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**Big Picture Thinking: Crosswalking Social-Emotional** Learning and Academic Standards

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## Abstract

Counselors and educators must re-imagine social-emotional wellness as an essential part of the academic curriculum. The authors present a collaborative, sustainable model that focuses both on academic rigor and emotional wellness. The authors outline how this model can be integrated in any academic content area and how school counselors and teachers can support each other to meet academic and social-emotional learning outcomes. The authors demonstrate how this model can be integrated into high school math.

Keywords: Social-emotional Learning; School Counseling; Academic Standards; Collaboration

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## Big Picture Thinking: Crosswalking Social-Emotional Learning and Academic Standards

Social-emotional learning (SEL) is an integral component of K-12 mental and behavioral health and academic success. Hundreds of studies have demonstrated positive associations with SEL programs and academic, attitudinal, and behavioral outcomes (Durlak et al., 2011). Research indicates that students who engage in social-emotional learning activities have better relationships, improved grades and test scores, are more likely to graduate, and feel more connected to the school community (Greenberg et al., 2017; Mahoney et al., 2018; OECD, 2021; Taylor et al., 2017). Students who are socially and emotionally competent are more likely to be present in class and engage in their own learning and academic growth (Denham, 2006). Through SEL, students practice and acquire skills that will not only have dividends during childhood and adolescence but will assist them later in life as they navigate the many experiences and tasks of adulthood (Belfield, et al. 2015; Greenberg et al., 2003; Jones et al., 2015). Social-emotional learning improves emotional regulation, empathy, conflict mediation, interpersonal skills, suicide prevention, mental health awareness, academic engagement, and even future career adaptability (Parmentier et al., 2019).

SEL standards have been established within numerous educational contexts and professional frameworks. Many countries have recognized and embedded SEL concepts and competencies within their educational systems, including Canada, China, Colombia, Portugal, South Korea, and the United States (OECD, 2021). According to the Collaborative for Academic, Social, and Emotional Learning (CASEL), as of 2022, 27 states in the United States have adopted SEL competencies and 44 states offer guidance for schools in implementing SEL (CASEL, 2022). Over two decades ago, the American School Counselor Association (ASCA) established student standards for academic success, college and career readiness, and social-emotional development (ASCA, 2004). The current version, *ASCA Student Standards: Mindsets and Behaviors for Student Success*, outlines learning strategies, self-management skills, social skills, and mindsets necessary for academic and social-emotional development. The Standards are "based on a survey of research and best practices in student achievement" (ASCA, 2021, p. 2).

In addition to SEL standards, many countries have established academic standards for primary and secondary educational systems. For example, the United States requires K-12 schools to adopt challenging standards in mathematics, reading or language arts, and science (Every Student Succeeds Act, 2015). Several states go further and recommend or require academic standards in other subject areas as well (Ballotpedia, 2023; New Jersey Department of Education, 2024; Pennsylvania State Board of Education, 2024; Washington Office of Superintendent of Public Instruction, 2024).

School systems are experiencing significant and ongoing shortages in resources (Leachman et al., 2017; Sutcher et al., 2016) due to increases in student emotional and behavioral problems (Centers for Disease Control and Prevention, 2023; Conley & You, 2021; Englander, 2021; Keyes et al., 2019; World Health Organization, 2022), educator shortages (U.S. Department of Education,

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2023; UNESCO, 2023), and test-based accountability systems (Saeki et al., 2018). Further, school counselors' assigned duties can vary greatly depending on school administration and district policies and practices, often resulting in a mismatch between school counselors' unique training, knowledge, and expertise when compared to their actual assigned duties (ASCA, n.d; Havlik et al., 2019; Neyland-Brown et al., 2019). It is imperative that school counselors and educators collaborate to find effective and efficient ways to integrate SEL throughout the curriculum. Research consistently and unsurprisingly shows that for SEL lessons to be effective, they cannot be delivered as stand-alone, one-time events; SEL content and practice must be systematically incorporated and reinforced over time (Greenberg, 2023). A frequent perceived obstacle is how to do so within existing school structures and resources.

