Mind and Brain Education Mini-Conference

Featuring Keynote by Andrew Watson

October 2, 2021

DENVER MUSEUM OF NATURE & SCIENCE

Ed Teacher PROFESSIONAL DEVELOPMENT

Ed ExciteEd EDUCATIONAL PROGRAMS

DENVER MUSEUM OF NATURE & SCIENCE

Agenda

7:30a.m—8:00a.m.	Sign In, Coffee, & Breakfast Treats	Morgridge Family Science Atrium
8:00a.m.—8:45a.m.	Welcome & Keynote	Morgridge Family Science Atrium
Keynote: A Classroom Teacher Discovers Mind, Brain, and Education Science		Watson
8:45a.m.—9:00a.m.	Transition to 1st Breakout Sessions	
9:00a.m.—10:30a.m.	Breakout Session 1	
Understanding and Supporting Those Who Deal with Anxiety		Cypers—Studio 102
Enhancing Metacognition Through Formative Assessments		Sherman— Studio 103
Happiness, DNA, & Mental Health		Bevill— Studio 106
One Page Summaries: Cultivating Long-term memory in an Inclusive Multicultural Environment		Park—Studio 201
Hacking the ADHD Brain: Tips for Teachers		Lawson Moore—Studio 202
10:30a.m.—10:45a.m.	Transition and Break	
10:45a.m.—12:15p.m.	Breakout Session 2	
Culturally Responsive Teaching & the Brain		DeBall—Studio 102
Promise & Peril of the Teenage Brain		Blesse —Studio 103
Belonging & the Brain		Gray & Maclin—Studio 106
One Page Summaries: Cultivating Long-term memory in an Inclusive Multicultural Environment		Park—Studio 201
Changing How You Think to Change How You Feel: Lessons From the Brain About Cognitive Reappraisal		McRae—Studio 202
12:15p.m.—1:15p.m.	Lunch on Your Own	
1:15p.m.—2:45p.m.	Breakout Session 3	
Culturally Responsive Teaching & the Brain		DeBall—Studio 102
Enhancing Metacognition Through Formative Assessments		Sherman— Studio 103
Belonging & the Brain		Maclin & Gray —Studio 106
I Wanna Be in the Room Where It Happens: The Brain & Belonging		Payo —Studio 201
Brain-based Classroom Hacks for Deeper Learning		Landry—Studio 202
2:45p.m.—3:00p.m.	Closing remarks, Prizes, & Conference End	Morgridge Family Science Atrium
3:00 p.m.—5:00 p.m.	Sign Out & Enjoy the Museum	

DENVER MUSEUM OF NATURE & SCIENCE

Ed Teacher PROFESSIONAL DEVELOPMENT

Maps

Logistics:

