

March 2019



WHITE PAPER

# SEMIS Coalition for Place-Based Ecological Stewardship: Growing a Movement, Getting Ready for Growth

---

Charles Smith, Ph.D. | Managing Consultant at QTurn

## Summary

The Southeastern Michigan Stewardship Coalition (SEMIS) is a high impact and low-cost school reform for adults and students to build their repertoire of ecological stewardships skills – SEL, STEM and civic - and experience agency from the practice of ecological stewardship in their place. This white paper was developed to (1) describe how SEMIS promotes social and emotional learning, (2) iterate content and language with SEMIS stakeholders, (3) and to make a compelling and scientifically grounded case for expansion of the work.

## Acknowledgement

Thank you to the NOVO Foundation for their generous support and encouragement of this white paper.

## Contents

Introduction .....	2
A Complicated Moment .....	3
Drawing the Threads Together .....	5
The SEMIS Work.....	6
Growing the Social Movement for Place-Based Ecological Stewardship .....	9
References .....	11
Appendix - Audience Analysis .....	12

# Introduction

This white paper was developed to (1) describe how SEMIS Coalition (SEMIS) promotes social and emotional learning, (2) iterate content and language with SEMIS stakeholders, (3) and to make a compelling and scientifically grounded case to funders. More detail on these objectives and audiences is included as Appendix A. Research for the paper was supported by review of the SEMIS written content, participation at multiple SEMIS events, observation of classroom projects at a school, and interviews with key SEMIS stakeholders.

SEMIS is a coalition of educators, anchored at Eastern Michigan University, who use person-centered methods<sup>i</sup> and the applied science of ecological stewardship to seed school organizations with powerful place-based projects and a bio-regional learning community. The outcomes from participation in SEMIS include improved learning of SEL, STEM, and civic skills for both students and adults.

*Person-centered methods* include two key propositions: First, engagement of students cannot be separated from the students' experience of conditions inside and outside the school. In keeping with the learning science, teachers need to know what the student knows and feels in order build an effective learning environment (Bransford, Brown & Cocking, 2000; Hattie, 2009) because all cognition is integrated with emotion, in both conscious and unconscious ways, and both drive behavior. The concepts of differentiation, individuation, personalization in education describe the adults' role in understanding what students know and feel. Second, person-centered science emphasizes the importance of supports for self-regulation of emotion, attention, and behavior (i.e., SEL), particularly for teachers and students who are stressed (Blair & Raver, 2015; Smith, Peck et al., 201). Person-centered science provides a common foundation for whole-child, social and emotional, cultural responsiveness, and trauma-informed themes in current education policy.

The *applied science of ecological stewardship* is the emerging domain of scientific, design, and civic skills that will be the new basic skills in an adaptive<sup>ii</sup> environmental future. Already communities all over the world are being affected by our planet's natural resources – wind, water, and temperature – in new and disruptive ways. This disruption will only increase. Applied science uses scientific knowledge and method to diagnose, design, monitor, and manage responses to natural and social phenomenon. Examples include: the water cycle, food production, fuel and waste streams, water and air quality, alternative fuels, mindfulness, conflict resolution, etc. that are implicated in current conditions of global ecological collapse. All students need more time on STEM subjects. All students need more exposure to ecological ethics and more practice at visioning an ecologically adaptive future.

*Seeding projects* means that SEMIS has a method for collaboration that is generative and encourages others to participate. SEMIS is a quality intermediary organization (also called a backbone organization) providing a portfolio of training and technical assistance, an annual youth-led conference, and other membership benefits (hereafter “supports”) for a growing network of individual teachers and community-based organizations in the southeastern Michigan bio-region. The SEMIS supports are currently designed for individual classroom-level implementations because SEMIS strategy is to target motivated teachers as exemplars of the work. Although state and federal policies for the most stressed school currently focus on “schoolwide” or “comprehensive” approaches to improvement, stressed

schools often lack sufficient capacity and community to adopt reforms schoolwide (Dragoset, Thomas, Herman, Deke et al., 2017).

SEMIS provides individual participants – students, teachers, managers, families – with access to a bio-regional professional community that is, in turn, part of the great turning<sup>iii</sup>, the global social movement for ecological stewardship.