While SEL is an integral part of comprehensive school counseling programs (CSCPs; ASCA, 2019), locating time to cover all SEL and content area standards within school schedules can present challenges. The model introduced in this paper recommends that SEL be re-envisioned as an integral part of the overall school experience and curricular arc rather than as a standalone unit or discipline. Doing so facilitates learners' ability to make meaningful and lasting connections with SEL throughout their education instead of viewing SEL, wellness, and mental health as categorically separate from academic development. A recent review of meta-analyses have shown that "developing a shared vision that prioritizes fully integrating SEL with academic learning for all students" is a critical best practice for successful and sustainable SEL implementation (Greenberg, 2023, p. vii). From a resource management perspective, integrating SEL concepts within academic lessons can potentially result in up to a 50% reduction in the total time it would take to deliver both content areas through separate lessons. Further, collaborative work with educator colleagues often increases teacher effectiveness, motivation, and sense of belonging – all protective factors for safeguarding against teacher burnout and improving teacher retention (UNESCO, 2023).

Teacher burnout and dissatisfaction have increased over the past several decades and were greatly exacerbated by the COVID-19 pandemic (Cooper et al., 2023; Marken & Agrawal, 2022; MetLife, 2012). Strategies to prevent burnout, reduce stress, and increase teacher job satisfaction have been shown to improve student achievement (Greenberg et al., 2016; Herman et al., 2018; Klusman et al., 2016). Studies have shown that teachers who implement social-emotional learning curriculum in their classrooms can experience positive impacts on their own social-emotional wellness, improving teacher retention and resulting in more positive student educational outcomes (Domitrovich et al., 2016, Soutter, 2023).

In this article, the authors present a framework that provides K-12 educators and school counselors with an example of how to effectively crosswalk academic standards and learning objectives with SEL standards. The authors demonstrate how such an integration can be utilized within a subject that may not be the first place that people consider for connections to SEL: math. So much has been learned over the past few decades regarding the reciprocal effects of emotions such as anxiety on math performance (Caviola et al., 2022) and the social-cognitive impacts such as stereotype threat on students' identity development (Bedyńska et al., 2018; Lu et al., 2015; Luttenberger et al., 2018). Given this, math is an ideal subject area through which the authors can

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demonstrate how to crosswalk SEL and academic standards, identify SEL access points within existing curriculum, and provide educators with a model for incorporating this integrative and feasible approach within K-12 schools.

## **SEL and Mathematics**

Mathematics is a subject that often elicits many strong emotional reactions from students. These reactions can include math anxiety, which can negatively impact student learning as early as the second grade (Jameson, 2014; Ramirez et al., 2013). Core SEL skills such as learning to manage strong emotions; reframing negative self-talk; challenging fixed mindsets; and improving self-esteem, self-efficacy, and persistence can be linked directly to math concepts in many ways, resulting in improved outcomes in both math and social-emotional learning.

Math skills development is impacted by both cognitive and non-cognitive factors (Egalite et al., 2016). Related non-cognitive factors include optimism, resilience, adaptability, and conscientiousness. Related cognitive processes include attention, long-term and working memory, and decision-making. Working memory is impacted by cognitive load, which is often negatively impacted by math anxiety (Morsanyi et al., 2014; Ramirez et al., 2016). For those students who struggle with math, this results in a vicious cycle – one that can be successfully interrupted and improved through the combination of psychoeducation and cognitive and social-emotional skills development.

Stereotype threat is a phenomenon that frequently accompanies math anxiety. Stereotype threat "is a situational experience, in which a member of a stigmatized group feels vulnerable and pressured by the possibility of confirming, or being judged by, a negative stereotype" (Lu et al., 2015, p. 538). A common example of stereotype threat is the statement that girls are "bad at math." Stereotype threat can negatively impact working memory, attention, effort, and motivation, which in turn influence math performance (Beilock et al., 2007; Schmader & Johns, 2003). Stereotype threat disproportionately impacts frequently stigmatized and marginalized social groups such as young women and African Americans (Maloney et al., 2013; Pennington et al., 2016). Both math anxiety and stereotype threat are problems that counselors and teachers can collaboratively address, thus improving both math and overall life outcomes. Raising awareness of stereotype threat has been shown to be insufficient to positively impact math outcomes on its own (Tomasetto & Appoloni, 2013); targeted interventions must be incorporated as well. Yeager and Walton (2011) found that "there is convincing evidence that even simple and brief interventions rooted in socialpsychological theories may actually yield a long-lasting mitigating effect on minority students' vulnerability to stereotype threat" (p. 211). These findings support the idea that math classes can be ideal and perhaps even critical places to infuse social-emotional learning. By incorporating SEL concepts and skills within math instruction, educators have unique opportunities to address math anxiety and stereotype threat reduction while at the same time covering math and SEL standards.

## **The Integrative Model**

This section outlines a model for integrating SEL standards throughout the math curriculum. The model can be a guide for school counselors and teachers of any level or subject to collaborate and locate access points both to academic and SEL content. In partnership, school

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counselors and teachers can modify or create engaging academic lessons that simultaneously improve student wellness. The framework invites educators to take a new perspective regarding content coverage and delivery while providing a pathway to meet mutual educational and wellness imperatives.

The first step in the model begins with a willingness of teachers and school counselors to team together on behalf of student's academic and social-emotional growth. The next step is a preassessment of students' current skills levels. The third step is weekly teacher-counselor consultation as the joint SEL and academic lessons are planned and delivered. The final step is post-assessment and evaluation. Applying principles of the backward design approach (Bowen, 2017) when implementing this model can assist in aligning learning outcomes and standards across the academic and SEL domains.

## First Steps

Integrating social-emotional standards within the curriculum alongside academic standards depends heavily on collaboration between the school counselor and teacher. The counselor-teacher team must work together to identify the skills, knowledge, and behaviors that students should gain from the lessons. After establishing these learning outcomes, the teacher and school counselor preassess each student for their baseline knowledge of both the academic and SEL components. Post-lesson assessments provide an opportunity to examine growth across both domains.

In the pilot of the model outlined below, the teacher partner focused on the concept of quadratic functions in algebra as the school counselor identified authentic access points to socialemotional learning within the same math content. The counselor identified several access points: recognizing emotions and thoughts, managing stress, navigating relationships/friendships, managing conflict, improving communication skills, group behaviors, understanding and appreciating diversity, and working toward greater equity and social justice. For example, the counselor-teacher team related the characteristic U shape of a parabola to an SEL outcome of increasing self-awareness. The team associated the high and low points of the U to felt emotions, eliciting examples of when a student may either feel great (shown as upside down U, or "high point") or times when they feel "down" (shown as a right-side up U shape on a graph). From here, students were encouraged to identify, acknowledge, and better understand their feelings while simultaneously learning about the properties of parabolas and how to graph them. The conjoint objectives for students to gain skills in both SEL and math and to link and reinforce concepts from both realms were achieved through this single collaborative lesson.

## Assessment of Learning

After identifying learning objectives and curricular access points and reviewing the preassessment data, the next step is determining how success will be measured: how will the team know that the student has achieved the desired SEL and math outcomes? Are additional classroom or individual/small group "booster" lessons needed? Post-assessments following individual lessons and again at the end of the unit are effective ways to evaluate individual student learning. The post-assessment should focus on the desired outcomes related to the knowledge and skills standards identified earlier in the process. Examples of assessments of learning include homework

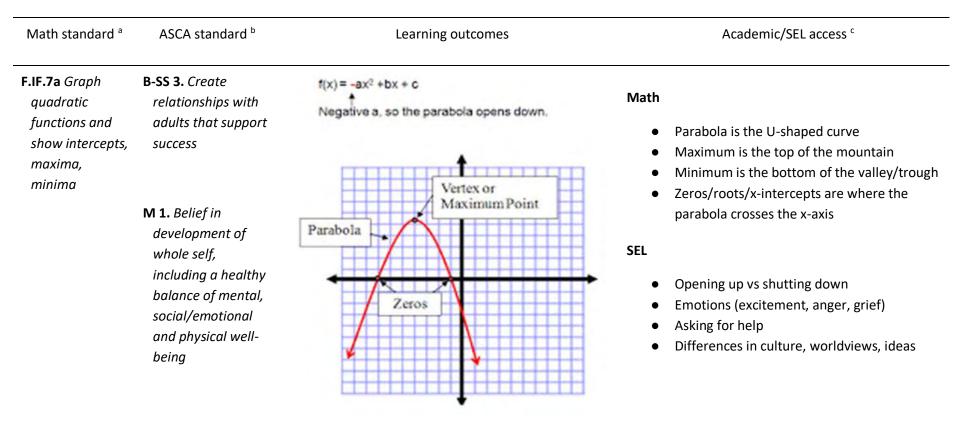
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assignments, exams, and real-time or recorded skills demonstrations. Assessments can also include perception-based components such as the student reflecting on their own self-growth or envisioning future situations in which they may apply their new learnings. Another approach to assessing learning is to conduct formal and informal observations of students as they apply their new learnings. The counselor and teacher can compare pre- and post-assessment data to look for growth over time. This data can also be utilized in program evaluation as the school counselorteacher team considers how to improve processes and outcomes in the future.

## **Collaborative Learning and Instruction**

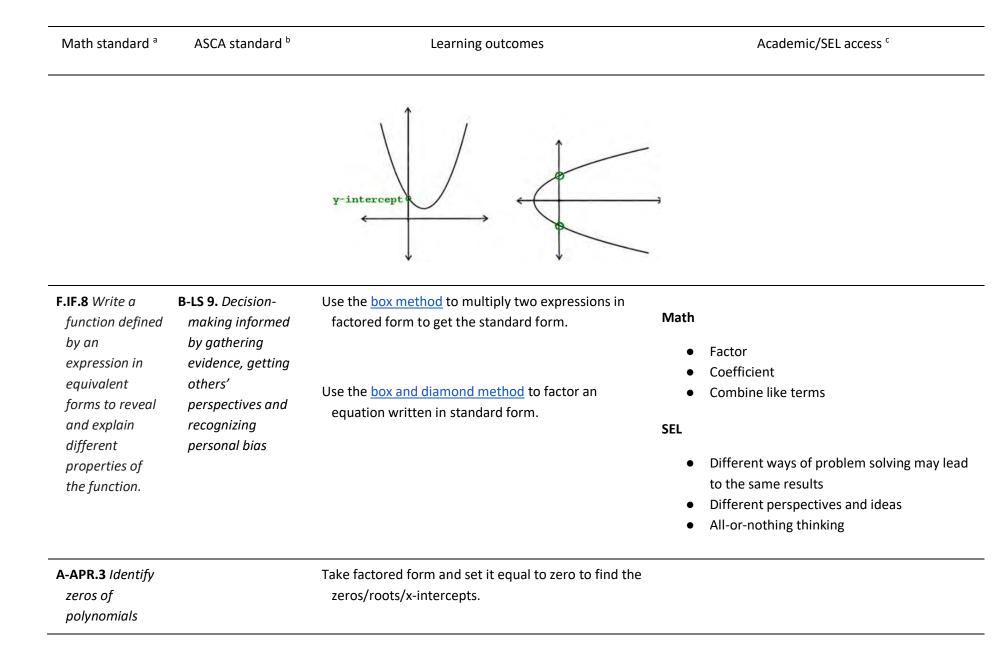
What follows is a demonstration of the model, illustrating integration access points within a high school math curriculum. The model was piloted in a large urban high school in the Northwestern United States. The school demographics are diverse, with approximately 90% of students identifying as students of color, 48% identifying as female, and 58% of students coming from low-income families. Table 1 below demonstrates how one school counselor-teacher team applied the model by the crosswalk of SEL and math standards within a quadratics unit in two ninth-grade algebra classrooms. For this example, the SEL standards used are from the ASCA Student Standards (ASCA, 2021); the math standards used are from the Common Core standards (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010).

#### Table 1

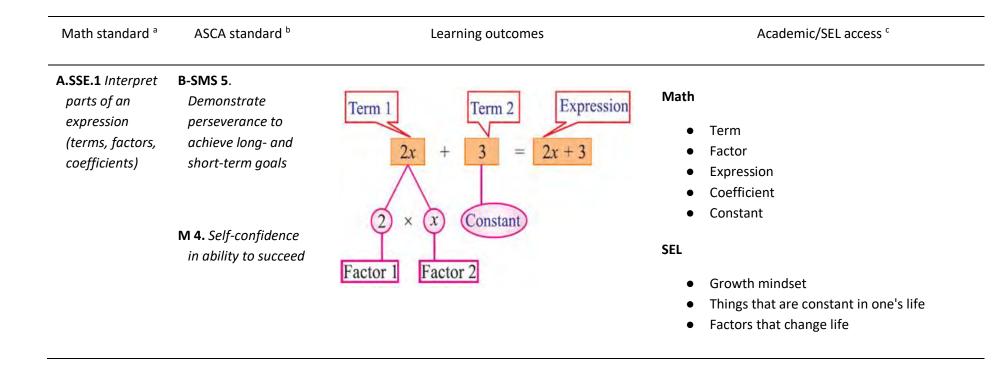


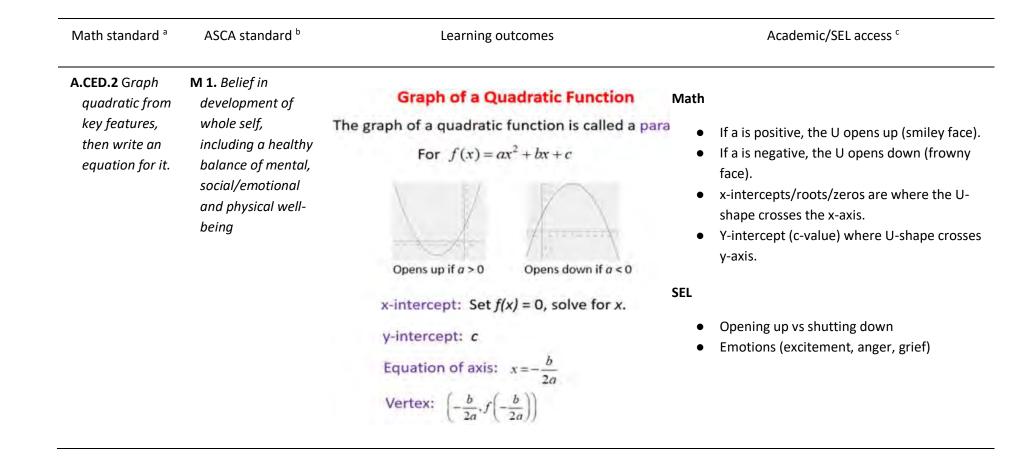
Integrative Model Applied to an Algebra Quadratics Unit

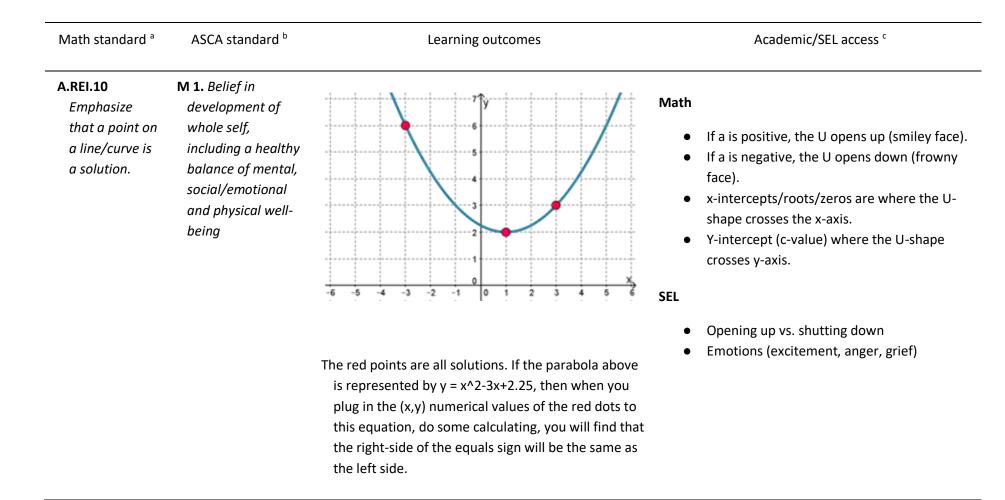
| Math standard <sup>a</sup>  | ASCA standard $^{\text{b}}$   | Learning outcomes   | Academic/SEL access <sup>c</sup>  |
|---|---|---|---|
| A.SSE.3 Choose<br>an equivalent<br>form of an<br>equation to<br>reveal<br>properties of<br>the quantity<br>represented by<br>the equation | <b>B-SS 2.</b> Create<br>positive and<br>supportive<br>relationships with<br>students who are<br>similar to and<br>different from<br>them | Standard Form<br>$y = ax^2 + bx + c$<br>Factored form<br>$y = a(x - r_1)(x - r_2)$<br>$r_1, r_2$ are the roots<br>Vertex Form<br>$y = a(x - h)^2 + k$   | <ul> <li>Math</li> <li>Vertex (x, y) is the point where the maximum or minimum of the parabola is.</li> <li>Y-intercept is where the parabola crosses the y-axis.</li> <li>Roots/zeros/x-intercepts are where the parabola crosses the x-axis.</li> </ul> |
|   | <b>B-SS 4.</b> Demonstrate<br>empathy   | <ul> <li>(h, k) is the vertex</li> <li>Vertex form: allows you to find the vertex of the parabola.</li> <li>Standard form: allows you to find the y-interced parabola.</li> <li>Factored form: allows you to find the roots of parabola.</li> </ul> | <ul> <li>Understanding starting at different places than others</li> <li>What are your roots, how does that look</li> <li>Where are you able to intercept and regulate emotions and anxiety, triggers,</li> </ul>   |