A: Arrival & Departure

B: Check-In/Credit Drop-Off

C: Coffee and Breakfast Treats

D: Exploration Studio 102

E: Exploration Studio 103

F: Exploration Studio 106

G: Health Studio 201

H: Health Studio 202

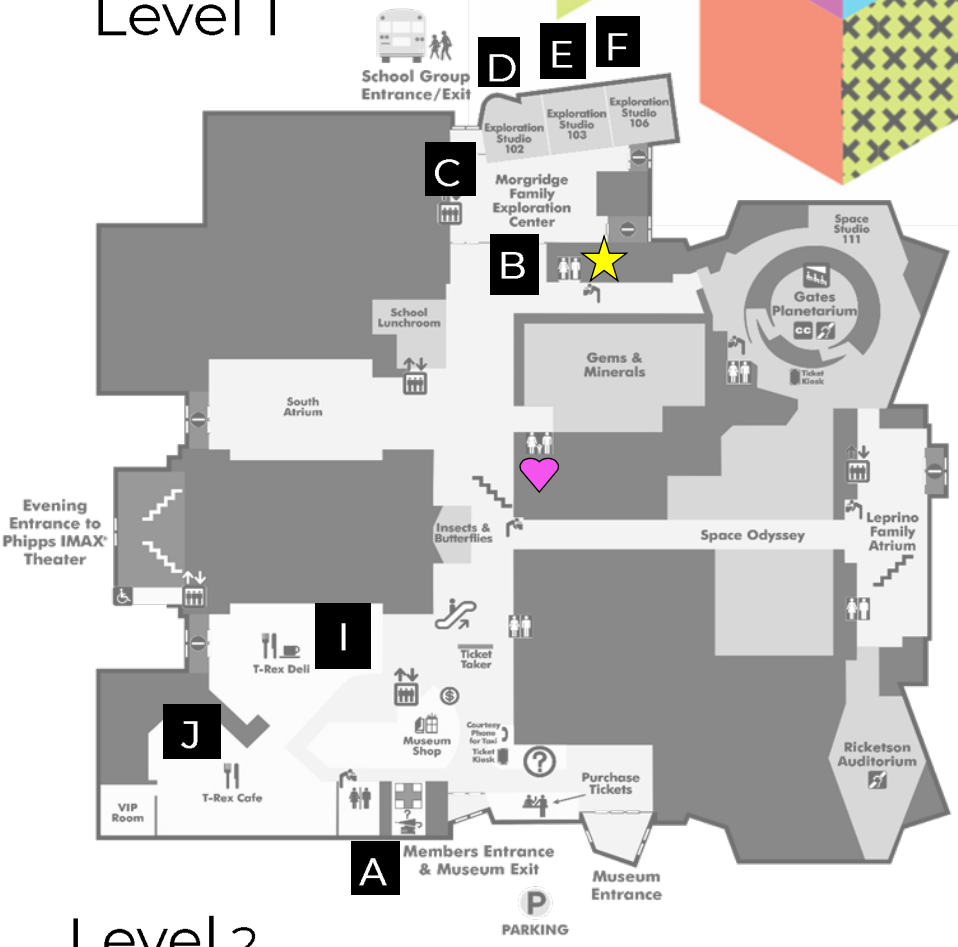
I: T-Rex Deli

J: T-Rex Café

Restrooms, Mother's Room, & Drinking Fountain

"For your convenience the nearest locations of the following amenities have been highlighted on the map on restrooms and drinking fountains (yellow star), and mother's room (pink heart).

Level 1



Level 2

ExciteEd EDUCATIONAL PROGRAMS

For Your Information

Covid Policies

Face coverings are encouraged for unvaccinated people over age 10, optional otherwise.

To encourage social distancing, our studios and lecture spaces are set with chairs that match the room capacity. **If all the chairs are currently filled, please select another session to attend.** Many presentations are offered in multiple sessions, in the hopes this will help facilitate a socially distant event.

Lunch Options

Denver Museum of Nature & Science is the home of T-Rex Café, Grab & Go Deli, and Coffee Lab. Offerings include vegetarian and vegan options, a variety of hot and ready-made foods in our café, and snacks and prepackaged salads, sandwiches, and desserts in the Grab & Go deli.

Guests are welcome to bring their own meal, or explore options in the area. If you choose to leave the museum, please make sure to return through the Security Sub Post and present your nametag upon entry.

Survey

Thank you for attending our Mini Conference! The Denver Museum of Nature & Science appreciates your feedback to improve future Teacher Professional Development events. Follow the QR code to complete the survey. This can also be reached at tinyurl.com/umxm39o

Optional Re-Licensure Credits

Optional re-licensure credit is available for this event. **Important Note:** If you have already registered and paid for credit, you will need to do the following things in to receive that credit. A) Before you depart the museum today, you must: return the completed course credit form (in your packet) to the check-in table, initial in and out on the roster, and complete the on-line survey (see above link) B) By October 31 Submit your completed implementation lesson plan to tim.blesse@dmns.org

Nametags

Please wear your name tag at all times. It allows Museum staff to know you are participating in this event, as well as provides access in and out of the building.

