

IES Innovation Day

Date: September 21, 2023

Time: 9:00AM – 3:15PM

Location: Kennedy Center REACH, Studio K

Registration: [IES Innovation Day & Expo Office Hours Registration Form](#)

Description: This is a full-day event hosted by the **Institute of Education Sciences (IES)**, the independent research arm of the U.S. Department of Education, with sessions in the morning focusing on IES investments in transformative education research, scaling, and modernization of research and development infrastructure. Join in the afternoon to learn more about IES’s vision to achieve impact at scale.

Agenda

9:00AM – 9:15AM: Welcome Remarks

Speaker: Elizabeth Albro, Commissioner for the National Center for Education Research, Institute of Education Sciences

9:15AM TO 10:00AM: IES Innovation Showcase

IES-funded education researchers and developers will give lightning talks to showcase their innovative products and the research behind them.

Chair: Erin Higgins (Institute of Education Sciences)

Speakers: Jan Plass (New York University); Erin Ottmar (Worcester Polytechnic Institute); Clark McKown (7 Mindsets); Seyedahmad Rahimi (University of Florida); Ying (Alison) Cheng (University of Notre Dame)

10:00AM to 10:30AM: Break + IES-funded R&D demos around the room

Visit the tables around the room to see demos from IES-funded researchers and developers.

10:30AM to 11:30AM: Strategies for scaling evidence-based products

Scaling up evidence-based products in education requires thoughtful strategy and research to understand user needs, implementation, and product-market fit. In this session, speakers will discuss pathways to scaling up evidence-based products, the issues that need to be considered along the way, and the research approaches that can be used as part of a strategy for preparing a product for scaling.

Chairs/Moderators: Rebecca Griffiths (SRI International); Erin Higgins (Institute of Education Sciences)

Speakers: Sarah Siegal (Scholastic), Jay Connor (Learning Ovations); Suzanne Donovan (Strategic Education Research Partnership); Vanessa Coleman (SRI International); Ed Metz (Institute of Education Sciences)

11:30AM to 12:30PM: Modernizing the Research and Development Infrastructure

IES is investing in programs to support modern and more efficient methods for education research and development. In this session, panelists will describe SEERNet, a network of digital learning platforms with capabilities to support research, and will highlight the opportunities this type of work provides for other digital platform developers and education researchers.

Chair/Moderator: Stefani Pautz-Stephenson (Digital Promise)

Speakers: Benjamin Motz (Indiana University); Steve Ritter (Carnegie Learning); Neil Heffernan (Worcester Polytechnic Institute); Debshila Basu-Mallick (OpenStax, Rice University); Jodi Davenport (WestEd)

12:30PM to 1:45PM: Lunch Break (*Note:* No lunch is provided - attendees may purchase food at the KC Cafe)

1:45PM to 2:45PM: Achieving Transformative Impact at Scale

IES is investing in advanced education research and development (R&D) to create scalable solutions to improve education outcomes for all learners and eliminate persistent achievement and attainment gaps. Hear from IES Director Mark Schneider about what IES is doing to change what is possible in education to achieve major impacts on education outcomes at scale. Director Schneider will discuss the Advanced Research Projects Agency (ARPA) model and its applications to education to facilitate major breakthroughs in education.

Chair/Moderator: Erin Mote (InnovateEDU)

Speaker: Mark Schneider, Director, Institute of Education Sciences

2:45PM: Closing Remarks

Speaker: Arati Prabhakar, Director of the White House Office of Science and Technology Policy (OSTP) and Assistant to the President for Science and Technology

IES Innovation Day Speakers

Elizabeth Albro, Institute of Education Sciences



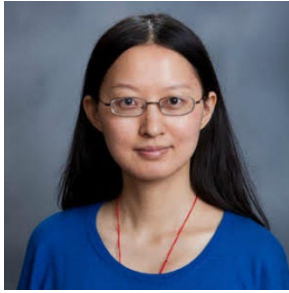
Elizabeth Albro is Commissioner of the National Center for Education Research at the Institute of Education Sciences (IES). She is committed to building bridges between the basic sciences of learning and education practice. Trained in the behavioral and social sciences, cognition, and communication, she received her Ph.D. in Psychology from the University of Chicago. Since joining IES in 2002, she has served as a program officer for multiple research portfolios and as Associate Commissioner of Teaching and Learning. She has participated on multiple interagency committees focused on open science and the federal research investment in language and communication. She has edited several books in the area of reading comprehension and has published articles in *Discourse Processes*, *Scientific Studies of Reading*, and *Educational Psychology Review*. Prior to joining IES, Dr. Albro was a faculty member, first at Whittier College, and subsequently at Wheaton College (Norton, MA). All of her research is grounded in her own experience as a preschool teacher in Cochabamba, Bolivia.