In summary: SEMIS offers a person-centered approach to the applied science of ecological stewardship, particularly for schools in stressed communities. As a quality intermediary organization, SEMIS offers training and technical assistance for the production of high quality place-based classroom projects and other member services for educators. SEMIS is a complex response to a complicated moment in education policy and in the history of the planet.

## A Complicated Moment

Right now, in the consciousness of many educators and concerned citizens, the past three decades of failed education policies and their deadwood politics are intersecting with a new horizon of educational priorities emerging from the global collapse of ecological systems. Using statistical terms, we might say that the issues are co-occurring but orthogonal – in the same space, but not yet intersecting in theory or practice.

**All students need more exposure to ecological ethics and more practice at visioning an ecologically adaptive future.... How do we and our students become part of such a positive adaptive solution, when our education leaders so infrequently articulate the problem?**

We are all familiar with that uneasy feeling. We hear state and federal policy makers, and their writer-talker-researchers, calling attention to the latest framing of the education problem/solution: Expulsions in preschool, grade three reading, positive behavior supports, early college courses, subject matter certification (Duncan, 2018). We encounter local leaders, struggling with reforms that will take years to implement, even as staff turnover erodes the conditions necessary for implementation.

And we wonder: Is ESSA (Every Student Succeeds Act) likely to have any effect where the past three decades of failed policy has not? Are education leaders thinking about the coming world of hard choices and adaptation as the winds and oceans rise? Are they thinking about what happens as populations experience scarcity and fear when the power goes out or can no longer be afforded? And we also wonder: Why isn't education leading the charge to empower people around these issues? STEM learning is a good start but what about SEL and

civic? How do we get the applied science of ecological stewardship as a central goal of the education enterprise – and realize that the teachers need it as much as the students? How do we and our students become part of such a positive adaptive solution, when our education leaders so infrequently articulate the problem?

Turning explicitly to the SEL side of the equation, the mistakes of the NCLB-era policies are clear: Reliance on invalid data have caused systemic bias in decision making, student SEL supports (e.g., recess, art, counselors) has been reduced even as needs have increased, and ill-designed higher-stakes incentives have pushed talent churn and loss to levels that would cause any business to fail (Ladd, 2017). These policies have moved schools in the wrong direction, decreasing resiliencies that come with stable relationships, investment in people, and shared goals for children. The person-centered equation is unbalanced.

The safety of many school environments has been compromised, reducing supports for *basic self-regulatory processes*. For two decades the workforce has been exposed to unavoidable higher stakes consequences in the form of school restructuring schemes, and although the law changed for the better with ESSA, everyone is still stressed as a result. The needs of students in low income communities have increased substantially during the same period. In many high need schools, one-third to one-half of the students demonstrate moderate to severe levels of behavioral challenge (Baker, 2006). Students who don't feel safe, in classrooms with other kids and teachers who don't feel safe, are being denied opportunities to successfully learn to regulate impulse and attention (among other things but SEL is our point of interest here).

Further, the range of personal action, opportunities to do things other than memorize, has been narrowed. For example, recess, arts, field trips, science labs, and service learning have been reduced and/or eliminated. Because SEL skills are action-skills, reducing opportunities to self-regulate in different contexts – particularly those that require behaviors different than listening, thinking, and writing – also reduces supports for a wider range of *advanced self-regulatory processes* like problem solving, empathy, and responsibility.

In Michigan, the academic effects of the NCLB policy model have been dire. As more and more of the school day has focused on lower-level math and literacy skills, student learning of basic concepts has not improved: Only 29% of third grade students are proficient in English Language Arts on the states achievement test, and this number has declined seven percentage points since 2003, making Michigan one of only six states to have negative change during the period (Education Trust Midwest, 2019). On the National Assessment of Educational Progress (NAEP), Michigan has the lowest achievement for African American students of any state in the nation and ranks fifth from the bottom on eighth grade math (Education Trust Midwest, 2019).

For adults in many schools the situation is equally tough. Schools serving the most stressed families are under-staffed, under-resourced, and under-managed.<sup>iv</sup> Teachers in these schools are exposed to toxic levels of stress from being required to do too much with too little. Part of what is lacking is leadership: Even the most competent district and school managers are constantly on the move from district to district - under pressure from accountability systems that punish the committed and incentivize turnover. In this context, the psychological connection between teachers and their organizational homes, district and school, has become frayed or broken due to the lack of leadership continuity. The settings where adults spend time in school are also unbalanced and in need of SEL supports of the basic and advanced types.