Presentation Resources

All files and presentations from today can be found by following this QR code or at https://tinyurl.com/MandBConference

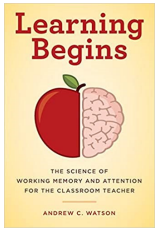
Andrew Watson

A Classroom Teacher Discovers Mind, Brain, and Education Science

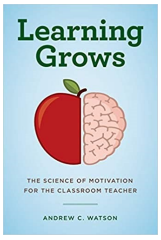
Educator, Author, and Founder & President of Translate the Brain

What happens when an experienced classroom teacher starts exploring brain research? We might discover that science supports a long-held teaching belief: what a relief! We might instead find new and surprising suggestions to improve our craft: so helpful! At the same time, we might also find that psychology and neuroscience research can—with the best of intentions—be misunderstood and misused in the classroom. Teacher, author, and consultant Andrew Watson introduces these possibilities and the perils. With the right perspective, teachers identify those classroom strategies that make learning easier and teaching more effective.

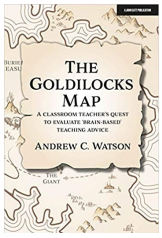
Focus: Cognitive Psychology, Neuroscience, K-12, Educational Research



Learning Begins, written by a teacher for teachers, translates current brain research into practical classroom strategies. Written in a lively and approachable voice, based on years of classroom experience and a decade of scientific study, *Learning Begins* makes educational psychology and neuroscience clear and useful in schools and classrooms.



Learning Grows explores the fascinating and useful world of student motivation. Written for teachers—and everyone interested in teaching and learning—*Learning Grows* helps classrooms flourish by fostering students' intrinsic motivation.



In the last 20 years, the cognitive sciences have revealed fresh, surprising, and useful insights into how and why our students learn. To use this research most wisely, teachers must find our way to an elusive Goldilocks Zone. Instead of resisting all research-based guidance, we should be ready to take it to heart – even when it challenges both our training and conventional wisdom.

ExciteEd
EDUCATIONAL PROGRAMS

Presenters & Session Descriptions

Happiness, DNA, & Mental Health

Kim Bevill

Owner: Gray Matters Courses: Professional Development, International Keynote Speaker, Author

What if we could train ourselves to be happy? When we are, we are more productive, healthier, more joyous in relationships, and save more money over a lifetime. Even minor stress can have colossal effects, but that's okay. This workshop counters the effects of a pandemic or unfortunate personality traits, and can transform anyone from a state of ordinary or despair, to a state of happiness. Bevill will share fail-proof steps to lower cortisol and stop the damage stress causes, even repair it. Previous attendees of this workshop have reported renewed energy, relief from

Focus: Neuroscience, Social-Emotional Well Being

Promise & Peril of the Teenage Brain

Tim Blesse

Teacher Programs Consultant—Denver Museum of Nature & Science

"An adolescent brain is like a Ferrari with weak brakes."
Frances Jensen—Neuroscientist

Helping your teen-aged students understand the differences between adult and adolescent brains can have powerful impacts on both their learning and their relationships with you and others. Reminding teens that there is a biology behind the pitfalls they might be experiencing, can lead to a sense of empowerment and less of a need to defend and feel guilty for negative behaviors. For teachers, it can help you take certain behaviors less personally and give you tools that help you connect and assist them on their journey.

Focus: Cognitive Psychology, Neuroscience, Psychology, Secondary, K-12, Social-Emotional Well Being

DENVER MUSEUM OF NATURE & SCIENCE Ed! Teacher PROFESSIONAL DEVELOPMENT

Presenters & Session Descriptions

Understanding and Supporting Those Who Deal with Anxiety

Scott Cypers, Ph.D.

Child, Adolescent, and Adult Psychologist; Director of Stress and Anxiety Programs—University of Colorado Health Sciences, Anschutz Campus

"Understanding and Supporting Those Who Deal with Anxiety" will highlight a non-stigmatizing way to understand anxiety in the brain and its impact on a person's life. This presentation will also focus on concrete tools to help those who deal with anxiety and help change neuropathways.

Focus: K-12, Social-Emotional Well Being

Culturally Responsive Teaching & the Brain

Adrienne DeBall

Science Department Coordinator & 7th grade teacher; AVID Coordinator & teacher—West Middle School, Cherry Creek School District

"Culturally Responsive Teaching & the Brain" will share protocols, activities, and learnings from the book of the same title, written by Zaretta Hammond. During this session, you will engage in activities and protocols to assist you in creating more meaningful connections with students and families, while leveraging your knowledge of brain based learning and neuroscience.

