thoughts, actions, and past experiences. It also teaches students a variety of evidence-based strategies to handle strong feelings. These strategies include behavioral techniques to help them feel calm (such as slow breathing), distract themselves (such as taking a break), and relax (such as talking to a friend or adult), as well as cognitive techniques like deliberately altering their thoughts (rethinking a situation) and practicing positive self-talk (helpful thoughts) in an emotional situation. The Second Step® Elementary digital program also teaches students about the purpose of emotions, how emotions impact our bodies and cognition, and how our emotional responses may differ from others' responses because of our own unique past experiences and personal preferences. In addition, the program provides ample opportunities to practice and revisit these skills throughout the units, as research finds that conscious practice of emotion-management techniques, like slow breathing and counting, can result in more automatic use of those strategies and techniques (Bargh & Chartrand, 1999).

**Unit 3: Empathy & Kindness**

Being able to identify and understand how someone is feeling, and then respond in a caring way, provides the foundation for helpful and socially responsible behavior, friendships, and conflict resolution (Batanova & Loukas, 2014). Developing empathy (the ability to understand or feel how others feel) and showing kindness are foundational for building and maintaining positive relationships. Children who have well-developed empathy tend to display more prosocial tendencies, such as assisting or helping others, comforting others, or being responsive to someone else's needs (Findlay et al., 2006). An important part of empathy is the ability to take others' perspectives. Perspective-taking skills have been associated with children's ability to manage emotions (Bengtsson & Arvidsson, 2011) as well as with a broad set of prosocial behaviors, including helping, cooperating, and comforting (Imuta et al., 2016). Students who develop these empathy and perspective-taking skills are also less likely to be physically, verbally, and indirectly aggressive to their peers, highlighting the importance of empathy for cooperation and conflict resolution (Kaukiainen et al., 1999; McDonald & Messinger, 2011; Roberts et al., 2014; Salmivalli, 2010).

The Second Step Elementary digital program helps younger elementary students learn to recognize acts of kindness, explore the effects of kindness on themselves and others, and perform kind acts for others in diverse social situations. As children progress through elementary school, they develop greater abilities to understand and respond to what other people are feeling and an improved ability to see things from others' perspectives. The program uses role-play, authentic scenarios, personal reflection, and discussions to help students develop and apply perspective-taking strategies for empathizing with others (especially when it's difficult to do so) and considering others' unique experiences and personal preferences when acting on empathy.

**Unit 4: Problem-Solving**

An awareness of effective problem-solving strategies is seen as a defining feature of social competence (Rubin et al., 1991). This is in part because children who lack or do not use the skills required to understand others' intentions and to generate and select appropriate social responses are more likely to exhibit aggression (Crick & Dodge, 1994; Dodge et al., 2002; Dodge & Somberg, 1987). Being able to engage effectively in social problem-solving helps children choose prosocial solutions to their problems (Riggs et al., 2006). Teaching students social problem-solving skills can reduce impulsive behavior, improve social adjustment, and prevent violence and other problems that affect children's success (Denham & Almeida, 1987; Hawkins et al., 1998; Shure & Spivack, 1980, 1982; Tolan & Guerra, 1994).

The problem-solving skills taught in the Second Step Elementary digital program, adapted from cognitive-behavioral research based on a social information-processing model (Crick & Dodge, 1994; Van Loan et al., 2019), are designed to scaffold students' ability to effectively handle interpersonal conflicts.

Unit 4 of the Second Step Elementary digital program teaches students a step-by-step framework that builds on the emotion-management and perspective-taking skills developed in prior units and focuses on authentic skill practice (Merrill et al., 2017). Students are taught to help themselves feel calm before following the STEP problem-solving process: Say the problem, Think of solutions, Explore the outcomes, and Pick the best solution. Students learn developmentally appropriate ways to engage with
the framework, from repeating clearly stated problems in kindergarten to using the entire process to solve real-life problems in older grades. The Second Step® Elementary digital program continues to provide opportunities to practice and reinforce empathy and kindness skills from Unit 3 by instructing students in the problem-solving process to both state the problem and evaluate potential solutions from each person's or community's point of view. These steps lead children through constructive, prosocial thought processes to help them manage problems, weigh outcomes, and consider all parties' wants and needs while handling interpersonal conflicts.

References


