REFLECTION SCIENCES™

MEASURE WHAT MATTERS!

Pairing Digital Tools to Measure and Improve School Readiness

Reflection Sciences, Inc. and **Kiko Labs**, the San Francisco developer of Kiko's Thinking Time™ games, are thrilled to announce a new partnership.

Research on school readiness has uncovered a link between the skill-set referred to as **executive function** and **academic success** in the early years and beyond. In fact, executive function skills predict success in school over and above traditional IQ tests.

What is executive function (EF)?
EF refers to the neurocognitive skills that allow us to organize information, focus on tasks, control behavior, and think flexibly. These skills are essential for goal-directed control of attention, thought, emotion, and behavior – in other words, these skills provide a foundation for learning. EF skills can be developed and learned through practice, especially in the early years of development.

The Minnesota Executive Function Scale (MEFS™ App) is a scientifically valid and reliable game-like tablet measure of EF for ages 2 and up. It is being used by educators in 31 states to measure growth in EF and the effectiveness of teaching methods, curricula, and interventions.

According to Reflection Sciences' Co-founder and CEO, Dr. Stephanie Carlson, "We pride ourselves on having the first nationally normed objective measure of EF for preschool children, but caregivers also want solutions they can try to help improve children's EF skills and prepare them to succeed in school. I am delighted to be able to recommend Kiko's Thinking Time™ games as a natural complement to the MEFS."

Kiko's Thinking Time™ games were developed from a large body of scientific research. Each game is based on a neuro-psychological task that is known to have cognitive benefits in lab studies. Kiko Labs turned these tasks into games that children love to play.

Educators can use Kiko's Thinking Time™ games in the classroom, for 10 minutes 2-3 times a week, and parents can download the free version of the Kiko games from the App store on to their iPads or iPhones.

The partnership between Kiko Labs and Reflection Sciences serves to provide schools and early childhood advocacy organizations with the tools to **practice EF** using Kiko's Thinking Time games and **concretely measure EF gains** in student populations using the MEFS™.

"While EF skills are critical for a child's success in school, their development is not guaranteed," said Grace Wardhana, Co-founder of Kiko Labs. "Kiko's Thinking Time™ App helps support these skills, which are so important to a child's development and school readiness. We're delighted to partner with Reflection Sciences to bring a complete solution to schools to help early learners build and measure the foundational skills for school success."

Visit Kiko Labs here: www.kikolabs.com

Welcome to the Team, Seth!

Reflection Sciences' newest team member and Social Impact Ambassador, Seth Saeugling, is working with North Carolina area schools to research the effects of **trauma**, specifically the impact of adverse early childhood experiences (ACES), on student well-being and functioning.

Seth is a learner and builder at heart. His mission is to advance the science and practice of how we, as a community, support our vulnerable parents and their children. He believes that our communities are the most important resource for our children and that certain interventions, such as executive function skill building, can buffer the negative effects of adversity.

"I believe it's possible to break the cycle of trauma," Seth said. "And that belief isn't like pie in the sky. That's rooted in science. That's rooted in belief in people and community."

Click here to read the full article on how Seth and his colleagues are combatting the negative effects of trauma.

Continuing Our Partnership to Measure Montessori Success

Reflection Sciences and The National Center for Montessori in the Public Sector (NCMPS) are proud to announce another year of partnership to measure Montessori success!

The Mission:
Our partnership serves to provide Montessori educators with the tools and training to reliably measure the efficacy of their classrooms. They can pair Reflection Sciences' MEFS assessment tool with NCMPS's DERS Environmental Rating Scale to:

- **Evaluate classroom environments** from the perspective of research-based practices
- Promote **reflection**, **dialogue**, and **discussion** among teachers and administrators
- Engage in internal **self-assessment**, **improvement**, and **planning**
- Provide useful information for communication with **parents** and **prospective parents**

The Tools:

The MEFS™ App is the first objective, scientifically-based, and normed direct assessment of **executive function** for ages 2 years and up that only takes 5 minutes to complete. Executive Function is the set of neurocognitive functions that help the brain organize and act on information. These functions enable us to pay attention, control behavior, and think flexibly – those tools necessary to succeed in kindergarten and beyond. The MEFS App is a fun game for kids, but it provides vital data for educators and parents.

The DERS is unique in its focus on capturing child, adult, and classroom attributes — such as patience and persistence in children, precision and clarity in presentations, and order in the environment — which have been shown to support the development of executive function, linguistic, social, and cultural fluency, as well as emotional flexibility.

To learn more about the MEFS/DERS Network:
Visit https://www.ders-app.org/ders-network/

Or click this link to download the MEFS/DERS Network Info Sheet.

For any questions, please email:
ders@public-montessori.org

Executive Function

Activities to Try at Home!

Try a few of these activities at home with your child to support executive function growth.

For Infants:

- **Talk to your baby!** When infants hear more words they learn more words, which is beneficial for later executive function growth. Narrate what is going on in their world, using a variety of different words.
- **You can help develop your infant's memory and attention by playing a hiding game**. Start by covering a toy with a blanket. Once your child can successfully find toys under the blankets, have them watch you hide other items around the room. Then your infant can explore and find the hidden toy for him or herself!
- **Develop consistent routines** for things that happen every day like eating, bath time, and bedtime. When babies get used to routines they can form expectations about what will happen next, which makes it easier for them to stay regulated!

For Toddlers:

- **Play games** that encourage your children to use their working memories, improve their attention span, and practice blocking distractions. Games like the "Freeze Game" are great for developing these EF skills. The Freeze Game is a lot like musical chairs, but instead of sitting when the music ends, tell your toddler to "freeze!" This helps develop impulse control.
- **From sorting toys** as they clean up a room to helping find all the socks in the laundry basket, sorting activities can also help promote executive function with toddlers
- **Let your child help you with chores**! When you give your child small jobs like picking up toys or putting silverware on the table, they get to take responsibility to carry out the task, which helps them learn to plan, persist in a task, and feel successful!
- **Encourage exploration**. Toddlers learn by experiencing, touching, and doing! Give your child hands-on experiences in a variety of different settings. Talk to them about what they see and do. When you support curiosity you are increasing your child's motivation to learn!

For Preschoolers:

- **Encourage your preschooler to be creative and implement their own ideas**. For instance, say your preschooler wants to make a fort in the living room. You can help them determine what supplies they will need for the fort and show them helpful construction techniques.
- **Ask your child to retell or act out a familiar story** while staying as close as possible to the actual story's plot. This helps develop memory and helps your preschooler pay attention to story progression. If your child is acting out the story, feel free to pull out some fun props to use!
- **Give children plenty of opportunities to imagine and pretend**! When children engage in pretend play, they think about objects as something they are not. This is great for mental flexibility! When imaginary worlds have different rules and ways of doing things, children are learning to stretch their thinking.
- **Let your child have choices when appropriate**. When children get to choose, they take responsibility and are more motivated for the task. For example, when cleaning up, offer the child small choices about what they would like to pick up first. When you are leaving the house, ask your child what they need to do to get ready (e.g. shoes, coats, etc.) When you let your child have some control over the task, they are learning more about how to do it themselves rather than just following your instructions.
- **Get moving**! When children are active, their hearts get pumping and their brains get more blood flow! Take your child on a walk, go to the park, or have a dance party in your living room. Spending time each day moving around can actually help children sit still and be focused when they need to.