Debshila Basu-Mallick, OpenStax, Rice University



Debshila is the Director of Research at OpenStax, bringing a wealth of expertise in cognitive science, user experience, data science, and open education. Their work currently focuses on building technical and social components of research instrumentation for digital learning platforms.

Ying (Alison) Cheng, University of Notre Dame



Dr. Ying (“Alison”) Cheng is Professor of Psychology and Fellow of the Institute for Educational Initiatives at University of Notre Dame. She is also the Associate Director of Education and Outreach at the Lucy Family Institute of Data and Society at Notre Dame. She received her M.S. in Statistics and Ph.D. in Quantitative Psychology from the University of Illinois at Urbana-Champaign. Her research focuses on statistical and computational methodology in psychological and educational measurement, e.g., computerized adaptive testing (CAT), cognitive diagnostic modeling (CDM), educational data mining, and assessment analytics. She has published over 70 articles and book chapters on these topics. She currently serves as the Editor of the *British Journal of Mathematical and Statistical Psychology*. In 2009 she received the Bradley Hanson Award for Contributions to Educational Measurement, and in 2012 the Jason Millman Promising Measurement Scholar Award from the National Council of Measurement in Education. In 2014 she received the faculty CAREER award from the National Science Foundation. She is an elected fellow of the Society of Multivariate and Experimental Psychology and Association for Psychological Science.

Vanessa Coleman, SRI International



Vanessa Coleman, EdD, co-director of SRI's Center for Education Research and Innovation, is a seasoned qualitative researcher, a systems capacity-building designer and provider, and a strategic advisor for organizational change management. Coleman designs equity-focused frameworks to inform organizational structures, systems, processes, and practices. At SRI, Coleman leads the partnership focused on implementing the Department of Education's Region 1 Equity Assistance Center. Coleman designs educational resources in this role and provides technical assistance to states, districts, schools, and partnering organizations to improve educational experiences. She also co-leads efforts to integrate equity drivers into organizational structures for the Dasy Center, a national technical assistance center supporting states' IDEA early intervention and early childhood special education programs in building high-quality data systems. Before SRI, Coleman was the director of The Equity Project (TEP) at the American

Institutes for Research. She engaged stakeholders to design collaborative partnerships to increase educational and social opportunities for all learning communities, emphasizing disenfranchised populations. Coleman is also a principal investigator for Stanford University's Center on Poverty and Inequality, the American Voices Project (AVP). The AVP is a national, qualitative longitudinal household survey exploring diverse experiences throughout the United States.

Jay Connor Learning Oventions



Joseph “Jay” Connor, JD/MBA, was the Founder/CEO of Learning Oventions, Inc until he sold the company to Scholastic in Fall '22. The featured product A2i - Assessment to Instruction - supports k-3 teachers and administrators in achieving third grade reading outcomes for all children. Learning Oventions had the commercialization/technology transfer role, in partnership with the US Department of Education, National Institutes of Health, Florida Center for Reading Research, and the University of California - Irvine, in expanding the use of A2i, an ESSA "strong evidence" research-based technology to school districts across North America. Scholastic will be a great steward in getting these important resources to thousands of teachers globally. The recognition of the need to develop evidence-based tools in order to achieve transformative outcomes in our community systems – most notably education – was a driving consideration of his 2003 book *Community Visions, Community Solutions*. He is now writing a memoir featuring his late wife, Dr. Carol Connor.

Jodi Davenport, WestEd



As a Senior Managing Director at WestEd and Deputy Director of the Regional Educational Laboratory, Northwest, Jodi Davenport leads strategic efforts to connect research and practice to improve student educational outcomes. Davenport develops and directs large-scale research and development centers and projects by securing funding through federal grants, managing teams of senior level researchers, and disseminating findings to researchers, practitioners, funders, and policymakers. Davenport has been widely recognized for her work at the intersection of cognitive science and education and has served on federal technical working groups and grant

panels. Davenport publishes in the areas of educational effectiveness, educational technology, learning science, and cognitive psychology, and her work has been cited over 1000 times.

