

Applying Science to Practice: Five Essentials for Learning, Development, and Thriving

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Priscilla M. Little, Forum for Youth Investment

Jill Young, American Institutes for Research

Poonam Borah, David P. Weikart Center for Youth Program Quality

Science of Learning and Development Alliance



SoLD Alliance combines findings from diverse areas of research into an integrated **science of learning and development** and translates science-informed strategies to practice.



The Disciplines





Scientific Findings

Every child has great potential.

There is no “bell curve” on potential!

The brain is malleable, particularly from birth through adolescence.

The malleability of the human brain affords ongoing opportunities for healing, learning, and thriving.

Each child learns and develops differently, moving along unique pathways.

There is no “normal” or “average” learner!

Learning and development build along a continuum.

Each child’s learning builds on what came before!

Integration across developmental domains accelerates learning.

Our brains become capable of increasingly complex actions through the integration of cognitive, social and emotional development.

Meaning-making is a primary function of brain activity.

The human brain develops its capacities by drawing meaning from experience, including the experience of culture.

Context is the defining influence on development.

There is no such thing as a developing child independent of context.

Strong, trusting relationships are essential.

Relationships shape the developing mind, buffer the effects of stress and ignite learning processes.



Key Shifts in Learning and Development Informed by the Science

- Focus on developing the whole child across the whole age range
- All adults and all settings matter
- Improve and align the learning and development “ecosystem” to best serve every young person
- Establish equitable learning environments
- Personalize education systems, engagement, and approaches
- Build and support new, continually improving adult capacity and well-being
- Set high expectations deeper learning, meaningful data and assessment, and development of appropriate accountability approaches to identify challenges and promote continual improvement
- Make our education system function like a learning system

Essential Guiding Principles for Equitable Whole Child Design

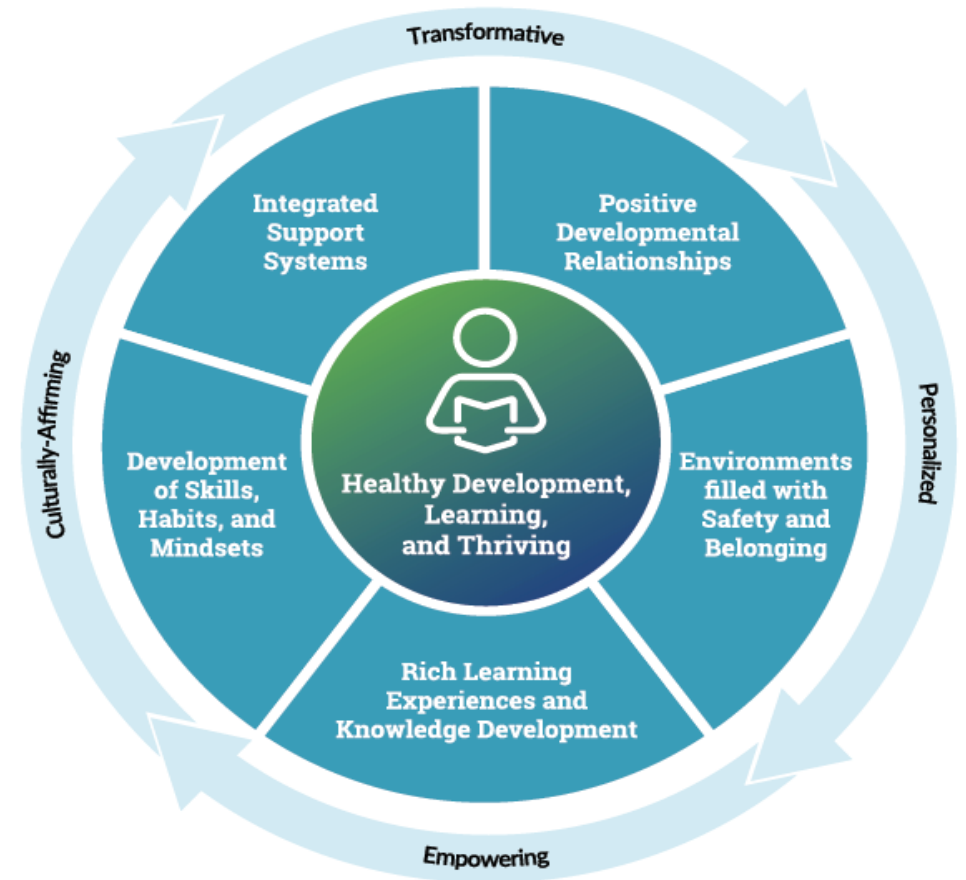
Positive developmental relationships which include emotional caring and attachment that create trust and support learning and growth