Focus: K-12, Cognitive Psychology, Neuroscience, Educational Research

Presenters & Session Descriptions

Belonging & the Brain

Lauryn Gray & Jason Maclin

Leadership team—Vista PEAK Preparatory

Maya Angelou said, "I long, as does every human being, to be at home wherever I find myself." Did you know that the brain, the organ of learning, is wired for community, love, and belonging? As a result of the pandemic, there is national concern around the fact that students have experienced significant learning loss. However, in addition to addressing learning loss, we also must be intentional about addressing the social loss students have experienced. Academic & Social Belonging and safety are conducive to student success within the learning environment, and they are not achieved in isolation. Join Vista PEAK's leadership team to learn how their research on Mind, Brain, and Education Science (MBE) has informed their practice as a diverse campus.

Focus: Neuroscience, Secondary, Educational Research, Social-Emotional Well Being

Vista PEAK Preparatory partners with the Center for Transformative Teaching and Learning (CTTL) at St. Andrew's Episcopal School as an Academy Partner School. They are currently in year three of their journey and understanding of Neuroeducation and research on Mind, Brain, and Education Science (MBE). MBE has reenergized their passion as educators and they wanted to share how grateful they are for their partnership with the CTTL and their director, Glenn Whitman, coauthor of Neurotech.

Presenters & Session Descriptions

Brain-based Classroom Hacks for Deeper Learning

Kirsten Landry

Science teacher grades 7-12—Kent Denver

Education and Neuroscience are finally coming together! Through educational research we are beginning to understand the most effective methods for deeper and longer-lasting learning. Methods such as retrieval practice, interleaving, spaced practice, and dual coding are helping teachers make educational decisions based on data. Join us for a review of the research. In addition, we will practice the tools ourselves, so that you can use them in your classroom with confidence.

Focus: Cognitive Psychology, Neuroscience, Psychology, Secondary, K-12, Educational Research

Hacking the ADHD Brain: Tips for Teachers

Amy Lawson Moore, Ph.D.

LearningRx; Gibson Institute of Cognitive Research

In this interactive workshop, cognitive psychologist Dr. Amy Lawson Moore will share tips for working with students who have attention problems. Based on neuroscience research, she will reveal surprising facts about the ADHD brain that can help teachers better meet the needs of these challenging students. Dr. Lawson Moore will facilitate activities that show how cognitive skills work together in thinking and learning, how weaknesses in one or more of those skills impact learning, how teachers can help kids manage the big emotions associated with ADHD, and how brain training is a promising approach to remediating many of the challenges faced by students with ADHD. Attendees will leave with a better understanding of the cognitive deficits in ADHD, with actionable tips to use in the classroom, and with knowledge of supplemental resources for students with

Focus: Cognitive Psychology, Neuroscience, Psychology, K-12

Presenters & Session Descriptions

Changing How You Think to Change How You Feel: Lessons From the Brain About Cognitive Reappraisal

Kateri McRae

Associate Professor of Psychology—University of Denver

Cognitive reappraisal is a powerful technique that involves thinking about something in a different manner to change the emotions that follow. There is scientific evidence that reappraisal successfully changes emotions in the laboratory and as part of multiple types of therapy. Reappraisal relies upon brain regions thought to support cognitive control more broadly (prefrontal and parietal cortexes). Therefore, reappraisal improves as the brain develops and is vulnerable to environmental factors known to disrupt cognitive control (such as sleep deprivation). In this session Professor McRae with present a selection of research findings about cognitive reappraisal that will help you understand best practices to support children, adolescents, and young adults as they develop the ability to control their emotions this way.

Focus: Cognitive Psychology, Neuroscience, Psychology, Social-Emotional Well Being

I Wanna Be in the Room Where It Happens: The Brain & Belonging

Robert Payo

Director of K-12 Education—Denver Urban Gardens

What does research in cognitive science tell us about our desires for belonging? How might we apply that to the classroom? This interactive session explores how our sense of belonging can help or hinder our ability to learn.