Suzanne Donovan, Strategic Education Research Partnership



Suzanne Donovan, Ph.D., is the founding executive director of the Strategic Education Research Partnership (SERP), an education research and development partnership organization incubated at the National Academy of Sciences. She has led numerous problem-solving research-practice partnerships that have generated more than a dozen open education resources that have spread nation-wide. Prior to founding the SERP Institute, she served as study director for numerous National Research Council projects, including several reports in the *How People Learn* series.

Rebecca Griffiths, SRI International



Rebecca J. Griffiths is a Senior Principal Education Researcher at SRI International. Dr. Griffiths leads research and capacity building initiatives to improve student learning and success through effective use of technology-enabled educational innovations. Her work focuses on the impacts of technology-enhanced instructional models on students' academic and non-academic outcomes and the organizational and systemic factors that promote scaling and sustainability of evidence-based practices. Dr. Griffiths currently serves as co-director of SRI's Digital Learning and Technology Policy program and as principal investigator for the IES-funded Postsecondary Teaching with Technology Collaborative and LEARN Network.

Neil Heffernan, Worcester Polytechnic Institute, The ASSISTments Foundation



Dr. Neil Heffernan is William Smith Dean's Professor of Computer Science and Director of the Learning Sciences and Technologies program at Worcester Polytechnic Institute. Before entering academia, Neil taught middle school math and science in Baltimore for the Teach for America program, where he met his wife, Cristina. While completing his Ph.D. in Computer Science at Carnegie Mellon University, Neil furthered his passion for education by focusing on learning technologies. However, in 1997, Neil's graduate progress was derailed when he suffered a seizure and was told he had brain cancer and two years to live. He survived the tumor, but this life-changing event motivated Neil and Cristina to create a free and public math platform in 2003 called ASSISTments. Today, ASSISTments is established as a forever-free service that reaches over 3,000 teachers and 125,000 students across all 50 states for daily classwork and nightly homework. In 2021, ASSISTments was named by WWC as one of three online middle-school math interventions that met WWC Standards Without Reservations and has a Tier 1 rating from Evidence for ESSA.

Erin Higgins, Institute of Education Sciences



Erin leads Transformation and Scaling Programs within the National Center for Education Research (NCER) at the Institute of Education Sciences (IES). In this role, she develops and manages new funding initiatives designed to facilitate major breakthroughs and create scalable solutions to improve education outcomes for all learners and eliminate persistent achievement and attainment gaps. For almost a decade, Erin managed the Cognition and Student Learning program, which focuses on bridging the science of learning with education practice. Prior to joining IES, Erin was a human factors engineer and user experience researcher focused on the development and deployment of advanced technologies in aviation. She received her Ph.D. in cognitive psychology from University of Illinois, Urbana-Champaign, where she focused on how people learn and remember complex information.

Clark McKown, 7 Mindsets



Clark McKown is founder of xSEL Labs and now Chief Science Officer at 7 Mindsets, where he is working to integrate high-quality assessment with multi-tiered social and emotional

instruction. Clark describes himself as a psychologist, a recovering academic, and an accidental entrepreneur. Most notably, Clark has used insights from clinical practice as the basis for federally-funded research that has led to novel high-quality assessments that he then successfully brought to market. From the clinic to the classroom, Clark has dedicated himself to putting relevant and useful tools into the hands of practitioners.

Ed Metz, Institute of Education Sciences



Ed Metz is the program manager of ED/IES SBIR, a seed funding program for the R&D, evaluation, commercialization of new education technology products. Millions of students and educators use products developed through ED/IES SBIR each year and many products have been acquired and raised investments to reach scale. The program has also supported the development of many education technology products to ready existing evidence-based research innovations for use scale, highlighted by projects such as xSEL Labs, Leaning Ovarations, MindSet Works, and Analytic Measures. In 2013 Ed created and has since produced the ED Games Expo, an annual event to showcase and build capacity for game-changing education technology innovations developed through IES and more than 50 programs in the U.S. government. Ed is a former American Association for the Advancement of Science and Society for Research in Child Development (AAAS/SRCD) Executive Branch Fellow.

Erin Mote, InnovateEDU



Erin Mote is the Executive Director and Co-Founder of InnovateEDU. In this role, Erin leads the organization and its major projects including technology product development, work on data interoperability and data systems, and an urban education Fellowship for new educators. She leads the organization's work on creating uncommon alliances to create systems change - in special education, talent development, and data modernization. An enterprise architect, she created, alongside her team, two of InnovateEDU's signature technology products - Cortex, a next-generation personalized learning platform, and Landing Zone - a cutting-edge infrastructure as a service data product. She is a recognized leader in technology, mobile, and broadband and has spent much of her career focused on expanding access to technology in the US and abroad.