Environments where young people feel physically, emotionally and identity safe--where their cultures are represented and valued in their learning communities and where they feel a sense of membership and connection

Rich learning experiences that fully engage and challenge students and help them discover what they are capable of

Development of skills, habits and mindsets including social, emotional, academic and cognitive skills essential for productive engaged learning, work and life

Integrated support systems that are designed with many more protective factors in place – including health, mental health and academic supports such as tutoring and mentoring

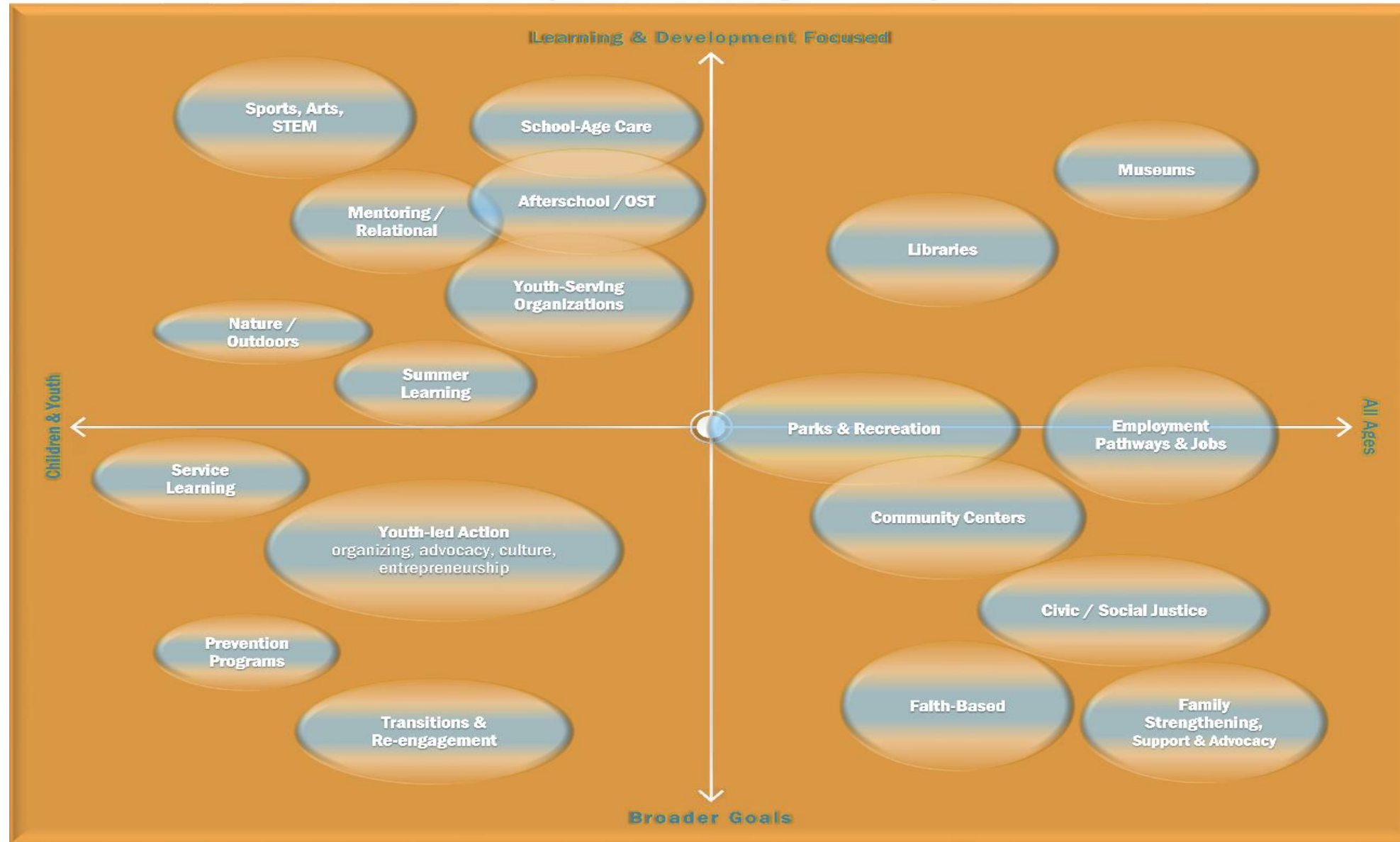


Design Principles Project

Vision & Purpose

- **Aim:** To support the design of in- and out-of-school learning environments with the science of learning and development at their foundation
- **Audience:** District leaders, school designers/leaders, youth organization leaders
- **Goals:**
 - **Create & share design principles with examples that translate into concrete structures and practices**
 - **Generate a final product that will be:**
 - *Equity-focused*
 - *Relevant for key audiences*
 - *Accessible and practical for use*
 - *Extensible with other tools*
 - *Highlight the interconnectedness of the non-negotiables of learning environments*

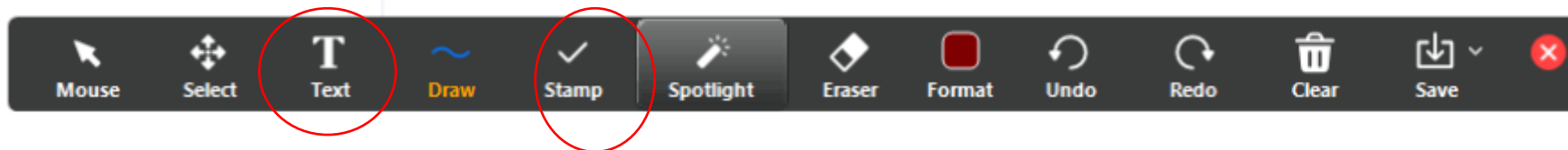
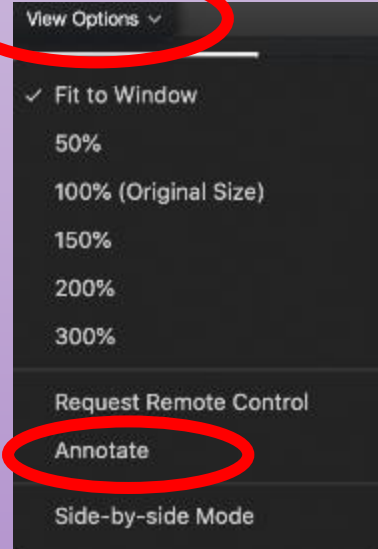
Community-based Learning & Development



Instructions for Participants

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Same Science, Companion Playbooks

- **Goals and approaches to teaching and learning**
- **Size**
- **Dosage and attendance**
- **Access**
- **Practitioners**
- **Professional development**
- **Funding streams**
- **Institutional “home”**

Unpacking the Blue Wheel-Principles and Practices for Community-Based Settings

Informed by:

- Drafts of K-12 design principles
- Youth Program Quality Assessment (YPQA)
- Social and Emotional Learning YPQA
- Preparing Youth to Thrive
- Ready by Design
- Field Knowledge and experience

Positive Developmental Relationships

Form developmental relationships between adults and young people

Provide responsive support and caring

Share leadership control with young people

Use strategies to help young people discover their strengths, expand their possibilities, and challenge growth

Cultivate relationships with family members

See families through a strength-based lens

Provide opportunities for family engagement

Foster mutual learning and decision-making

Foster relationships among young people by providing opportunities to mentor and lead

Scaffold leadership opportunities over time.

Provide support and explicit leadership training

Provide structures for young people to pursue a mentor or leader role.

Environments filled with Safety and Belonging

Cultivate safety and consistency

Implement consistent routines and rituals that support risk-taking and young people feel physically and emotionally safe.

Help young people build personal connections and a sense of purpose for themselves, within and beyond the system or setting.

Use restorative practices to help young people to reflect on any mistake, solve conflicts, and get counseling when needed

Build Community

Use positive behavior management practices aimed at fostering a healthy, inclusive community

Foster strong peer to peer relationships

Co-develop program expectations with young people

Be culturally responsive and inclusive

Use affirmations that establish the value of every young persons' many identities and abilities and actively counter stereotypes and bias.

Build on the diversity and cultural knowledge of young people and their families to make learning engaging.

Develop young people's knowledge, skills, and agency to critically engage in civic affairs.

Rich Learning Experiences and Knowledge Development

Use Scaffolding and differentiation techniques to support individual learning styles

Assess and adjust programming to fit the interests, strengths, and needs of young people.

Provide asset based personalized supports to encourage all young people to persevere and improve.

Manage groupwork to support cooperative learning

Facilitate an Inquiry-based approaches to learning to help youth be active learners

Facilitate active learning by encouraging young people to deepen and apply their learning

Provide regular and thoughtful feedback to support young people's learning

Create opportunities for young people to reflect and revise

Adopt a Culturally responsive approach to learning

Explicitly connect students' diverse experiences and cultural assets with program content.

Promote racial-ethnic identity development, voice, and agency.

Facilitate critical conversations around equity and social and justice to promote agency

Development of Skills, Mindsets, and Habits

Integrate SEL in a culturally responsive context

Foster awareness and understanding of young peoples' emotions and support meta-cognitive thinking processes.

Promote young peoples' self-regulation by actively providing them with strategies that supports them to both express and manage emotions.

Ensure cultural sensitivity and responsiveness.

Develop productive mindsets and habits

Nurture young people's growth mindset by using growth-oriented language and practices.

Provide opportunities for planning and goal setting.

Support interpersonal skills like empathy, collaboration and problem solving.

Incorporate healing-centered practices

Employ responsive strategies that is based on the principles of safety, trust, collaboration, choice, and empowerment.

Promote physical and mental wellbeing through mindfulness strategies, breathing exercises, and other stress.

Integrated Support Systems

Connect youth to supplemental learning opportunities

Partner with schools to provide seamless and aligned supports for youth

Monitor youth's academic progress and growth

Add adult capacity to the school day to support learning

Promote access to other supports and opportunities that foster health and well-being

Ensure mechanisms and partnerships are in place to connect families and youth to basic needs such as food, health, and mental health in addition to academic supports

Participate in whole-child comprehensive community partnership models

Transition to Break Out Groups

Are you Ready to Implement?

Supporting Intentional Practice



Source: <https://measuringsel.casel.org/three-steps-for-supporting-intentional-sel-in-out-of-school-time/>

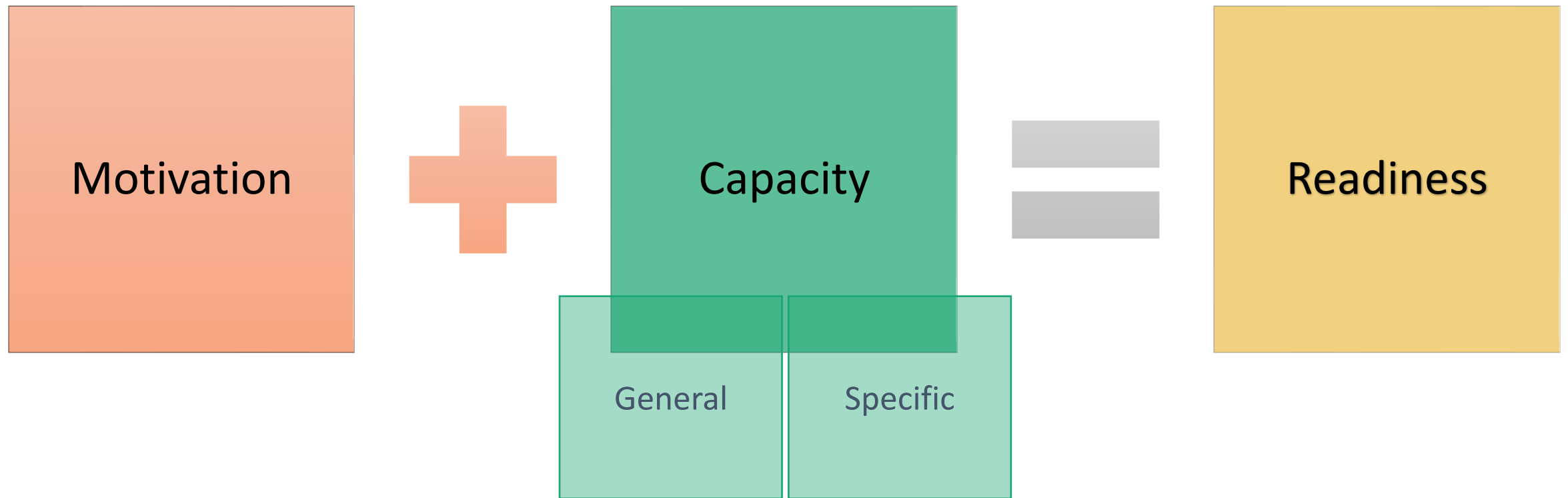
Implementation Science and Organizational Readiness

“Readiness’ refers to the extent to which an organization is both willing and able to implement a particular practice. An emerging body of scholarly work identifies three components of readiness that organizations should address when implementing new evidence-based interventions (EBIs): **(a) motivation of people within the organization to adopt new EBIs, (b) general organizational capacities, and (c) intervention-specific capacities.**

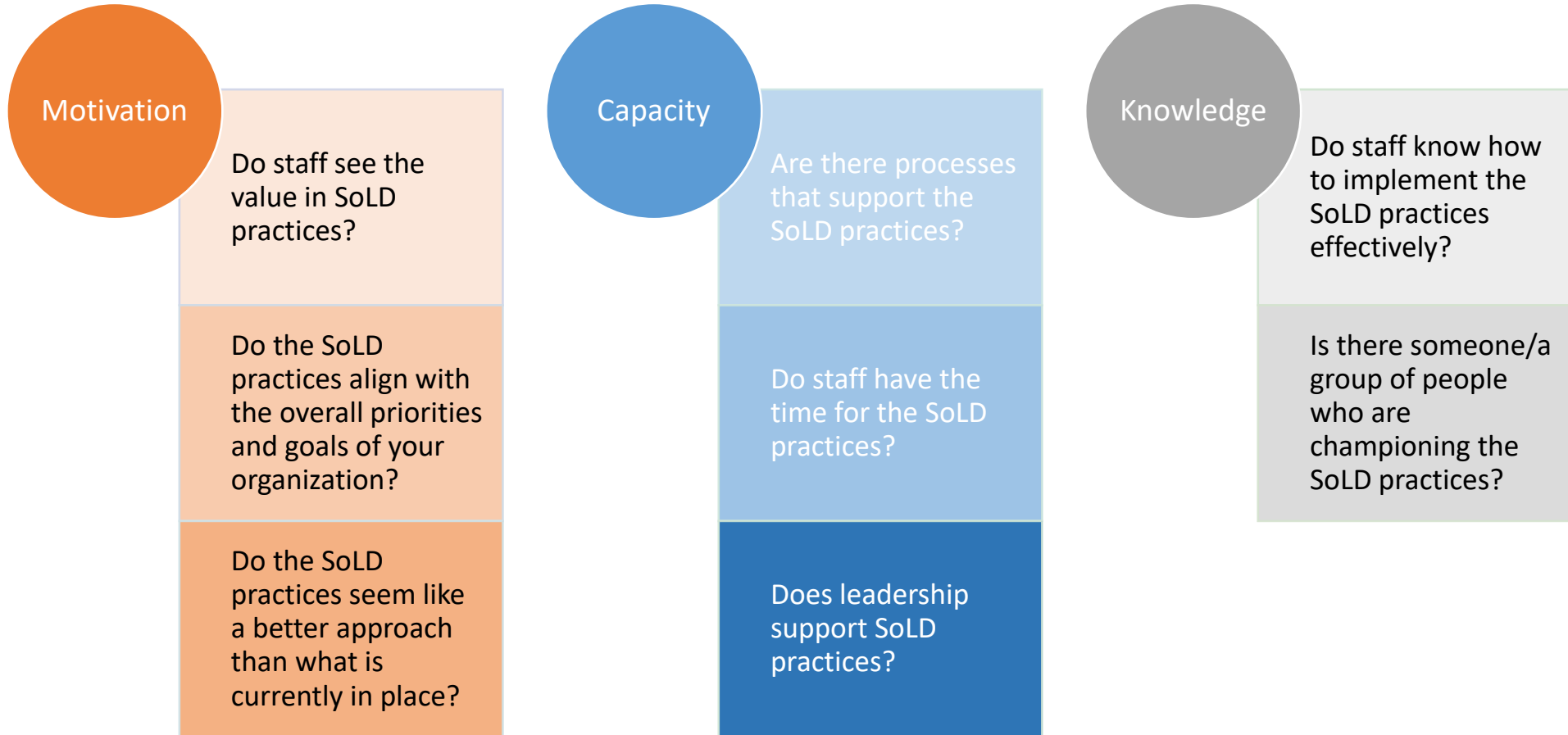
Motivation includes beliefs about an intervention and support for the program which contribute to the desire to adopt a practice. General capacity speaks to different aspects of organizational functioning such as culture, climate, staff capacity, and leadership. Intervention-specific capacity describes human, technical, and fiscal conditions such as knowledge, skills, and intervention-related abilities that are important to the successful implementation of a particular practice.”

Source: Dymnicki et al., 2014

An organizational readiness heuristic: $R=MC^2$



R=MC² Example



Readiness....

...is not linear.

...is not an either/or.

...is not a one-time-only concept.

...can be measured.

...can be built over time.

...must be calibrated regularly.

...must be supported and maintained.

Putting the Playbook to Use

Characteristics to consider:

Adult Characteristics

- Credentials/training
- Experience/interests
- Demographics
- Personal history (e.g. identity; connections to community)

Youth Characteristics

- Credentials/training
- Experience/interests
- Demographics
- Personal history (e.g. identity; connections to community, other systems)

Setting Characteristics

- Resources
- Approach & Content
- Group Structure/ Management
- Assessment Approach

Determining

Determining
Leading Practices

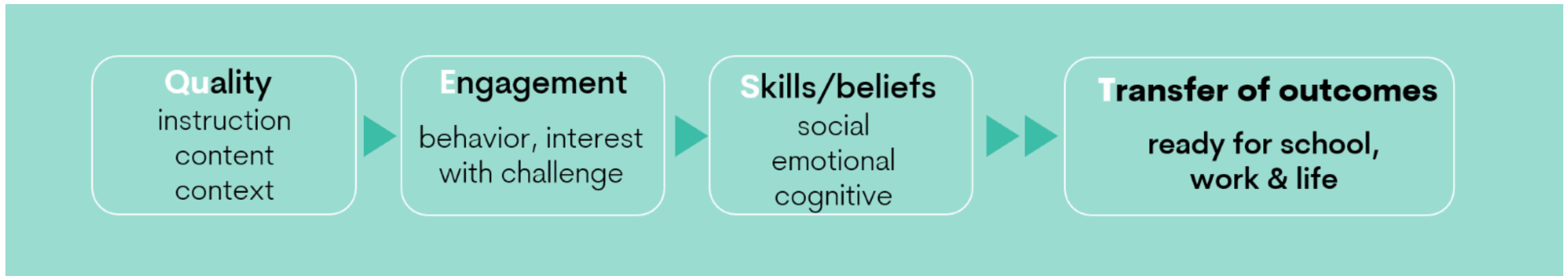
Considering

Considering Dosage
and Attendance

Improving

Improving Access
and Engagement

QuEST: Theory of Change



A Continuous Quality Improvement sequence



How it works



Final Reflections



What are you left wondering about?



What sparked your curiosity?