Focus: Cognitive Psychology, K-12, Educational Research, Social-Emotional Well Being

Presenters & Session Descriptions

One Page Summaries: Cultivating Long-term Memory in an Inclusive Multicultural Environment

Mary Fran Park

High School STEM teacher and Doctoral Candidate—

Kent Denver School; Johns Hopkins School of Education

"One Page Summaries" will introduce some of the mind brain science strategies Mary Fran has learned throughout her years of teaching and doctoral work at Johns Hopkins School of Education. It will focus around a study technique used personally and by Mary Fran's students. Mary Fran will also discuss other tactics used in *Make it Stick: The Science of Successful Learning* (Brown et al., 2014) and *Critical Pedagogy Notes from the Real World* (Wink, 2011).

Focus: Secondary, K-12, Educational Research, Multicultural Research

Enhancing Metacognition Through Formative Assessments

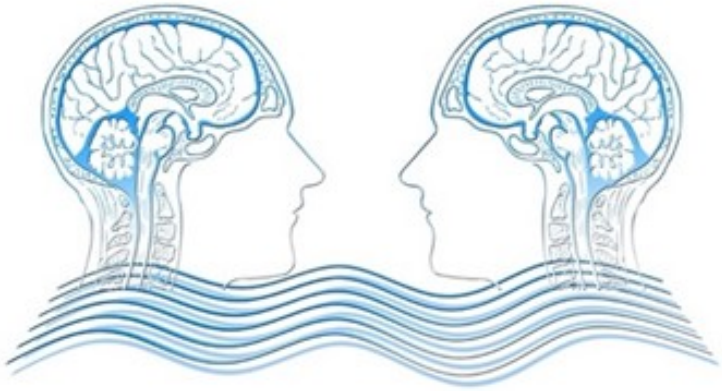
Raquel Sherman

Science teacher— Kent Denver School

While "formative assessments" and "metacognition" might seem like education buzz words, Sherman assures they're here to stay. Educators often hear that formative assessments are an important part of classroom instruction, but why? How does it actually enhance learning? Why are consistent feedback and reflection essential parts of the learning cycle? And how can it help students develop an understanding of their own learning? In this session, dive into the importance of feedback, recall, and emotion in the learning process. In the first portion of the session, Raquel will share about her personal experience of implementing a formative assessment system in her classes and teach you about the science behind, and intersection of, these multifaceted topics. In the second portion of the session, you will have the opportunity to consider how you can integrate these ideas into your classroom by collaborating with peers.

Focus: Cognitive Psychology, Psychology, Elementary, Secondary, Social-Emotional Well Being

If you enjoyed this Mind and Brain Mini Conference, you may also like **The Social Emotional Brain: Harnessing Humanity to Reach Common Goals** for K-12 educators.



In-Person Jan 8 & 22, 2022 (8am-3pm), and Feb 5, 2022 (9am-12pm) & Online (asynchronous) Jan 9-Feb 5
Cost: $300 (Includes 2.5 graduate level re-licensure credit) Scholarships available—Inquire by email to kennedy.doll@dmns.org

What does the science of learning teach us about emotion regulation, motivation, belonging, and agency? What makes for deeply satisfying learning experiences? How can we use insights about these questions from field-tested mind and brain science research to improve classroom equity and get our students to voluntarily own their own learning? This course aims to give you tools that you can walk away with tomorrow as well as the opportunity to interact with peers and experts, giving YOU the deeply satisfying learning experiences you need to stay motivated.
Register here: www.dmns.org/tpdk12

Ed Teacher PROFESSIONAL DEVELOPMENT

Teacher Professional Development programs, for teachers of all grade levels, help to infuse lessons with critical thinking skills, strengthen expertise, and integrate hands-on science activities in the classroom.

Ed Onsite AT THE MUSEUM

Onsite: At the Museum has you covered, whether you're looking for a fully planned, self-guided, or admission is always free for schools and organized youth groups.

Ed Offsite AT YOUR PLACE

Offsite: At Your Place features experiences delivered to you—Curiosity Kits and Wonder Workshops. Take the lead (or let us!) and guide your classroom through an unforgettable adventure.

Ed Virtual EXPERIENCES

Virtual Experiences connect classrooms with the Museum, for fun, interactive virtual science, Q&A, and broadcasts with scientists and researchers in the field.

Learn more at dmns.org/learn or book today at learning.dmns.org