She has led ground-breaking initiatives, including scaling wireless communications to the developing world, developing global and national strategic technology plans, and work with the country's leading technology companies.

Benjamin Motz, Department of Psychological and Brain Sciences, Indiana University



Dr. Ben Motz is Assistant Professor at Indiana University's Department of Psychological and Brain Sciences. He received his BS from Indiana University, MS from University of California San Diego, and his PhD at Indiana University, all in Cognitive Science. His research is at the intersection of cognitive psychology and education, characterized by large-scale experiments and analyses on students from real education settings that test theoretical predictions from the psychological science of learning. He also develops research infrastructure for this work: he currently runs Terracotta (<https://terracotta.education>), an experimental research platform that integrates with a learning management system.

Erin Ottmar, Worcester Polytechnic Institute



Dr. Erin Ottmar is an Associate Professor of Learning Sciences and Technology and Psychology at Worcester Polytechnic Institute. Her interdisciplinary work draws from the intersections of educational, cognitive, and applied developmental psychology and aims to better understand how cognitive and non-cognitive interventions and pathways can improve mathematics teaching and learning. Erin is a recent NSF CAREER awardee and has been PI and Co-PI on 10 IES and NSF projects that have led to the design, development, efficacy, and scale up of several educational technologies. She is the co-founder of Graspable Math, a dynamic algebra notation and classroom tool that was developed, tested, and scaled through the IES and SBIR research programs. In her work, she uses the data logged from these technologies to reveal student learning processes, behaviors, engagement, and problem-solving strategies, as well as advance core research on perceptual learning and mathematics cognition. Dr. Ottmar received her PhD in Educational Psychology: Applied Developmental Science from the University of Virginia, where she was an IES Predoctoral Fellow.

Stefani Pautz-Stephenson, Digital Promise



Dr. Stefani Pautz Stephenson is a practitioner and researcher in the field of instructional technology. Her experience in education includes work in K-12 public schools as a teacher and administrator, in higher education, and in the nonprofit sector. She is passionate about participator design and including practitioner voice in research and development. As Director of Educator Community Partnerships at Digital Promise, she leads a portfolio of projects centered around peer-to-peer professional learning and bringing together practitioners, researchers, and developers to improve products and pedagogy. Most notably, she is co-PI and Project Director for SEERNet, an IES funded network hub through which platform developers, researchers, and practitioners engage around a shared and transformative vision for research that leverages the capabilities of Digital Learning Platforms.

Jan L. Plass, New York University



Jan L. Plass, Ph.D., Professor and Paulette Goddard Chair in Digital Media and Learning Sciences at New York University, is the founding director of the CREATE Consortium for Research and Evaluation of Advanced Technology in Education and co-director of the Games for Learning Institute. He draws from cognitive science, learning sciences, computer science, and design to envision, design, and study the future of learning with digital technologies, with a current focus on games and XR. He has published widely and is the lead editor of the *Handbook of Game-based Learning* (MIT Press, 2020). Dr. Plass is a frequent national and international keynote speaker and advisor, helping governments and businesses to increase the human capacity in an ecology of lifelong learning.

Arati Prabhakar, White House Office of Science and Technology Policy



Arati Prabhakar, Ph.D., is Director of the White House Office of Science and Technology Policy (OSTP) and Assistant to the President for Science and Technology. In this capacity, Prabhakar is the President's Chief Advisor for Science and Technology, a member of the President's Cabinet, and co-chair of the President's Council of Advisors on Science and Technology (PCAST).

An engineer and applied physicist with broad management and leadership experience, Prabhakar has led two different federal R&D agencies and worked with startups, large companies, universities, government labs, and nonprofits across a wide variety of sectors to create new solutions for critical challenges. She served as director of DARPA, the Defense Advanced Research Projects Agency, from 2012 to 2017. In 1993, she was confirmed by the U.S. Senate as director of the National Institute of Standards and Technology (NIST), becoming the first woman to lead the agency. Between these federal leadership roles, Prabhakar spent 15 years in Silicon Valley as a company executive and as a venture capitalist. In 2019, she founded Actuate, a nonprofit organization to develop new approaches to innovation for society's essential challenges.