But what do mistaken policies, falling academic achievement, and deterioration of school climates have to do with ecological stewardship? How do we draw the threads together?

Summary: Education leaders have not yet integrated new learning needs associated with global ecological collapse. Results from an era of reduced SEL supports in education has produced negative outcomes. These simultaneous problems are rarely part of the same conversation.

## Drawing the Threads Together

People learn and change most successfully in the context of caring relationships and content they care about – relationships and relevance as the saying goes. In Michigan, NCLB-era policies have short circuited this basic wiring, using test-driven higher-stakes accountability to freeze education organizations in an un-relational and un-relevant place. There has been too little care for what teachers think students need, too little care for what parents think about the purpose of schooling, too little care for the needs that students bring to school, and too little care about the kinds of skills our adaptive ecological future demands.

We've been trained to identify with the NLCB paradigm that tends to stereotype teachers as content delivery systems and students as receptors; value mechanics over meaning; and focus on overt behavior rather than the mental processes that generate behavior. A first step is to stand back and see all participants – students, teachers, managers, families - as whole people with emotions and ideas structured by experiences that come from both inside and outside of schools. This is putting the person at the center. The second step is to see that the time has come for considering the possibility that the applied science of ecological stewardship is as important, or more important, than math and literacy alone – and may be more deserving of time than pursuit of invalid cut scores for reading and mathematics proficiency. These core content areas are inextricably linked to applied ecological stewardship. Our ability to learn, discover and create within these other subjects are wholly reliant on society's continued ability to protect and utilize our natural resources. The applied science of ecological stewardship – SEL, STEM, civic – needs much more space in the curriculum.

The connection between ecological stewardship content and person-centered methods is also inherently practical: Work in ecological stewardship is known to provide metaphors for and experiences of interconnectedness, relationship, and empathy (David Ore, David Sobel, Rebecca Martusewicz or Johnny Lupinacci) and improve executive functions by recharging attentional capacities that improve focus (Kaplan, 1995). In some important ways, ecological stewardship content is also SEL content.

It is the practices that SEL and ecological stewardship share – for example caring relationships and equitable outcomes – that are an important core insight for the SEMIS work.

**It is the practices that SEL and ecological stewardship share – for example caring relationships and equitable outcomes – that are an important core insight for the SEMIS work.**



## The SEMIS Work

Because the person-centered equation has been unbalanced in settings at multiple levels of education systems (e.g., classrooms, staff meetings, administrative offices, school boards, state departments of education), in ways that are still not well understood, the complicated context for SEMIS work requires a complex and intentional response. The SEMIS intervention consists of (1) repeated annual cycles for classroom-level place-based stewardship projects (2) a bio-regional learning community (3) SEMIS supports (i.e., training, technical assistance, annual conference, member services, aligned EMU courses), (4) collaboration on high leverage, and community-centered content.

**[P]articipants in SEMIS join an important social movement, upon which their quality of life does, in some sense, depend. The great turning<sup>1</sup> is happening, and all citizens of the planet should be part of it.**

SEMIS performance standards include the following domains of practices, content, and outcomes:

*Safe space practices.* Safe spaces support the development of basic self-regulation of emotion, attention, and behavior. Learning how to produce psychologically safe space for self and others will be a critical skill during conditions of rapid social transition, scarcity, and displacement. Ironically, while these conditions are associated with current experience of

climate change and volatility, they are also conditions present (for different reasons) in student experiences in many persistently low performing schools. SEMIS projects are characterized by a safe space practices such as active inclusion (e.g., all individuals are different and important), interconnectedness (e.g., the ecological principle), fairness (e.g., social justice, eco-equity), mindfulness, peacemaking, and conflict resolution.

*Project- and Place-based practices.* Project-based learning creates opportunities to know the learner in the school context. Project based methods expand the visibility of students' learning and emotional states and, therefore, provide more opportunities for responsivity to the student. Project-based methods are considered a support for more advanced self-regulation, because they require executive control and problem solving (Bjork et al., 2013; Zimmerman, 1995), as well as social beliefs that promote empathy and responsibility (Larson & Brown, 2007; Salusky, Larson, Griffin, Wu et al., 2014; Smith, McGovern, Larson, Hillaker, et al., 2016).

Place-based education creates opportunities for academic learning to be anchored in real community circumstances. Place-based learning engages family and community participants as part of student research on, and participation in, local events and settings. Place based approaches creates opportunities for adults to know students' home and neighborhood experiences – and better understand skills and beliefs that go with the specific history of a place. Place-based methods are especially well suited to the ecological stewardship content area.

*Ecological Stewardship Content.* The SEMIS coalition suggests that teachers and students will benefit from focusing more time on applied ecological science. While there are numerous sources of curriculum content (e.g., the water cycle, food production, fuel and waste streams, water and air quality,

alternative fuels) for SEMIS projects, the applied science of ecological stewardship is still in formation, both because translation of basic science takes time, and because of the bio-regional specificity of the subject matter. A detailed understanding of the water cycle in one region can be very different in another – and in place-based work that’s the point.

Indeed, one type of value that flows from SEMIS participants is the curriculum content that educators are developing for ecological stewardship during each SEMIS cycle. This content development, including use of scientific methods, translation of scientific findings, and participation in real-time data gathering represent a new form of citizen science<sup>v</sup> that SEMIS educators find professionally engaging. However, the skills associated with the applied science of ecological stewardship also include skills in humanities, philosophy, and political science: Adults and students need practice envisioning global and local adaptive responses to global ecological situation (Scranton, 2015) while using the tools of democratic governance to do so.

*School and Civic Outcomes.* Outcomes include improved learning of SEL, STEM, and civic skills for both students and adults. These outcomes are described in the two panels of Figure 1. Panel 1 provides an integrated model (Grice, 2015) for adult experience in SEMIS. Panel 2 provides an integrated model for student experience in SEMIS. In the SEMIS theory of change, adults and students build SEL skills, STEM skills, and civic skills that have direct and positive transfer<sup>vi</sup> to school and community settings. The condition of fit between a person’s skills and the demands of the context is a basic form of agency - which is the goal of the first two panes in each of panel 1 and 2. The ability to consciously develop skills, or select settings, for the purpose of achieving better skill fit is a more advanced form of agency – and is reflected in the final pane in each of panels 1 and 2.

Agency can be depleted when goals are too abstract and distant, as is often the case with environmental concerns. Goals are pursued more earnestly when goal targets are proximal (Locke & Lathom, 1990) and chunking and subdividing skill learning goals increases the efficiency with which skills are learned (Fischer & Van Geert, 2014). SEMIS projects created task subdivisions that brings relevant ecological goals and action steps into more proximal view, increasing the likelihood of skill transfer, i.e., goal pursuit and satisfaction.

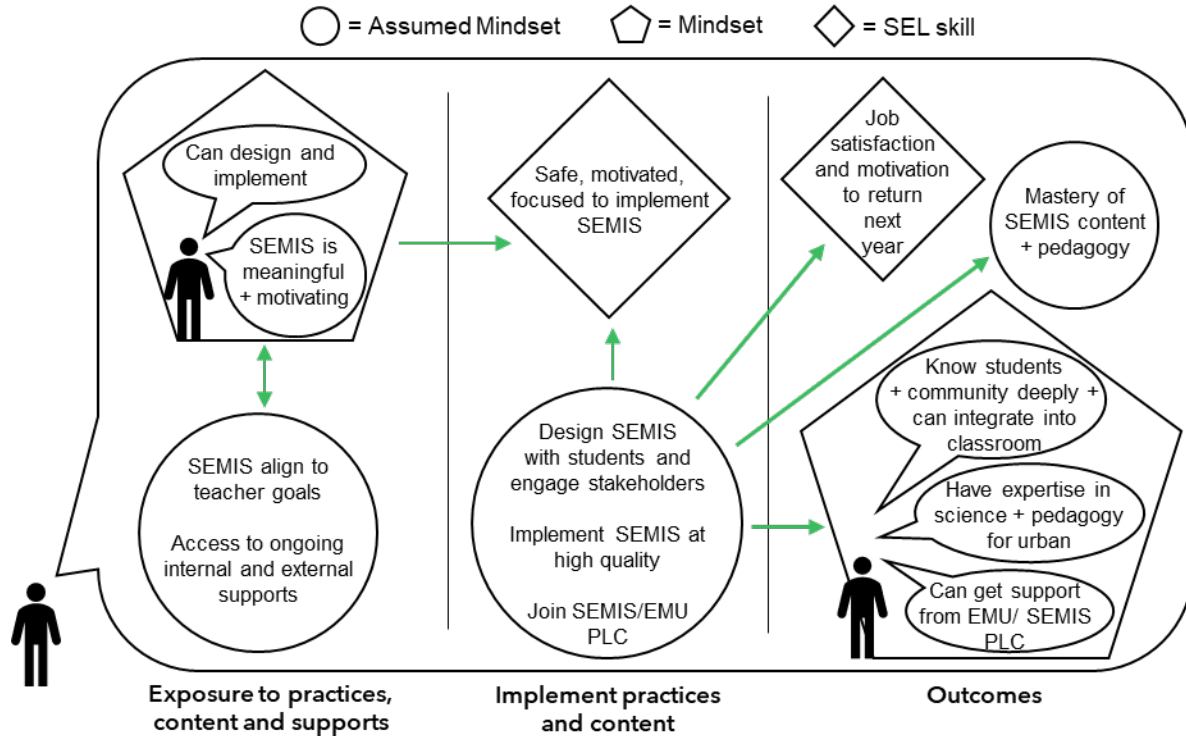
Finally, participants in SEMIS join an important social movement, upon which their quality of life does, in some sense, depend. The great turning<sup>vii</sup> is happening, and all citizens of the planet should be part of it. All educators in a democratic society should prioritize equipping their students to fulfill that aspiration.

Summary: SEMIS uses a place-based approach to draw the threads of SEL and ecological stewardship together. The SEMIS method includes deep supports and practices for SEL skill building in a community of participants – students, teachers, school managers, families - at the school and bio-regional levels. SEMIS integrates these supports and practices with ecological stewardship content to achieve a wide range of adult and student outcomes.

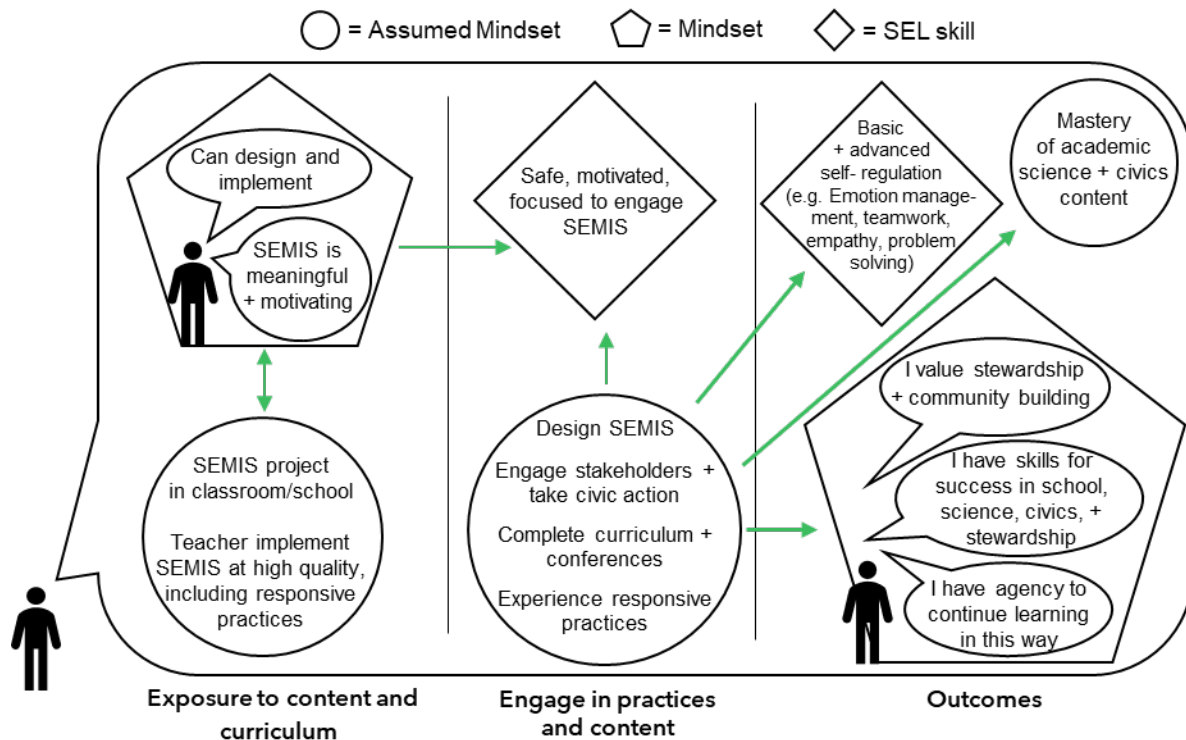


Figure 1. SEMIS Integrated Models for Teachers and Students

Panel 1. Teacher Integrated Model - for Full Project Period



Panel 2. Student Integrated Model - for Each Session



# Growing the Social Movement for Place-Based Ecological Stewardship

The time is right to grow a home-base for teachers committed to the SEMIS coalition model within the Great Lakes Basin. The challenges that teachers face in lower income communities, without consistent school leadership, are the very definition of toxic stress: the experience of stress in isolation, without supportive relationships. For teachers who are interested, SEMIS coalitions can provide a professional home base in all of the meanings that should imply: Safe space, opportunities to learn by doing, and growing skills in relevant content areas, not to mention the opportunity to experience agency around the impending challenge of the Anthropocene era. How does this happen in communities where the challenges are the greatest and the foundations for care and trust are spread too thin, and where, profoundly, the ecological context (e.g., asthma, lead, PFOAs) is pressing on students' academic performance in the most tragically obvious ways?

The education policy context in Michigan is also some cause for some optimism. Michigan's Top Ten in Ten initiative specifically mentions person centered learning (goal 1), social and emotional learning (goals 2 and 4), civic learning (goal 1), STEM learning (goal 2), and family and community engagement (goal 5). Michigan has long had a strong SEL and STEM policies in the early childhood and afterschool sectors, and this area of emphasis is growing in school day requirements and guidelines. Newer Michigan policies, such as teacher evaluation and MTSS (multi-tiered system of supports), and numerous guidelines, such as the whole child initiative, are designed to promote more person-centered learning environments. All of these policies – in different ways and from different philosophical traditions – are trying to rebalance the person-centered equation.

Even the symbolic need to justify all education investments in terms of labor market and economy is no longer a barrier. Our understanding the economic value of ecological stewardship is growing exponentially as a professional skill set (e.g., “ecosystem services”) in all employment sectors. The economic value the ecological stewardship skills is comparable in nature to the economic value of crop science, animal husbandry, and domestic science (e.g., home economics) from rural education and agricultural extension in America's early 20<sup>th</sup> century.

**For teachers who are interested, SEMIS coalitions can provide a professional home base in all of the meanings that should imply: Safe space, opportunities to learn by doing, and growing skills in relevant content areas, not to mention the opportunity to experience agency around the impending challenge of the Anthropocene era.**

The intentional effort to grow SEMIS will require some business strategy:

- Although many have noted the parallels between care of planet and care of self, SEMIS has a unique opportunity to anchor SEL in an ecological stewardship framework. Conversely, the applied science of ecological stewardship might be the perfect platform from which to build out more intentional SEL supports as part of the SEMIS experience.

- Another important consideration is how SEMIS can support curation and archiving of ecological stewardship curriculum content created in SEMIS member classrooms. While generic content for ecological stewardship is clearly growing in availability, the production of a cumulative base of bio-region specific curricular materials may be a key role for SEMIS.
- Will SEMIS play a role in advocacy for the applied science of ecological stewardship as an emerging area in the school curriculum? How can SEMIS most effectively advocate to break up the hegemony of basic reading and math skills in the school curriculum.
- Finally, the time might be right to expand beyond the individual seeding model and offer whole schools opportunities to join SEMIS coalitions as a schoolwide reform option. SEMIS should be funded to partner with schools, seeding SEMIS classrooms inside of persistently low performing schools and then growing the work inside of the school.

## References

- Baker, J., Kamphaus, R., Horne, A., Winsor, A. (2006). Evidence for population-based perspectives on children's behavioral adjustment and needs for services delivery in schools. *School Psychology Review*, 35/1:31-46.
- Bjork, R., Dunlosky, J., Kornell, N. (2013) Self-regulated learning: Beliefs, techniques and illusions. *Annual Review of Psychology* 64:417-44.
- Blair, C and Raver, C.C. (2015). The neuro-science of SEL. In Durlak, Domitrovich, Weisberg, Gullotta eds., *Handbook of Social and Emotional Learning*. New York: Guilford Press, p. 65-80.
- Bransford, J. D., Brown, A. L., & Cocking, R. R. (1999). *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academy Press.
- Dragoset, L., Thomas, J., Herrmann, M., Deke, J., James-Burdumy, S., Graczewski, C., Boyle, A., Upton, R., Tanenbaum, C., & Giffin, J. (2017). *School Improvement Grants: Implementation and Effectiveness* (NCEE 2017-4013). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.
- Hattie, J. (2009). *Visible learning : a synthesis of over 800 meta-analyses relating to achievement*. London, NY: Routledge.
- Duncan, A. (2018). *How schools work*. New York: Simon and Schuster.
- Education Trust Midwest (2019). *Top ten for education: Not by chance*. 2018 state of Michigan education report. Available at [www.michiganachievers.org](http://www.michiganachievers.org)
- Fischer, K. W., & Van Geert, P. (2014). Dynamic development of brain and behavior. In P. Molenaar, R. Lerner, & K. Newell (Eds.), *Handbook of developmental systems theory and methodology* (pp. 287-315). New York, NY: The Guilford Press.
- Grice, J. W. (2015). From means and variances to persons and patterns. *Frontiers in Psychology*, 6.
- Ladd, H. F. (2017). No child left behind: A deeply flawed federal policy. *Journal of Policy Analysis and Management*, 461-469. DOI: 10.1002/pam
- Larson, R. W., & Brown, J. R. (2007). Emotional development in adolescence: What can be learned from a high school theater program? *Child Development*, 78(4), 1083-1099.
- Locke, E.A., & Latham, G.P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice-Hall.
- Salusky, I., Larson, R. W., Griffith, A., Wu, J., Raffaelli, M., Sugimur, N., & Guzman, M. (2014). How Adolescents Develop Responsibility: What Can Be Learned From Youth Programs. *Journal of Research on Adolescence*, 24(3), 417-430.
- Scranton, R. (2015). *Learning to die in the Anthropocene*. San Francisco: City Lights.
- Smith, C., McGovern, G., Larson, R., Hillaker, B., & Peck, S. C. (2016). *Preparing Youth to Thrive: Promising Practices for Social and Emotional Learning*. Ypsilanti, MI: David P. Weikart Center for Youth Program Quality at the Forum for Youth Investment.
- Smith, C., McGovern, G., Peck, S.C., Larson, R., Hillaker, B., Roy, L. (2016). *Preparing youth to thrive: Methodology and findings from the social and emotional learning challenge*. Washington DC: David P. Weikart Center for Youth Program Quality at the Forum for Youth Investment.
- Zimmerman, B. J. (1995). Self-regulation involves more than metacognition: A social-cognitive perspective. *Educational Psychologist*, 30(4), 217-221.

## Appendix - Audience Analysis

**Audience 1:** SEMIS network of implementers and allies – lots of teachers and administrators at all levels to whom SEMIS makes an offer of services. Customers. All see the crisis caused by NCLB in schools, particularly urban schools. All know basic psychology, basic research methods stuff, and a good bit of environmental hard science. **Objective:** This white paper should start an intentional conversation about the validity of the propositions in the white paper. This process can be used – in the subsequent iteration of the white paper to incorporate the feedback – to build consensus language and nomenclature grounded in SEMIS practice and the applicable science. We want to get people fired up the possibilities that come with sharing a language of practice and making claims anchored in scientific method. I’m assuming you want to ask this group of people to do something: Just advancing the white paper is sufficient! It could also include other goals that you want to engage the group around, e.g., spreading the word to help SEMIS grow or do business/strategic planning, etc.

**Audience 2:** NOVO Foundation. **Objective:** Their advice was that SEL was obviously important but only one of the reasons to do work in high poverty school - “blow it up.” This white paper is an effort to iterate on how SEMIS says what it is and does, to a foundation that is interested in being responsive to the challenging moment in high poverty schools and understands how the wider ecological situation connects.

---

<sup>i</sup> Note on person centered – includes differentiation based on student experience and support for self-regulation in its most basic (regulation of momentary emotion, attention, behavior) and advanced (regulation of awareness and agency) forms.

<sup>ii</sup> Note on adaptive.

<sup>iii</sup>

<sup>iv</sup> Another mistake of the NCLB era was widespread use of invalid evidence that class size did not matter to the quality of teaching (CITE).

<sup>v</sup> Note on citizen science

<sup>vi</sup> Note on direct and positive transfer

<sup>vii</sup> Footnote on great turning