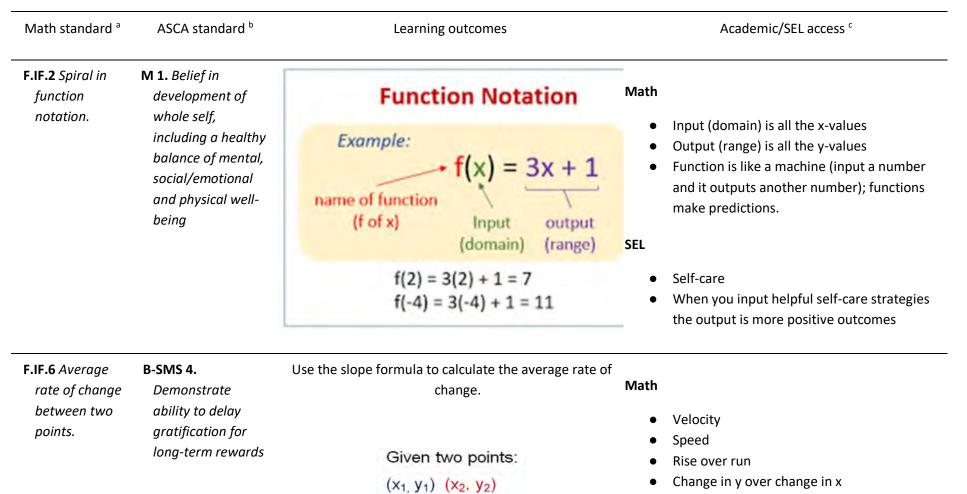


| Math standard <sup>a</sup>   | ASCA standard $^{\rm b}$  | Learning outcomes   | Academic/SEL access <sup>c</sup>   |
|--|---|---|--|
| when suitable<br>factorizations<br>are available.  |   | (x-3)(x+2) = 0; this tells you that the roots are at x = 3<br>and x = -2.   |  |
| <b>A-REI.B4</b> Solve for<br>quadratic<br>equations in<br>one variable<br>using the<br>quadratic<br>formula. | <b>B-SS 8</b> . Demonstrate<br>advocacy skills for<br>self and others and<br>ability to assert<br>self, when<br>necessary | Quadratic Formula<br>$ax^{2} + bx + c = 0$ $x = \frac{-b \pm \sqrt{b^{2} - 4ac}}{2a}$   | Math <ul> <li>Coefficient</li> <li>Order of operations</li> </ul>  |
|  | <b>B-SMS 6.</b><br>Demonstrate<br>ability to identify<br>and overcome<br>barriers   | Examples:<br>$3x^{2} + 5x - 7 = 0 \qquad -x^{2} - 6x + 8 = 0$ $a = 3, b = 5, c = -7 \qquad a = -1, b = -6, c = 8$ $x = \frac{-5 \pm \sqrt{(5)^{2} - 4(3)(-7)}}{2(3)} \qquad x = \frac{-(-6) \pm \sqrt{(-6)^{2} - 4(-1)(8)}}{2(-1)}$ $= \frac{-5 \pm \sqrt{109}}{6} \qquad = \frac{-5 \pm \sqrt{109}}{6} \qquad = \frac{6 \pm \sqrt{58}}{-2} \qquad = \frac{6 \pm \sqrt{58}}{-2}$ $= \frac{6 \pm \sqrt{58}}{-2} \ll \frac{6 - \sqrt{68}}{-2}$ $= -7.123 \approx 1.123$ | <ul> <li>SEL</li> <li>Order of a system, protocols</li> <li>Process in advocacy</li> <li>How do we get something done from asking the teacher for help and or guidance to figuring out a system</li> <li>Life steps</li> <li>Goal setting</li> </ul> |









Slope Formula:

 $y_2 - y_1$ 

 $X_2 - X_1$ 

• Slope

SEL

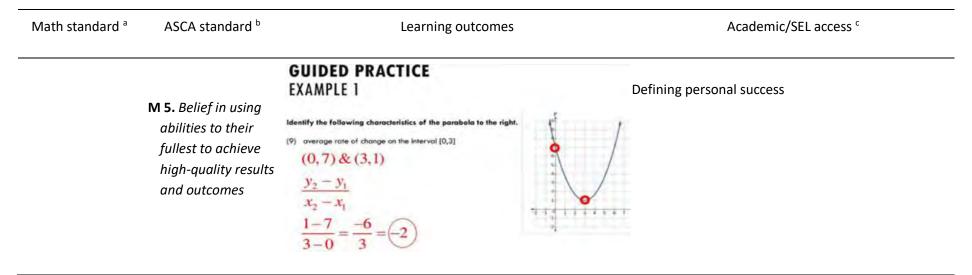
- How people change
- Setting and achieving goals

B-SMS 5.

Demonstrate perseverance to

achieve long- and

short-term goals



<sup>a</sup> Common Core (2010) math standard number (in bold) and description (in italics).

<sup>b</sup> American School Counselor Association Student Standards: Mindsets and Behaviors (2021) standard number (in bold) and description (in italics).

<sup>c</sup>SEL = social-emotional learning.

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#### Considerations

For the proposed model to be effective in mutually meeting academic and SEL goals, all parties must be willing to be actively engaged in collaboration, planning, delivery, and assessment. To achieve this, the authors recommend regularly sharing data with school faculty and staff regarding the effectiveness of SEL interventions on academic and life outcomes; this can be done via existing faculty meetings, newsletters, websites, blogs, or other methods. Furthermore, the model must be implemented in a sustained and integrated manner to be most effective. Embedding the model within comprehensive school counseling program management components such as the annual administrative conference, mission and vision statements, and advisory board meetings and reports (ASCA, 2019) are some of many ways to enhance the probability of systemic and sustained integration across time and changes in faculty and staff. The model has the flexibility to be inclusive of diverse state, district, school, national, and most importantly student needs, although time constraints of teachers and school counselors may impact the design and implementation of the model. It is imperative that the school administrators endorse this approach and offer support and time for teachers and counselors to plan and collaborate. With these conditions, students and the entire school community should experience the many benefits of this model as outlined above.

#### Conclusion

In this article, the authors discussed the importance of re-thinking models for integrating SEL in classrooms. The authors challenge educators to reconceptualize SEL from a stand-alone, siloed approach to an integrative approach that will best meet the needs of students within the current contexts of their lives while working within the time and human resource constraints in schools. The authors presented a model of how counselor-teacher teams can effectively collaborate through this delivery model to powerfully impact academic achievement and student social-emotional wellness and make efficient use of the limited resources of time and faculty in ways that promote teacher well-being. It is time for educators to move beyond isolated delivery of SEL content and integrate SEL within and across the academic curriculum.

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