Prabhakar's family immigrated from India to the United States when she was three years old, moving first to Chicago and then Lubbock, Texas, where she went on to earn an electrical engineering degree from Texas Tech University. She also earned an M.S. in electrical engineering and a Ph.D. in applied physics from the California Institute of Technology. She started her career in the legislative branch as a Congressional Fellow at the Office of Technology Assessment.

She is a fellow of the Institute of Electrical and Electronics Engineers and a member of the National Academy of Engineering, and was a fellow at the Center for Advanced Study in the Behavioral Sciences at Stanford University.

Seyedahmad Rahimi, University of Florida



Seyedahmad Rahimi, Ph.D., is an Assistant Professor of Educational Technology in the School of Teaching and Learning at the University of Florida. He is the director of Game-based

Assessment & Measurement (GAME) Lab. Dr. Rahimi's research focuses on assessing and fostering students' 21st-century skills (e.g., creativity) and STEM-related knowledge acquisition (e.g., physics understanding). Toward that end, Dr. Rahimi designs, develops, and evaluates immersive learning environments (e.g., educational games) equipped with Stealth Assessment and Educational Data Mining, Learning Analytics, and Natural language Processing models. These learning environments can diagnostically assess students' various competency levels, predict different outcomes, and act accordingly in real-time (e.g., adapt the game challenges to students' level of competency or support students' learning by triggering the appropriate learning supports). Dr. Rahimi is also actively researching various aspects of educational games (e.g., game mechanics, game difficulty, cognitive and affective supports, dashboard design, and incentive systems) and how they affect students' motivation, performance, and learning.

Steve Ritter, Carnegie Learning



Steve Ritter is Founder and Chief Scientist at Carnegie Learning. Dr. Ritter earned a doctorate in cognitive psychology at Carnegie Mellon University and was instrumental in the development and evaluation of the Cognitive Tutors for mathematics. Dr. Ritter is the author of numerous papers on the design, architecture and evaluation of adaptive instructional systems and is recognized as an expert on educational analytics and on using Artificial Intelligence in education. He is lead author of an evaluation that is one of the few to be judged by the US Department of Education's What Works Clearinghouse as meeting their standards without reservations. He has received several awards, including the Best Paper award at the International Conference on Educational Data Mining. At Carnegie Learning, Dr. Ritter leads a research team devoted to using learning engineering to improve the efficacy of the company's products. Current funding focused on such issues as algorithmic bias in educational AI, supports for teaching math to struggling readers and the UpGrade tool for supporting rigorous field tests of educational software.

Mark Schneider, Institute of Education Sciences



Mark Schneider is Director of the Institute of Education Sciences, U.S. Department of Education. Before joining IES, Mark Schneider was a vice president and an Institute Fellow at American Institutes for Research (AIR) and President of College Measures. Prior to joining AIR, Dr. Schneider served as Commissioner of the National Center for Education Statistics from 2005–2008. In 2013, the Chronicle of Higher Education selected him as one of the 10 people who had the most impact on higher education policy that year. He is the author of numerous article and books on education policy. His most recent book, *The University Next Door*, edited with KC Deane, was published in 2014 by Teachers College, Columbia University. Other books include *Getting to Graduation*, edited with Andrew Kelly, published in 2012 by Johns Hopkins University Press and *Higher Education Accountability*, edited with Kevin Carey, published by Palgrave in 2010; *Charter Schools: Hope or Hype?* written with Jack Buckley, was published by Princeton University Press in 2007. Schneider's 2000 book, *Choosing Schools*, also published by Princeton University Press, won the Policy Study Organization's Aaron Wildavsky Best Book Award. Dr. Schneider was a visiting scholar at the American Enterprise Institute and Distinguished Professor Emeritus of political science at the State University of New York, Stony Brook.

Sarah Siegal, Scholastic



Sarah Siegal is Director, Research & Practice at Scholastic. Dr. Siegal received her Master's Degree from Florida State University where she was funded through the Predoctoral Interdisciplinary Research Training (PIRT) Fellow program, part of the Florida Center for Reading Research. Following the completion of her Master's, Sarah joined the Developmental

Psychology Graduate Program and the Institute for the Science of Teaching & Learning at Arizona State University where she completed her Doctoral degree. She continued her work as a postdoc at the University of California – Irvine, running data collection, professional development, and technology training at partner schools in Arizona. She has managed multiple grant-funded research projects and was instrumental in designing and developing the A2i software platform and online professional development at Learning Ovarions Inc. where she was the Vice President for Research & Practice. In 2022, Learning Ovarions was acquired by Scholastic, where Dr. Siegal now works as part of the Research and Validation team.

IES-funded Demos

Adapta Education offers educators data and tools to personalize middle school to college level math through adaptive assessments and diagnostic reports on algebra, geometry, calculus, and statistics and probability. Developed at Notre Dame University and Adapta Education with funding from NSF/DRL in 2014 in IES/NCER in 2018. Contact: Alison Cheng (ycheng4@nd.edu)

All You Can Eat (video demo) is a game to train shifting — an essential cognitive skill where the brain adapts behaviors and thoughts to new, changing, or unexpected event. Developed by New York University’s CREATE Lab in part with an IES/NCER award in 2015. **CrushStations** (video trailer) is a game to train working memory — an essential cognitive skill. Developed by New York University’s CREATE Lab in part with an IES/NCER award in 2015. Contact: Jan Plass (jan.plass@nyu.edu)

ASSISTments (video trailer) is a forever free online math platform that makes it easy for teachers to assign from their curriculum and assess student progress in the classroom or remotely. The tool enhances math curricula with actionable data for teachers and immediate feedback for students. Developed with a series of awards from IES/NCER to researchers at Worcester Polytechnic Institute and partners. **E-TRIALS** offers researchers a completely unique way to ask questions about education at scale in ASSISTments. We have 6,000 problems with more than one support for each one and they have been randomized to over 300 students each. Educational data scientists might ask questions about the features of these supports (i.e., are hints that are shorter correlated with better student learning). Learning scientists could ask questions that contrast specific features of interventions they are interested in exploring. Contact: Cristina Heffernan (contact@assistments.org)

EPCAL Critical Discussion Activity, or the critical discussion activity, is designed to support the development of skills needed to collaboratively discuss, reason, and write in technology-mediated environments. The critical discussion activity is delivered through the ETS Platform for Collaborative Assessment and Learning (EPCAL), which facilitates online collaborative activities and captures student interactions in real time as well as their task responses. Developed by ETS with funding from IES/NCER in 2019. Contact: Yi Song (ysong@ets.org)

Flatland XR (Video Trailer) is a simulation environment for learning geometry created by GeoGebra. In this environment, students can learn about two and three-dimensional shapes and transformations by manipulating holograms using their hands, in a collaborative environment with other students present. Developed by Geogebra with an IES/NCER grant award in 2020. Contact: Candace Walkington (cwalkington@mail.smu.edu)

Graspable Math Activities (video demo) allows math teachers to assign interactive algebra tasks and turns equations into tangible objects that middle school and high school students can manipulate to practice and explore. Teachers can follow live, step-by-step, student work. Developed by researchers at Indiana University and Worcester Polytechnic Institute through an IES/NCER award in 2011 and from ED/IES SBIR in 2019. **From Here to There!** is a dynamic,

research-backed mathematics game for improving algebraic understanding. Developed by researchers at Worcester Polytechnic Institute through IES/NCER research grants in [2011](#) and [2018](#). Contact: Erin Ottmar (erottmar@wpi.edu) and Erik Weitnauer (contact@graspablemath.com)

Gwynnette ([video trailer](#)) is an Intelligent tutoring system for early middle school algebra that supports learning and engagement through deliberate practice and many gamified features. Developed by Human-Computer Interaction Institute at Carnegie Mellon University through an IES/NCER award in [2018](#), an NSF/DRL award in [2017](#), and an NSF/DRL award in [2015](#). Contact: Vincent Aleven (aleven@cs.cmu.edu) and Conrad Borchers (cborcher@andrew.cmu.edu)

Inq-ITS ([video demo](#)) is an online artificial intelligence-based interactive science lab for students in grades five through ten that scores work in real time to support science inquiry practices. A teacher dashboard presents reports to track growth and offers real-time alerts on which students are struggling and why. Developed by Apprendis, Worcester Polytechnic Institute, and Rutgers Graduate School of Education with NSF awards in [2007](#), [2008](#), [2010](#), [2013](#), [2016a](#), and [2016b](#), IES/NCER awards in [2009](#) and [2012](#), and ED/IES SBIR awards in [2015](#), [2016](#), [2018](#) and [2019](#). Contact: Mike Sao Pedro (mikesp@apprendis.com)

INSIGHTs Into Children's Temperament ([video demo](#)) is a social and emotional learning intervention with remote and in-person programs for children, teachers, and parents. Using puppetry for children and videos for adults, four typical temperaments are featured: Coretta the Cautious, Gregory the Grumpy, Frederico the Friendly, and Hilary the Hard Worker. