SCALING SELF-REGULATED STRATEGY DEVELOPMENT NARRATIVE

Introduction & Absolute Priorities

Providence College (PC), in collaboration with thinkAUM, and the American Institutes for Research (AIR), proposes an **Expansion-Phase Grant to scale the Self-Regulated Strategy Development (SRSD)** writing approach which is supported by strong evidence. This project will include a rigorous evaluation of the impact and implementation of SRSD across four states (AK, MA, MI, and RI) with a diverse student sample, using a cluster-randomized trial design, in elementary schools randomly assigned to receive SRSD or a delayed treatment group, that **meets What Works Clearinghouse (WWC) standards without reservations**.

Writing and social emotional learning (SEL) are fundamental skills used to engage in professional, social, community, academic, and civic activities. These skills have gained saliency during the ongoing pandemic. Supporting these is imperative and brings with it the possibility of achieving greater equity for students (Schlund, Jaggers, & Schlinger, 2020). Self-Regulated Strategy Development (SRSD), highlighted as having **strong evidence** of impact on students' writing skills within the WWC Writing Practice Guides (Graham et al., 2017; Graham et al., 2012), offers a **unique approach** to writing instruction by combining an emphasis on SEL skills (i.e. goal-setting, self-monitoring, self-instruction, self-reinforcement) **with effective writing instruction**. This combination of pivotal life skills - SEL and writing - establishes a strong foundation for students' learning, both while learning and in life.

SRSD was originally conceptualized as a support for struggling writers (Graham et al., 2014; WWC, 2017); however, larger scale research has demonstrated its potential impact universally for all students (Collins et al., 2021; Harris et al., 2012; Mason et al, 2017; McKeown et al., 2019; Wissinger & De la Paz, 2021). Over 116 studies (Graham et al., 2013), with 27 randomized and quasi-randomized controlled trials (see www.thinksrsd.com), have tested

SRSD's impact in schools. Findings demonstrate gains in overall writing quality that cross cuts content areas including history (Collins et. al., 2021; Wissinger et al., 2021) and science (Benedeck-Wood et al., 2014), with an average effect size (ES) for overall quality of 1.59 (Graham et al., 2017b), ranging from .15 ES (McKeown et al. 2019) to 4.97 ES (Eissa, 2009).

Significantly positive impacts from SRSD have also been found for students' **SEL outcomes** (Harris et al, 2015; Limpo et al., 2013). SRSD critically embeds SEL through all instruction, developing self-awareness, self-management, responsible decision making, social awareness, and relationship skills (https://casel.org/what-is-sel/). Teachers help students identify triggers such as feeling frustrated when they do not know how to begin and how to self-manage these feelings through self-awareness and self-talk. When students succeed, they self-reinforce with positive self-statements that link their strategy to their successes. SRSD also fosters SEL growth in how students are taught and coached while writing with, and giving feedback to, peers.

This project addresses **Absolute Priority 1: Strong Evidence**. The key component for this project is teaching students strategies for **using the writing process**, which is supported by **strong evidence** in the **WWC Practice Guide** for Writing and large studies (Graham et al., 2017a; Olson et al., 2017). Specifically, the **Practice Guide's second recommendation (supported by strong evidence)** is to 'teach strategies for using the writing process'. Strategies are described as a set of defined actions or tools that help students carry out the components of the writing process. Recommendation two, within the practice guide, suggests teaching these strategies with a gradual release approach so that students become increasingly independent as they observe modeling and are guided to select the strategies most appropriate for their needs, and in how to use these flexibly - all of which are reflected in the SRSD approach (see Exhibits J.1.1 and J.1.2 in Appendix J).

This project also addresses **Absolute Priority 2: Field-Initiated Innovations.** Teachers who have used SRSD in thinkAUM[1]'s school partnerships customize and innovate the approach, with these advances passed on to each new school that adopts the approach. These innovations along with a steady stream of rigorous research findings from new SRSD studies inform how thinkAUM delivers professional learning (PL) and ongoing support for schools learning SRSD.

Additionally, this work also addresses **Invitational Priority 1: Innovative Approaches to Addressing the Impact of COVID-19 on Underserved Students and Educators** by facilitating **achievement acceleration** and **supporting SEL**. The COVID-19 pandemic and resulting closure of schools has had far reaching impacts on students' academic achievement, mental health, and SEL skills (Pokhrel, & Chhetri, 2020). The impact is estimated to be more detrimental to high needs students - defined as eligible to receive free/reduced price lunch – which will widen the achievement gap (Kuhfeld, Soland, & Tarasawa, 2021) and impact mental health needs, particularly for students living in poverty (Chen et.al., 2021). SRSD integrates writing instruction and SEL support, meeting both needs.

Finally, this project will also address **Invitational Priority 2: Promoting Equity and Adequacy in Student Access to Educational Resources and Opportunities**. High need students, and particularly students of color, often have less experienced teachers (Cardichon, et al., 2020). The SRSD model's effectiveness increases the likelihood that less experienced teachers will still achieve greater outcomes than business as usual (BAU). Participating State Education Agencies (SEAs) will nominate schools that serve large proportions of high-need

---

[1] thinkAUM, a professional development organization, brings SRSD to schools through courses followed by strategic, coherent, embedded, and sustained follow up support in a continuous improvement model that incorporates evidence-based practices with practitioner feedback.

students (who therefore likely have less experienced teachers) in order to increase student access to this research-based writing program with strong evidence to support its impact.

In addition, regarding equity and access, enhanced attention will be given to how SRSD can align better with Universal Design for Learning (UDL) and Cultural Responsiveness goals. Regarding **UDL**, educators can further promote the self-regulatory capacities at the core of SRSD by prioritizing student engagement considerations, promoting increased options for composing writing, and representing key ideas through multiple modalities (Hashley, et. al., 2020). In a study that enhanced **culturally responsive** elements within an SRSD framework, researchers found that students who are culturally and linguistically diverse (CLD) showed improvement not just in writing quality and fluency, but in their overall perceptions of their writing as well (Torres & Black, 2018).

A. SIGNIFICANCE

A.1. National Significance

Writing serves as a gateway skill for both college and career readiness. Writing instruction significantly raises reading comprehension (Graham et al., 2010), content knowledge (Graham et al., 2020) and critical thinking (Quitadamo & Kurtz, 2007). Employers rate writing above general problem-solving skills or even working well on a team (NACE, 2019), and view it as a 'threshold' skill to salaried employment (College Entrance Examination Board, 2004).

Yet, currently only 27% of students in grade eight write proficiently (Aud et al., 2012), with only 10% of students who are Black scoring at this level (National Center for Education Statistics, 2012). Nearly one-third are required to take English remediation courses at the postsecondary level (Bettinger et al., 2013). Down the road, corporations spend billions remediating writing (National Commission on Writing, 2005). The elementary grades establish

the foundation for writing skills (Graham et. al., 2012). SRSD fills a significant gap in children's educational experiences by elevating writing instruction while also supporting SEL development.

A contributing factor to our nation's low proficiency is that teachers often feel ill-prepared to teach writing and, thus, often neglect it (Cutler & Graham, 2008; Kiuhara, Graham, & Hawkins, 2009). Despite significant funding invested in research that offers clear recommendations for teaching writing effectively (Graham et al., 2017a), and recommendations which have even been found specifically to be effective with students who are marginalized and/or on free/reduced lunch (Graham, Harris, & Beard, 2018; Salas, et.al., 2020), the disconnect between this research and writing instruction stubbornly persists (Graham, 2019). Clearly, there is an unmet need for bringing writing practices **known to be effective** to schools.

Educators across the nation are grappling with an unprecedented set of circumstances as they welcome students back to school. These include ongoing ramifications of school closures due to COVID-19 and related economic crises, as well as persistent racial inequities brought to the forefront by the pandemic and the racial justice movement. As noted by CASEL (2020), it is imperative that educators offer support to students with equity-focused SEL strategies. With SEL interwoven into SRSD and our proposed enhanced attention to cultural responsiveness, teachers will be better able to support their students in developing the necessary and essential SEL and academic skills in order to thrive.

A.2. Potential Contribution to Increased Knowledge

Additional research into how to **scale strategies for using the writing process**, particularly SRSD, is merited. The majority of SRSD studies have small student samples and engage only a few schools and/or classrooms. Of the existing SRSD research base, relatively few studies have explored impacts on large, diverse samples of students and teachers within the

United States (U.S.), instead focusing on small samples or done outside of the United States with mostly homogenous samples (i.e. Salas et al., 2020; Prata et al., 2019). While these studies show favorable gains, a study at scale, conducted in the U.S. has the potential to confirm the impact of SRSD and offer crucial insights into how best to scale this approach nationally. However, scaling is more than conducting a large-scale generalizable study demonstrating impact. The thinkAUM team has strategically implemented a continuous improvement model that allows them to build upon the current SRSD model with innovative approaches - technology components to support teachers and students and online PL courses - to prepare for large scale implementation of the program. To date, thinkAUM, in collaboration with PC, has trained over 50,000 teachers to implement SRSD since 2012.

Overall, the proposed implementation team - PC and thinkAUM - is uniquely positioned to learn from, understand and address obstacles to scaling SRSD since we have done so much work on the ground supporting teachers, schools and states with adopting this approach.

B. STRATEGY TO SCALE

This project's goal is to test and refine how to scale using SRSD to **teach strategies for engaging in the writing process** and to foster **SEL**. By scale, we refer not just to *spread* or expansion, but to include *depth* where practices are transformed, *sustainability* in terms of integration within infrastructure systems as well as *ownership* via transfer of knowledge and authority to local leaders on the ground, as described in Coburn (2003).

B.1. Strategies to Address Barriers to Scale

Despite its promise, scaling SRSD faces barriers that thinkAUM has encountered, but are likely common to scaling evidenced-based practices (EBP) in general. The following lists major

barriers to scale, followed by specific proposed solutions worthy of studying because overcoming these for SRSD can support scaling EBPs in general.

Barrier 1: Depth - Complex Pedagogy & Content. Teachers struggle with the complexity of the pedagogical strategies, as well as learning the subtler linguistic (syntax) and genre features.

Solution 1: Practice-Based Professional Learning (PBPL) and Supplemental Resources. Course instructors will (1) give greater emphasis to cognitive and SEL modeling needed to teach students the deeper levels of pedagogy and self-regulation, beyond the surface mnemonic strategies, and (2) do so in a rigorous PBPL adult learning model.

First, regarding complex **cognitive and affective modeling**, course leaders will model how to do a 'think aloud' as a core pedagogical strategy. The SRSD Lesson Observation (see Appendix J.2) will support teachers use of, and measure teachers' implementation of, this "think aloud" strategy that aims to teach students self-awareness skills ("I'm frustrated when I get stuck"), coping ("OK, I'll use TIDE (Topic, Information, Details, End))." and to use self-reinforcement ("That's a good topic sentence that I just wrote.").

During the PL, teachers will practice scripting and delivering this kind of modeling, and receive coaching as they do in a PBPL model (Harris et al., 2015). In the PBPL model, teachers actively write and deliver mock lessons while in the PL, using their own materials and receive coaching as they practice delivering these lessons. We plan to intensify the emphasis on think alouds and cognitive modeling all through the PBPL course and in the follow up support provided, as this facet of instruction is the most difficult to learn. As an extra support, teachers will receive a bank of grade level lesson videos of teachers engaging in modeling, which can be used as exemplars and shown to students.

To build teachers' knowledge of the features of strong writing, course instructors will explicitly teach these to participants through color coding and annotating essays. For example, they will model the difference between summarizing evidence versus writing a critical analysis of it, as appropriate per grade level standards. Additionally, participants will also be provided videos of teachers doing a 'think aloud' as they score student writing. They can play these videos for their students and deepen their own learning as they do.

Barrier 2: Ownership-Buy In. Another key barrier often encountered in schools is that teachers often bring a healthy skepticism to new approaches and may be reticent to change their practice. This also holds true for school and district leaders when weighing the investment (financial and teacher time) and the potential benefit.

Solution 2: Build Belief, Ownership and Networks. Buy-in will be cultivated in three ways to facilitate scale: *success stories*, scaffolded *fidelity* of *delivery* and *tracking data gains*. First, we will have teachers watch *success stories* from peer colleagues who teach similar populations via videos or live virtual meetings. As this grant project enables us to reach more schools, we will add an increasing number of videos of success stories that can be shared as well. The evidence-base of formal research will also be shared in teacher friendly ways through professional videos and popular media articles. These approaches have demonstrated success to boost buy-in at all levels in previous expansion grants (Dewire, McKitchen, & Carey, 2017).

Next, the PBPL and follow up will offer differentiated support to teachers to help them in learning and implementing the pedagogy with fidelity. During the initial 12-hour highly structured PBPL workshops, course leaders will model teaching eight initial lessons in front of teachers and will do this using the teachers' own grade level content. Lesson scripts, or fidelity facilitators, will be provided to teachers in a distilled checklist format (see Appendix J.3) that

they can use as a scaffold when they go to teach the lessons. Importantly, teachers are then given time and are **empowered** to customize and adapt the lesson outlines to **bring their own voice and expertise** to instruction to best meet the needs of their own students. The PL is designed to **respect and draw on** the knowledge that teachers bring. During the PL time, teachers will adapt the lessons, practice 'mock' delivery in pairs, then discuss what they learned with colleagues (Harris et al., 2015). These experiences allow for strong fidelity and increase teachers' ownership of the initiative since they have the time and encouragement to adapt the lessons.

Third, teachers will learn structured ways, some supported by artificial intelligence such as Grammerly, to help capture and track the growth in students' writing, and they will learn to use these data to guide instruction. Teachers will use an eight-item scale that has been enhanced, based on teacher feedback to capture the most information possible about the writing, but with the least effort (see Appendix J.4).

Barrier 3: Sustained Support. Schools may have difficulty sustaining and/or maintaining integrated interventions due to staff turnover, limited resources (i.e., funding and time), as well as shifts in administration. However, fidelity of implementation is key to sustaining an EBP and its impact - especially one as complex as SRSD.

Solution 3 - Creation of a Network of Support. The current project has the goal of creating a network of support at the state, district, school, and teacher level. The team will leverage the role of the four SEAs, as well as coaches embedded within schools to form a network of users and resources. The advantage of establishing both local and state level resources is the capacity that will be retained after the thinkAUM team steps back from active support.

The networks, facilitated by PC, will guide the development of a sustainability plan (see Solution 4) with education decision makers from across our partnering states, districts, and

schools. The network can offer the opportunity to integrate plans across districts within the same state and leverage a larger engagement of the state department of education. The network may also be a source of funding. As the network grows, PC and thinkAUM will adjust implementation support using a gradual release model.

Barrier 4: Sustainability. Initiatives can get lost if they are not woven into teachers' existing content and regular schedules and kept on the front burner by administrators. They can also be replaced if schools or states mandate new approaches.

Solution 4: Sustainability & Spread - Structural Supports and Administrative Leadership. In addition to the networks described in Solution 3, LEAs will embed SRSD through supporting teachers in integrating the strategies into content areas they teach such as literary responses, science or social studies topics. As part of our implementation of SRSD, administrators will also support setting up a 45-minute daily writing block during which students will write about content they are reading and studying, enabling writing to take place during content instruction, and even to serve as a way to help students learn and think critically about the topics they learn.

Leaders will additionally work to plan from day one for sustainability through making multi-year PL timelines, crafted together with school-based leadership teams (see Exhibit J.5.1 in Appendix J). The sustainability plan will include; establishing and maintaining opportunities for continued colleagues' peer learning through grade team meetings, faculty meetings, or in-service days; SRSD training being built into new teacher induction, and identifying a liaison to mentor new faculty and to serve as an SRSD 'buddy' supporting implementation.

Barrier 5: Spread. In contrast to Barrier 4, another separate obstacle to teachers receiving high quality PL are the economic and physical challenges of bringing PL providers to lead the courses, particularly in rural, difficult to reach areas or underfunded districts.

Solution 5: Virtual PL. A surprising outcome of the pandemic was learning how effectively the PL could be offered virtually. This means that if a school has internet, they can take part in SRSD PLs. Virtual PLs also save schools on travel expenses. Participants rated the SRSD course experience on par, or higher, than in person, and at follow ups, student samples and teacher reporting suggested that they saw similar improvement in student writing as seen in those who took the course face to face. Students whose teachers participate in Virtual PLs achieve as well as control (Fishman et al., 2013; Magidin de Kramer et al., 2012). We also integrate the latest research-based recommendations for running effective Virtual PLs (Lay et al. 2020).

B.2. Dissemination Toward Future Development and Replication

The proposed team is committed to translating research into practice through the development and evaluation of classroom-focused interventions. The research team will begin disseminating findings during the second year of the project with an initial focus on lessons learned during the partnership building and planning phase of the project. We anticipate presenting at conferences beginning in the project's third year. During the final year of the project, we will produce multiple manuscripts, present at conferences, and produce a video designed to translate our findings for a broad audience. On the basis of our study's results—which will be detailed in a comprehensive report for research audiences—thinkAUM plans to refine materials and procedures, draw lessons for other age groups, and share these.

Our broader dissemination plan is intended to share the study findings in products that help a variety of audiences draw relevant lessons from the study. The intended audiences for these products are researchers, practitioners, and policymakers. In addition, the team will ensure that we follow best practices for researchers by registering our study with the Registry of

Efficacy and Effectiveness Studies and by reporting study outcomes in alignment with the Standards for Excellence in Education Research (Schneider, 2019).

We intend to disseminate the study's findings to practitioners and policymakers who focus on Pre-K–12 education by leveraging the extensive reach of our partner organizations. Our project has the unique advantage of directly engaging key leaders at SEAs to support the investment in SRSD. In partnership with our SEAs, we will work to build on regional networks of SRSD experts (some already operating in Colorado, Rhode Island and Massachusetts). These networks will also offer a space for local users to convene, share regional issues, problem-solve together and continuously generate, from a grassroots perspective, solutions.

To ensure that researchers learn about the study's findings and lessons relevant to their work, we identified key topics and venues for sharing those findings. For our key findings, we plan to submit conference proposals and manuscripts as needed to conduct at least one conference presentation (i.e., Society for Research on Educational Effectiveness, American Education Research Association, Society for Research in Child Development) and to publish one journal article in an identified peer-reviewed journal (i.e., *Journal for Teacher Education, Child Development, Journal of Research on Educational Effectiveness*). Our team brings an exceptional record for publication in peer-reviewed journal articles to guide these efforts.

C. QUALITY OF PROJECT DESIGN

C.1. Conceptual Framework

SRSD supports students and teachers through a connected framework (see Exhibit J.1.1 in Appendix J; Harris et al., 2008): (**1) Explicit, Systematic and Direct Instruction** - includes analyzing then emulating writing models in flexible ways, in mastering strategies such as POWER - Plan, Organize, Write, Edit, Revise (Englert et al, 1991) and direct instruction of

needed skills; (2) **Gradual Release Model** - offers scaffolded cognitive and affective support while using strategies and embedded, deliberate skill practice; (3) **Formative Assessments** - guide teachers in personalizing, differentiating and evaluating their cognitive and affective instruction, as well as allow students to set their own goals and measure their progress, a key SEL skill (Harris et al., 2008). These three main facets create a coherent cycle where each part builds on, drives and depends on the other. The lessons range in length from 30 minutes (Grades K-2) – 45 minutes (Grades 3 and higher); and are delivered daily across the school year, as well as woven into content area instruction. As teachers move forward in the Gradual Release Model, lessons become more student-driven, and less teacher-directed. Also, when students peer score, they receive explicit instruction in social skills ('Look each other in the eye', 'Start with a positive'), observe peers (or adults) modeling offering mock feedback, and participate in guided practice of social skills. See exhibit J.1.2 (in Appendix J) for stages of SRSD and 8 core routines.

Appendix G shows the logic model which guides our project implementation and scaling of SRSD. The model embeds PL, coaching, data use activities and networking to build capacity, develop the model iteratively and scale SRSD implementation. The short and long-term outcomes based on the project participants (inputs) and activities are organized by level (e.g., teacher, student, SEA/LEA). In order to support the scaling of SRSD, the PC and thinkAUM team has developed an implementation model (see Exhibit 1). This model depicts how the SRSD pedagogy and support for teachers' learning are integrated as well SEAs, LEAs and PPCs roles in supporting instruction in ways that will raise students' academic and SEL outcomes.

Exhibit 1. Implementation Model for SRSD at Scale

Role	Year 1	Year 2	Year 3	Year 4	Year 5
SEA	8 plan sessions	4 plan sessions per year		6 plan sessions	8 plan sessions
LEA	2 info sessions	6 sessions per year Attend PPC & T sessions		4 sessions per year	
PPC	2 info sessions	6 sessions per year Redeliver content to Ts		4 sessions per year Redeliver course regionally	
Teacher	1 info session (led by PPC)	3 days (Year 2); 2 (Year 3) Implement; Attend meetings; Be videoed; Upload data		Continue implementation	
LEA	2 info sessions	None		4 plan sessions per year	
PPC	2 info sessions	2 sessions (learn: collect and upload data 2x & video)		6 plan sessions per year Redelivery in Yr 5 optional	
BAU Teacher	1 info session (led by PPC)	Participate in impact evaluation		3 days (Yr 4); 2 (Yr 5) Implement; Attend PPC meetings; Be videoed; Upload data	
Network		Support via virtual and regional meetings, and website sharing of resources			

Note: Shaded cells indicate SRSD (treatment) condition

In year one, the SEA will meet with our team to plan logistics for inviting schools to participate. The LEA, with designated potential PPC, will attend two webinars to learn about the project and pose questions, then bring information back to the potential schools. In year two, SRSD PL will be provided to treatment schools. As noted in Exhibit 1, the PPC, school leaders, and teachers will receive PL and support in the school year to ensure implementation fidelity.

School leaders will also attend six 40-minute webinars on how to sustain the initiative. Schools assigned to BAU will receive SRSD PL during the final two years of the project to ensure equitable access to a program with strong evidence of impact.

A particular strength in this model is the embedded, local coaching teachers will receive from their PPC. Either a designated instructional coach or two teachers (One each from K-2 & 3-5) will serve as PPC for each school. The PPCs will rely on the **SRSD Scales** (see Exhibit J.4.1 in Appendix J) to develop teachers' skill in analyzing student writing and using formative data in a data cycle. PPCs will also use the **SRSD Lesson Observation Checklists** (see Exhibit J.2 in Appendix J) as a feedback tool to deepen teachers' understanding of the key writing instructional practices. LEA and PPC notes from sessions with teachers, along with completed SRSD scales and lesson checklists, will be uploaded to a secure website and tracked to ensure fidelity of implementation. A project network will be established to support teachers through on-line discussions and website resources. In the final years of the project, all PPCs will be supported in working on regional expansion through leading courses via local PL avenues, contributing to a resource sharing networking website and/or leading regional job-alike workshops or discussions on writing instruction. These networks will serve to facilitate the regions and LEAs maintaining continuous cycles of improvement, grounded in looking at student writing data in every meeting.

C.2 Clearly Specified and Measurable Goals, Objectives, and Outcomes

The project's overarching goal is to test and refine a strategy for scaling SRSD in diverse settings that serve high-need students and build a network to support to continue scaling. Exhibit 2 **specifies the goals, objectives, and outcomes** to be achieved and indicates **how outcomes will be measured**. The goals are ordered by: (1) overarching initial work of launching the project; (2) developing capacity with schools from the start, particularly among PPCs in how they support

teachers inhouse *and* grow their own professional network all through the project; (3) supporting initial learning and the ongoing teacher implementation; and (4) finally, evaluating the overall impact of the approach on student learning.

Exhibit 2. Objectives, Outcomes, and Measures

Objectives	Measurable Outcomes
Goal 1. Support preparation to implement, redeliver & entrench SRSD in schools at scale.	
1.1 Recruit 100 schools; and identify 100 PPCs	1.1. List of names of 100 schools and PPCs
1.2 PPCs create detailed plans to support initiative and prepare to coach teachers	1.2. PPCs records, meeting notes, and logs to show attendance and planning
1.3 School leader and PPCs makes Activity Timeline; customize plan to prepare teachers to understand initiative requirements	1.3 Activity Timelines, attendance, notes, teacher attendance and details for implementation discussed
1.4 PPCs receive support and additional learning to redeliver. PPCs initial learning happens during the first 6-month period, then as they attend courses as well.	1.4. PPC attendance records, teacher meeting notes logs
1.5 Improved PL content and delivery, responsive with requested resources	1.5. Project Surveys given to LEAs, PPCs and teachers show 80% + satisfaction
Goal 2. With end scaling in mind, develop capacity and a model infrastructure for continued scaling of SRSD	
2.1 Build a network that supports SRSD users and potential users.	2.1. Enhanced network website; and roster of network participants
2.2 In final years, reach out to regional districts to participate in workshops on SRSD.	2.2. Lists of at least 3 attempts and successes when PPCs reach out to local PL avenues
Goal 3. Support learning, implementing and collecting data on SRSD	
3.1 Fully trained teachers for each district, and collect feedback on LEA, PPC and teacher impressions of the experience all through	3.1. Teacher attendance records; teacher post-training feedback form; surveys and PPC meetings' discussion notes

3.2 Teachers implement initial 8 lessons over 2-3 weeks, then use SRSD daily during writing time	3.2. SRSD lesson observation checklists (by PPC and teachers) and artifacts; videos of lessons show 60% + implementation
3.3 Student writing samples and artifacts reflect use of SRSD & SEL strategies	3.3. Writing, and artifacts show students using strategies (TIDE planners, self-talk)
3.4 Emphasize SEL elements daily	3.4 Student SEL surveys show significant increase
Goal 4. Conduct RCT to test impact of SRSD provided by trained teachers and supported by PPCs on student outcomes regarding both academic growth and SEL growth.	
4.1 Eligible teachers interested in SRSD and consent to random assignment.	4.1. Teacher consent forms from 65% or more of invited teachers
4.2 Treatment and control samples; Students with likely equivalence at baseline.	4.2. Random assignment memo; and baseline equivalence memo.
4.3 Data on fidelity of implementation collected and analyzed.	4.3SRSD lesson checklist for recorded lessons data
4.4 Data on instruction shows relationship between SRSD use and overall quality	4.4 CLASS overall and domain scores (i.e., emotional support)
4.5 Data on frequency and content of PD and coaching collected and analyzed.	4.4. LEA attendance logs and meeting notes
4.6 Data on writing outcome measures collected and analyzed.	4.5. State ELA outcomes show significant increase annually
4.7 Data on for facets of SEL growth analyzed	4.6. SEL growth measure surveys show significant increase

C.3. Design is Appropriate to Needs of Target Population

The strategies teachers will learn address the needs of all learners, including high need students, as they have been shown effective for this group in prior studies (Salas, et. al., 2020). SRSD strategies will improve not just academics but also SEL outcomes (Bruning et al, 2013).

Since high needs students were differentially impacted by the pandemic in comparison to their peers (Chen et al., 2021), the design of this study is well matched to address the needs of this target population. Importantly, this project will look closely at how to scale SRSD, yet within a PL model that is grounded in local context. Instructors will model lessons that use teachers' own curricular materials, prioritizing those that are the most complex, culturally responsive and high rigor, drawing from their school-developed curricula, core reading programs or social studies programs. Writing topics will require citing evidence and integrating multiple sources, as per each state's standards. During mock lessons, instructors will also model writing just above where participants' students currently function so that the instruction and materials will match and stretch the needs of teachers' unique students.

D. ADEQUACY OF RESOURCES AND QUALITY OF THE MANAGEMENT PLAN

D.1. Capacity to Bring the Proposed Project to Scale on a National or Regional Level

Each partner organization (Exhibit 3) brings the experience and skill sets needed to successfully manage large grants, deliver PL at scale, and lead research projects.

Exhibit 3. Organizational Chart
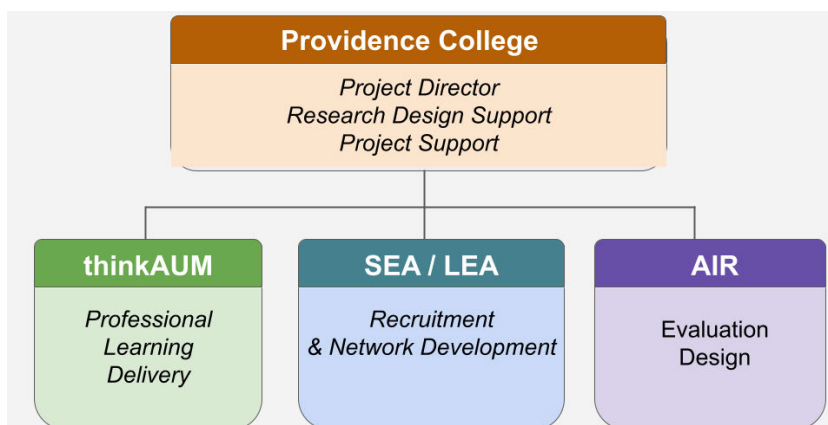
Partners Clear & Specific Roles: To achieve the outcomes listed in Exhibit 2 and meet the milestones in Exhibit 5, PC, the lead organization for the project, will be responsible to the

U.S. Department of Education for overall grant performance. PC's role is to (1) oversee the SEAs, thinkAUM and AIR in ensuring coordination across partners to achieve the project objectives; (2) recruit eligible teachers in partnership with the SEA partners; (3) support thinkAUM's PL; (4) coordinate with LEAs and SEAs to support the PPC in their roles toward ensuring data is submitted and teachers receive ongoing coaching and continued turnkeyed PL; and (5) ensure data collected through PL surveys and analysis of students' writing is used as actionable data in a continuous cycle of improvement and is given to AIR in a timely fashion. The role of thinkAUM will be to deliver the PL and needed resources for these to the LEAs. The AIR team will serve as the external evaluator for the project and provide data analyses, drawing on study design and methodological knowledge that AIR has refined across several large scale evaluations, including EIR expansion grants and Institute of Education Sciences (IES) Effectiveness studies (see Exhibit 4) focused on literacy and SEL skills.

Exhibit 4. Prior Team-Led IES Contracts to Evaluate Literacy and SEL Interventions

Project Name	Lead	Grant Size
IES SBIR: Streamline Evidence-Based Practices for Teaching Writing into Classroom	████	$200,000 (of $1,100,000 in phase 2)
Children's Literacy Institute i3 Scale Up Grant	AIR	$19,000,000
Impact of Open Court Reading, IES Goal 3 Grant	AIR	$6,500,000
Children's Literacy Institute i3 Scale Up Grant	AIR	$3,050,803

Partners Strong Qualifications: **PC Lead Staff**: ████████ has worked on RI's state-wide professional development grants for RTI/MTSS -- leading school-site implementation and coaching and supporting systemic scaling through leadership coaching and coordination with other SEA initiatives. In her work with pre-service teachers, she regularly integrates SRSD into her course content and performance expectations. thinkAUM brings a ten year track record in supporting over 50,000 teachers with learning and implementing SRSD, and having supported

statewide SRSD initiatives in TN, NY, CT, WV and RI. thinkAUM has over two dozen teachers and coaches who regularly lead SRSD courses nationally ready to deliver for this project.

thinkAUM Lead Staff: ████████, Principal Investigator; ████████, to be Project Director. AIR brings 75 years of experience in research design and innovation in the field of education and is now one of the largest social science research and evaluation organizations in the world. ***AIR Lead Staff:*** ████████, ████████████, ████████

████████ ████ ████████████████████

████████████████████████████████████

████████████████████████████████████

████████████████████████████████████

████████████████████████████████████

████████████████ ████ ████████████████

████████████████████████████████████

████████████████████████

Additionally, the following academics will serve as advisors for this project: ████████ ████, Massachusetts General Hospital; ████████████, Massachusetts General Hospital; ████████, Assistant Director of Teacher Training at the Shady Hill School, MA and Founder of #DisruptTexts; ████████, NYU; ████████, Teachers College, Columbia University; ████████, Bridge-RI, West Bay Collaborative, RI.

D.2. Management Plan's Clearly Defined Responsibilities, Timelines, and Milestones

PC will (1) support SEAs recruitment and lead outreach to identify districts needed (2) build and sustain a national network of active and prospective schools interested in evidence-based

practices for writing, and (3) advise thinkAUM on methods and tools regarding the latest research. Exhibit 5 lays out the project milestones, responsible partners, and the timeline.

Continuous Feedback: The project is designed to ensure **feedback and continuous improvement** through (1) its sequenced cohort structure and (2) surveys for collecting feedback. Teachers, PPCs, LEAs and SEAs will provide **feedback** that informs real-time improvements. While the PL is extensively developed, the feedback will be used to customize to local needs and the PL can be further enhanced. Survey feedback following all meetings will inform iterative improvements to the supports that SEAs and LEAs receive. Each monthly meeting will also include a regular agenda item **to discuss feedback from the PPCs and implications for improving the project's materials, strategies, and procedures**. For example, during a *monthly implementation review meeting* after the launch of Cohort 1, a coach may report challenges with certain teachers' lesson delivery or data submission. The team can then brainstorm potential solutions, monitor their outcomes in a continued cycle of improvement.

D.3. Costs Are Reasonable

While the budget details the project's costs and rationale for each item overall, the project's benefits will reach 2,000 lead teachers (and within school colleagues) and 50,000 students, but will also continue into the future through sustained use of SRSD in the districts, and spread of the approach through regional networks, making it cost effective in numbers reached. The SEAs, LEAs and thinkAUM will continue to support the network of project schools and make efforts to grow the initiative to new schools. The **SEAs** will have trained, experienced, local SRSD coaches and can support **ongoing delivery** of SRSD. In addition, the cadres of teachers, trained throughout, have the **potential** to impact new classes of students every year. To maximize impact after the project, PC will seek foundation support to continue this project and

will work with the regional course leaders to find avenues for them to offer continued PL in the approach locally. Exhibit 5 identifies milestones, responsible partner(s), and objectives.

Exhibit 5. Project Objectives by Milestone, Group Responsible, and Time frame

Milestones	Responsible	Yr (7/1-6/30)				
		1	2	3	4	5
Goal 1. Support preparation to implement, turnkey & entrench SRSD in schools at scale.						
1.1 Recruit, select 100 LEAs and PPCs	SEAs, PC & thinkAUM	√				
1.2 Virtual orientation, planning: LEAs, PPCs	PC, AIR, thinkAUM	√			√	
1.3 Preparation (Timelines, Redelivery)	LEAs, PPCs	√	√		√	
1.4 Bi-monthly support for LEA, PPC	PC, AIR, thinkAUM	√	√	√	√	√
1.5 Respond to feedback from SEA, LEA, PPC	PC, thinkAUM	√	√	√	√	√
Goal 2. Develop capacity and a model infrastructure for continued scaling of SRSD						
2.1 Identify regional PL opportunities	SEAs, PPCs, thinkAUM	√	√	√	√	
2.2 Operate networks to sustain SRSD	SEAs, thinkAUM			√	√	√
Goal 3: Support learning, implementing and collecting data on SRSD						
3.1 Train local faculty in SRSD and surveys	thinkAUM	√	√	√	√	√
3.2 Implement SRSD daily with support	Teachers, PPCs, LEAs	√	√	√	√	√
3.3 Collect, submit student outcomes data	Teachers, PPCs, LEAs		√	√	√	√
3.4 Emphasize SEL outcomes	Teachers, PPCs	√	√	√	√	√
Goal 4. Conduct RCT to test impact of SRSD provided by trained teachers and supported by PPCs on student outcomes regarding both academic growth and SEL growth.						
4.1 Identify eligible teachers, and screen	AIR, LEAs	√	√			
4.2 Randomly assign treatment and control groups; Initiate Internal Review Board (IRB)	AIR	√	√			
4.3 Measure, analyze fidelity implementation	AIR		√	√		

4.4 Measure & analyze treatment-control contrast in teachers' PL experiences	AIR		√		√	
4.5 Data on implementation analyzed	AIR		√	√	√	√
4.6 Determine SRSD impact on achievement.	AIR			√	√	√
4.6 Determine SRSD impact on SEL growth.	AIR			√	√	√

E. Quality of Project Evaluation

E.1. Evaluation Methods to Meet WWC Evidence Standards Without Reservations

AIR will conduct an independent evaluation of SRSD as delivered using the scaling

strategy in 100 schools across four states. The AIR team brings deep knowledge and experience

with designing and conducting large-scale rigorous evaluations that meet WWC Standards

without Reservations. The impact evaluation will examine writing and ELA achievement of

students in grades 1-5 using a writing assessment administered by the research team and state

standardized ELA tests. The impact evaluation will also examine SEL outcomes for students in

grades 3-5, teacher self-efficacy, and teacher practice. In addition to the impact evaluation, AIR

will establish a continuous improvement feedback loop for thinkAUM focused on barriers and

successful supports for scaling SRSD using implementation data gathered by the evaluation team

(See Appendix J.9 for implementation data details) and completed fidelity checklists from PPC.

The following research questions (RQs) will help identify for whom SRSD works and

under what conditions:

1. What is the impact of SRSD on students' writing and ELA achievement?

2. What is the impact of SRSD on students' SEL outcomes?

3. What is the impact of SRSD on teacher self-efficacy for teaching writing and classroom

   instruction as measured by the Classroom Assessment Scoring System (CLASS)?

4. Is the impact of SRSD on writing, ELA achievement and SEL outcomes moderated by student, teacher/classroom, and school characteristics?

5. Is the impact of SRSD on writing, ELA achievement and SEL outcomes mediated by classroom instruction?

6. Are the scaling strategy and SRSD lessons implemented with fidelity?

7. What are the obstacles and success factors to the scaling and ability to sustain SRSD?

8. What is the cost-effectiveness of scaling SRSD?

Design. These eight RQs will be addressed through a delayed treatment RCT design, with 100 schools blocked by district, and randomly assigned to implement SRSD (treatment) or business as usual (BAU, or control).

Within each participating school, two teachers from each grade will be randomly selected to participate in the study. Teachers in the 50 schools assigned to the treatment condition will receive SRSD training and implementation support (as described in section B.1) during the 2022-23 and 2023-24 school years (SY). Teachers in the 50 schools assigned to the control condition will continue to implement the LEA's current writing curriculum during the SY 2022-23 and 2023-24 and will receive delayed SRSD training during the SY 2024-25 and 2025-26, after data collection for the impact evaluation has been completed. Teachers in the treatment and control conditions will be required to participate in the districts' normal PD requirements and have the same optional PD opportunities as other teachers. Schools are the appropriate unit of assignment because contamination is more likely with a core academic initiative that uses a collaborative planning approach commonly used within elementary schools. To protect against possible within district or regional contamination, teachers will be instructed not to share the instructional strategies with those from control schools during the evaluation.

Outcomes. The impact evaluation will examine teacher and student outcomes at the end of the first year of implementation as interim outcomes; second year outcomes will be considered primary outcomes. The evaluation will examine teacher and student outcomes using validated and reliable measures that are directly related to the intended program outcomes and meet the WWC's validity and reliability requirements (WWC, 2020). According to the theory of change presented in the logic model (see Appendix G), the primary teacher outcomes for SRSD are teachers' efficacy regarding teaching writing and the quality of teachers' interactions with students. The primary student outcomes are literacy achievement, quality of writing, and SEL. Appendix J.11 offers more information on proposed outcome measures including psychometric properties and timing of data collection.

Teacher Outcomes: **The Teacher Efficacy Scale for Writing** (Graham et. al., 2001) will measure teachers' self-reported efficacy. The measure will be administered in the spring and fall of each year to both treatment and control teachers. The Classroom Assessment Scoring System (CLASS; Pianta, et. al., 2008), will be used to measure the quality of **classroom instruction** through video observations (see Appendix J.10 for CLASS domains and dimensions). We will randomly select three teachers per school for observations. For each teacher, we will video-record one lesson in early fall of the first intervention year (as baseline), two lessons in spring of the first year, and two lessons in spring of the second year. The video-recorded lessons will be coded by certified CLASS observers at AIR.[2] A subset (10%) of lessons will be double-coded by independent coders for reliability check.

---

[2] The video-recorded lessons also will be coded using a checklist developed by the program developer to examine whether treatment teachers apply implemented instructional strategies and practices that are emphasized by the SRSD program in their classes to a greater extent than their control counterparts.

Student Outcomes: The primary measures of **ELA achievement** are students' scores on state assessments in ELA (Grades 3-5) and district benchmark tests (Grades 1-2). Additionally, writing samples will be gathered from a randomly selected sample of students in Grades 1–5 from treatment and control schools (10 students per teacher) in fall and spring of each year to measure **writing quality**. Students will be asked to write an expository essay using source texts (informational passage(s) appropriate to grade level). The essays will be scored for genre elements, holistic quality, and number of words (Collins et al., 2021). AIR team members, blind to student condition, will score the writing samples. A subset (10%) of the writing samples will be double coded by independent coders for a reliability check. **SEL outcomes** will be measured using validated and reliable survey scales. The evaluation team will administer a short survey online to students in Grades 3-5 in fall and spring of each intervention year that will include measures of growth mindsets for writing, self-regulated learning, attitudes and self-efficacy for writing, and strategic writing behaviors. Baseline measures will be prior year scores on state assessments or district benchmark tests, scores from writing samples gathered and scored in the fall of Year 1, and survey scale score from fall of Year 1.

Sample and Statistical Power. The sample for the proposed RCT will include 100 schools - assuming at least 1,000 elementary school teachers who meet the following eligibility criteria: (1) teach in a regular high-needs school (60% or more free or reduced price lunch), 2) teach a regular yearlong self-contained class or a daily ELA block; (3) do not participate in other targeted and sustained (i.e., over several days) literacy PL during experimental years; and (4) consent to participate in evaluation activities prior to the random assignment of schools. Within each school, 10 teachers (two per grade) will be randomly selected from the pool of eligible teachers to participate in the study. To limit the risk of bias due to joiners (individuals who enter

the cluster after the time of random assignment), teachers who joined the school after the study starts and their students will not be included in the analytic samples. For student outcomes, the sample will consist of students taught by teachers participating in the study. Assuming at least 20 students per teacher (i.e., 200 students per school), the anticipated sample sizes for teacher and student outcomes will provide estimated minimum detectable effect sizes (MDES) of 0.13 for writing and ELA achievement, 0.18 for SEL outcomes, 0.22 for classroom instruction, and 0.25 for teacher self-efficacy. The power calculations assumed an attrition rate of 20% at the school level by the end of Year 2 of implementation and a response rate of 80% for teacher and student surveys. See Appendix J.7 for assumptions and impact of potential attrition levels for each power calculation.

Strategies for Addressing Attrition. The main threat to internal validity is potential selection bias resulting from sample attrition during the 2 years of the intervention. The delayed treatment assignment will allow all participants to receive the program's supports provided they remain in the study, therefore reducing the chance of differential attrition. We also plan to use multiple strategies to minimize overall attrition. First, during recruitment, AIR and program personnel will communicate the data collection requirements and the importance of retention to potential participants and will advertise that only teachers who plan to stay in their school during the two intervention years should volunteer. Second, we will carry out random assignment at the beginning (fall) of the first intervention year rather than the spring of the prior school year, as is often the case with impact studies of curriculum evaluations. This will eliminate attrition resulting from teacher turnover during the summer before the intervention starts. Given that the proposed evaluation is based on an RCT that is free of confounding factors and is expected to

demonstrate baseline equivalence with low attrition, it is expected to produce strong evidence on SRSD's effectiveness at scale that will meet the WWC evidence standards without reservations.

Impact Analysis. Our main impact analyses will be fixed-effects intent-to-treat analyses that estimate the impact of SRSD on students (RQs 1 and 2) and teachers (RQ3) in the study schools. The basic strategy for the impact analysis is to estimate the difference in outcomes between the treatment and control groups, adjusting for the blocking used in random assignment and for person- and school-level covariates. The study will use hierarchical linear modeling to estimate the treatment effect on the student-level or teacher-level outcomes of interest. For analyses of teacher outcomes, teachers are the Level 1 unit, and schools are the Level 2 unit. For student outcomes, the evaluation team also will use three-level models (i.e., students nested within teachers within schools) and will report findings from models that fit best with the data. The impact models will incorporate fixed effects for randomization blocks and as appropriate, covariates at the student-, teacher-, and school-level that are expected to be correlated with the outcomes. Inclusion of covariates will improve the precision of the impact estimates and guard against any bias due to imbalance in baseline covariates that arises due to random chance. We will adapt the main student impact model to assess the differential impact of SRSD (RQ4) by incorporating a treatment-by-moderator interaction term, where the moderator is a characteristic of the student, teacher/classroom, or school (see Appendix J.8). To assess the extent to which the impact of SRSD on student outcomes is mediated by the quality of **classroom instruction** (RQ5), we will use two alternative models: (1) a single-mediator model that estimates the overall mediating effect of classroom instruction, as measured by the CLASS overall score, and (2) a multiple-mediator model that estimates the unique mediating effect of each CLASS domain. For more detail on our analysis plan please see Appendix J.12.

Implementation Analysis. To assess the fidelity of implementation (RQ6), the evaluation team will work with the implementation team to identify quantifiable implementation indicators for the key activities in the logic model (for example, teacher participation in PD) and determine the expectations (or thresholds) for implementation. For example, the threshold for teacher participation will be calculated based upon: 1) completing two day course and at least 4 coaching cycles (plan a lesson with PPC, implement it, collect simple formative data, debrief it with PPC); and (2) a teacher must demonstrate successful implementation of at least 60% of the key elements of SRSD based on the fidelity of implementation checklist completed for a randomly selected sample of coaching cycles. The indicators and thresholds will help operationalize the logic model and ground the evaluation activities in a common understanding of program features and expectations. The evaluation team will then use data collected throughout implementation to describe the level of implementation for each indicator at the teacher level (if applicable) and at the school level. The analysis will provide evidence of the extent to which expected program activities are implemented at each school and variations in implementation across schools.

To further explore implementation-related issues, we will conduct interviews with a random sample of 25 PPCs and 100 teachers (20 teachers at each grade level) each spring to gather information about their experiences with (1) the training and support they received in SRSD and (2) the delivery of SRSD by teachers. These interviews will pay particular attention to factors that facilitate or hinder the implementation of the scaling strategy and the SRSD program (RQ7) and examine issues such as whether a sufficient pool of promising candidates exists for the coach positions, whether coach training and support is adequate, and how well the online SRSD materials and technology support systems function. (See Appendix J.9 for a description of the different types of implementation data to be collected.)

The evaluation team will analyze data from the teacher and coach surveys to understand participants' experience with the program, perceptions of obstacles and success factors for scaling it (RQ7). The evaluation team will use descriptive statistics (frequencies, means, and standard deviations) to analyze teachers' responses to relevant items and will use qualitative analytic procedures to analyze interview data to identify common experiences and strategies across schools that may improve the implementation, sustainability and scaling of the program.

Cost Analysis. To provide information about whether SRSD is a cost-effective investment (RQ 8), we will conduct a cost analysis using the Resource Cost Model (RCM), which has been used extensively by AIR.[3] We will develop the RCM using the *CostOut* tool[4], using extant administrative data on the unit costs of labor and nonpersonnel resources as well as records of the time spent by salaried personnel collected through surveys/log records from staff responsible for coordinating and implementing the intervention efforts. We will compute the costs for the intervention as well as the specific costs of different intervention components. We will separately report the intervention's start-up costs (e.g., teacher training and material costs) and continuing costs (e.g., the costs of teacher time during the implementation process). We will then generate cost-effectiveness estimates based on the cost estimates and results from the impact analyses.

E.2. Guidance About Effective Strategies Suitable for Replication

The proposed evaluation will generate useful guidance about effective strategies for implementing and scaling SRSD in diverse settings by *(a)* including a large sample representing diverse settings; *(b)* deliberately assessing whether the impact of SRSD differs for different

---

[3] See http://www.air.org/topic/p-12-education-and-social-development/school-finance.

[4] A tool created by the Center for Benefit-Cost Studies in Education at Teachers College, Columbia University.

students, teachers, classrooms, and schools conditions (i.e., moderators); and *(c)* analyzing data from multiple sources, as detailed in the following sections.

(a) Diverse Settings. The high-need schools included in the proposed project will come from districts representing diverse settings (e.g., geography, size, urbanicity, improvement status, graduation rate, percentage of English learners). The commitment of four SEAs gives us flexibility to define each cohort based on urbanicity and potentially other variables (considered important for generating guidance for future replications). (See Appendix C for letters of support and Appendix J.8 for the numbers of schools considered high poverty.)

(b) Differential Impact Analyses. The proposed evaluation will generate useful guidance about the relative effectiveness of SRSD for different student groups and settings through differential impact analyses, which will assess the extent to which the impact of the program is moderated by the characteristics of students, teachers/classrooms, and schools (see Exhibit 6).[5] These results will be crucial in guiding replication efforts to scale SRSD, as they may identify settings and populations for which the program is or is not well suited and also support other education leaders in determining if SRSD will work in their context.

Exhibit 6. Potential Moderators at the Student, Teacher, and School Levels

Student-Level	Teacher-Level	School-Level
Race/ethnicity, eligibility for free or reduced-price lunch, special education, English language learner status, prior achievement data	Teacher experience, class size, and classroom average prior achievement, and subject	School level, size, locale (urban /suburban/ rural), and demographic composition (e.g., percentage of minority/low-income students)

---

[5] In addition to differential impact analyses, we also will estimate SRSD's impact within each key student subgroup separately, particularly subgroups of high-need students (e.g., minority students and low-income students).

(c) Analyses of Implementation Data From Multiple Sources. The evaluation team will collect and analyze implementation data from multiple sources throughout the two intervention years to provide guidance and lessons learned for future replication or testing of SRSD in other settings, using thinkAUM's strategy to scale. In addition to implementation-related information tracked by the SRSD PPCs (in an online platform), we will examine implementation fidelity (RQ 6) based on data from school meeting logs, implementation fidelity checklists completed by PPCs, and surveys.[6] Analysis of the fidelity of implementation of the scaling strategy will focus on issues such as training, monitoring, and support, and examining variations in implementation fidelity will help identify the barriers to implementation and scaling of the program. Analysis of implementation fidelity of the SRSD lessons themselves will focus on the dosage and adherence to factors on the SRSD implementation checklist.

E.3. Clearly Articulated Key Project Components, Mediators, and Outcomes

The design of the proposed evaluation is informed by clearly articulated key components, mediators, and outcomes of the SRSD program as depicted in the theory of change presented in Appendix G. As shown in Exhibit J.1.2 (see Appendix J), the central component of the SRSD intervention is a set of eight instructional routines. Teachers receive coaching in how to implement these lessons, and how to use student writing and SEL data to guide next instructional steps. The theory of change also specifies key outcomes for teachers/classrooms (i.e., quality of classroom instruction) and students (i.e., writing, ELA achievement, and SEL outcomes) as detailed in the logic model. The quality of classroom instruction serves also as a key mediator for the impact of SRSD on student academic and SEL outcomes as demonstrated in previous studies

---

[6] The teacher survey will be administered to both treatment and control teachers each spring, which will allow us to gather data on control teacher's coaching experience as well to assess "service contrast."

linking the emotional support domain score on CLASS with student's increased SEL skills (e.g., Curby et. al., 2009; Mashburn et. al., 2008).

Project Overall Summary: Strong evidence supports **teaching the writing process** as a means to lift overall writing proficiency; and 27 randomized and quasi-randomized trial studies support using SRSD to achieve this, with the added benefit of strengthening SEL capacities at the same time. Our team has the passion, capacity and qualifications to lead this project and work toward addressing the writing crisis our nation faces by removing barriers and creating greater access to benefits SRSD offers teachers – and students.

REFERENCES

Applebee, A. N., & Langer, J. A. (2011). A snapshot of writing instruction in middle schools and high schools. English Journal, 100(6), 14–27.

Benedeck-Wood, E., Mason, L. H., Wood, P. H., Hoffman, K. E., & McGuire, A. (2014). An experimental examination of quick writing in the middle school science classroom. *Learning Disabilities: A Contemporary Journal, 12*, 69–92.

Bettinger, E. P., Boatman, A., & Long, B. T. (2013). Student supports: Developmental education and other academic programs. *The Future of Children, 23*(1), 93–115.

Bruning, R., Dempsey, M., Kauffman, D. F., McKim, C., & Zumbrunn, S. (2013). Examining dimensions of self-efficacy for writing. *Journal of Educational Psychology, 105*(1), 25–38.

Cardichon, J., Darling-Hammond, L., Yang, M., Scott, C., Shields, P. M., & Burns, D. (2020). *Inequitable opportunity to learn: Student access to certified and experienced teachers.* Learning Policy Institute.

CASEL (2020). *Reunite, renew, and thrive: Social and emotional learning (SEL) roadmap for reopening school.* CASEL: Chicago, IL.

Chen, L., Dorn, E., Sarakatsannis, J., & Wiesinger, A. (2021, March). *Teacher survey: Learning loss is global—and significant.* McKinsey & Company.

Coburn, C. E. (2003). Rethinking scale: Moving beyond numbers to deep and lasting change. *Educational Researcher, 32*(6), 3–12.

College Entrance Examination Board. (2004). *Writing: A ticket to work or a ticket out.* College Board.

Collins, A. A., Ciullo, S., Graham, S., Sigafoos, L., Guerra, S., David, M., & Judd, L. (2021, April). Writing expository essays from social studies texts: a self-regulated strategy development study. *Reading and Writing*, Online First.

Curby, T., Grimm, K., J., & Cameron, C. E. (2009). Teacher-child interactions and children's achievement trajectories across kindergarten and first grade. *Journal of Educational Psychology, 101(4)*, 912-925.

Cutler, L., & Graham, S. (2008). Primary grade writing instruction: A national survey. *Journal of Educational Psychology, 100*, 907–919.

Eissa, M. A. (2009). The effectiveness of a program based on self-regulated strategy development on the writing skills of writing-disabled secondary school students. *Electronic Journal of Research in Educational Psychology, 7*, 5–24.

Englert, C. S., Raphael, T. E., Anthony, L. M., & Stevens, D. (1991). Making strategies and self-talk visible: Writing instruction in regular and special education classrooms. *American Educational Research Journal, 28*(2), 337–372.

Fishman, B., Konstantopoulos, S, Kubitskey, B., Vath, R., Park, G., Johnson, H., Edelson, D. C. (2013). Comparing the impact of online and face-to-face professional development in the context of curriculum implementation. *Journal of Teacher Education, 64*(5), 426–438. doi:10.1177/0022487113494413.

Garet, M., Porter, A. C., Desimone, L., Birman, B., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal, 38*, 915-945.

Graham, S. (2019). Changing how writing is taught. *Review of Research in Education, 43*, 277–303.

Graham, S., Harris, K. R., & Larsen, L. (2001). Prevention and intervention of writing

difficulties with students with learning disabilities. *Learning Disabilities Research and

Practice, 16*, 74-84.

Graham, S., Bollinger, A., Booth Olson, C., D'Aoust, C., MacArthur, C., McCutchen, D., &

Olinghouse, N. (2012). *Teaching elementary school students to be effective writers: A

practice guide* (NCEE 2012-4058). National Center for Education Evaluation and

Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

http://ies.ed.gov/ncee/wwc/publications_reviews.aspx#pubsearch

Graham, S., Bruch, J., Fitzgerald, J., Friedrich, L., Furgeson, J., Greene, K., Kim, J., Lyskawa, J.,

Olson, C. B., & Smither Wulsin, C. (2016). *Teaching secondary students to write

effectively* (NCEE 2017-4002). National Center for Education Evaluation and Regional

Assistance, Institute of Education Sciences, U.S. Department of Education.

Graham, S., & Harris, K. R. (1989). Component analysis of cognitive strategy instruction:

Effects on learning disables students' compositions and self-efficacy. J*ournal of

Educational Psychology, 81*, 353–361.

Graham, S., & Harris, K. R. (2017). Evidence-based writing practices: A meta-analysis of

existing meta-analyses. In R. Fidalgo, T. Olive, R. Fidalgo, K. R. Harris, & M. Braaksma

(Eds.). *Design Principles for Teaching Effective Writing* (pp. 13–37). Studies in Writing

Series Vol. 34. Brill.

Graham, S., Harris, K. R., & Beard, K. (2018). Teaching writing to young African American

male students using evidence-based practices. *Reading & Writing Quarterly, 35*(4), 1–11.

Graham, S., Harris, K. R., Kiuhara, S. A., & Fishman, E. J. (2017). The relationship among strategic writing behavior, writing motivation, and writing performance with young, developing writers. *The Elementary School Journal, 118*(1), 82–104.

Graham, S., Harris, K. R., & McKeown, D. (2013). The writing of students with LD and a meta-analysis of SRSD writing intervention studies: Redux. In H. L. Swanson, K. R. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (2nd ed), Guilford Press.

Graham, S., Harris, K. R., & McKeown, D. (2014). The writing of students with learning disabilities, meta-analysis of self-regulated strategy development writing intervention studies, and future directions: Redux. In H. L. Swanson, K. R. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (pp. 405–438). Guilford Press.

Graham, S., Hebert, M., & Harris, K. (2011). Throw 'em out or make 'em better? State and district high-stakes writing assessments. *Focus on Exceptional Childlren, 44*(1), 1-12.

Graham, S., Kiuhara, S. A., & MacKay, M. (2020). The effects of writing on learning in science, social studies, and mathematics: A meta-analysis, *Review of Educational Research, 90*(2), 179–226.

Harris, K. R, Graham, S., & Adkins, M. (2015). Practice-based professional development and self-regulated strategy development for Tier 2, at-risk writers in second grade. *Contemporary Educational Psychology, 40*, 5–16.

Harris, K. R., Graham, S., Mason, L., & Friedlander, B. (2008). *Powerful writing strategies for all students*. Brookes.

Harris, K. R., Lane, K. L., Graham, S., Driscoll, S. A., Sandmel, K., Brindle, M., & Schatschneider, C. (2012). Practice based professional development for self-regulated strategies development in writing a randomized controlled study. *Journal of Teacher Education, 63*(2), 103–119.

Hashley, A., Miller, K., & Foxworth, L. (2020). Combining universal design for learning and self-regulated strategy development to bolster writing instruction. *Intervention in School & Clinic, 56*(1), 22–28.

Kane T. J., Owens A. M., Marinell, W. H., Thal, D. R., & Staiger, D. O. (2016). *Teaching higher: Educators' perspectives on Common Core implementation*. Center for Education Policy Research.

Kennedy, M. M. (2016). How does professional development improve teaching? *Review of Educational Research, 86*, 945–980.

Kiuhara, S. A., Graham, S., & Hawken, L. S. (2009). Teaching writing to high school students: A national survey. *Journal of Educational Psychology, 101*(1), 136–160.

Lay, C., Allman, B., Cutri, R., & Kimmons, R. (2020). Examining a decade of research in online teacher professional development. *Frontiers in Education, 5,* 573129. https://doi.org/10.3389/feduc.2020.573129

Limpo, T., & Alves, R. A. (2013). Teaching planning or sentence-combining strategies: Effective SRSD interventions at different levels of written composition. Contemporary Educational Psychology, 38(4), 328–341.

Magidin de Kramer, R., Masters, J., O'Dwyer, L., Dash, S., & Russell, M. (2012). Relationship of online teacher professional development to seventh-grade teachers' and students' knowledge and practices in English language arts. *The Teacher Educator, 47* (3), 236–259.

Mashburn, A. J., Pianta, R. C., Hamre, B. K., Downer, J. T., Barbarin, O. A., Bryant, D., Burchinal, M., Early, D. M., Howes, C. (2008). Measures of classroom quality in prekindergarten and children's development of academic, language, and social skills. *Child Development, 79(3)*, 732-49.

Mason, L. H., Cramer, A. M., Garwood, J. D., Varghese, C., Hamm, J., & Murray, A. (2012). Efficacy of self-regulated strategy development instruction for developing writers with and without disabilities in rural schools: A randomized controlled trial. *Rural Special Education Quarterly, 36*(4), 168–179.

Mason, L. H., Cramer, A. M., Garwood, J. D., Varghese, C., Hamm, J., & Murray, A. (2017). Efficacy of Self-Regulated Strategy Development Instruction for Developing Writers With and Without Disabilities in Rural Schools: A Randomized Controlled Trial. Rural Special Education Quarterly, 36(4), 168–179.

McKeown, D., FitzPatrick, E., Brown, M., Brindle, M., Owens, J., & Hendrick, R. (2019). Urban teachers' implementation of SRSD for persuasive writing following practice-based professional development: Positive effects mediated by compromised fidelity. *Reading and Writing, 32*, 1483–1506.

National Center for Education Statistics. (2012). *The Nation's Report Card: Writing 2011* (NCES 2012–470). Institute of Education Sciences, U.S. Department of Education.

National Commission on Writing. (2005). *Writing: A powerful message from state government*. The College Board.

National Association of Colleges and Employers. (2019). *Employers want to see these attributes on students' resumes*. https://www.naceweb.org/talent-acquisition/candidate-selection/employers-want-to-see-these-attributes-on-students-resumes/

Olson, C., Matuchniak, T., Chung, H., Stumpf, R., & Farkas, G. (2017). Reducing achievement gaps in academic writing for Latinos and English learners in grades 7–12. *Journal of Educational Psychology, 109* (1), 1–21.

Opfer V. D., Kaufman J. H., & Thompson L. E. (2016). *Implementation of K–12 state standards for mathematics and English language arts and literacy: Findings from the American Teacher Panel*. RAND Corporation.

Palermo, C., Thomson, M. (2018). Teacher implementation of Self-Regulated Strategy Development with an automated writing evaluation system: Effects on the argumentative writing performance of middle school students, *Contemporary Educational Psychology, 54,* 255–270,

Pianta, R. C., La Paro, K. M., & Hamre, B. K. (2008). *Classroom Assessment Scoring System™: Manual K-3*. Paul H. Brookes Publishing.

Prata, M. J., de Sousa, B., Festas, I., & Oliveira, A. L. (2019). Cooperative methods and self-regulated strategies development for argumentative writing. *Journal of Educational Research, 112*(1), 12–27.

Quitadamo I., & Kurtz, M. (2007). Learning to improve: Using writing to increase critical thinking performance in general education biology. *CBE Life Science Education, 6*(2),140–154.

Salas, N., Birello, M., and Ribas, T. (2020). Effectiveness of an SRSD writing intervention for low- and high-SES children. *Reading and Writing*, 1-28.

Sartain, L., Stoelinga, S. R., & Brown, E. R. (2011). *Rethinking teacher evaluation in Chicago: Lessons learned from classroom observations, principal-teacher conferences, and district implementation* (Research Report). Consortium on Chicago School Research.

Schlund, J., Jagers, R. J. & Schlinger, M. (2020). *Advancing social and emotional learning (SEL) as a lever for equity and excellence*. CASEL: Chicago, IL

Torres, C & Black, R. (2018). Culturally Responsive Self-Regulated Strategy Development in Writing for College Students with Disabilities. *Multiple Voices for Ethnically Diverse Exceptional Learners,* 18, 42-59.

What Works Clearinghouse, Institute of Education Sciences, U.S. Department of Education. (2017, November). *Students with a specific learning disability intervention report: Self-regulated strategy development.*

Wissinger, D. R., De La Paz, S., & Jackson, C. (2021). The effects of historical reading and writing strategy instruction with fourth-through sixth-grade students. *Journal of Educational Psychology, 113*(1), 49–67.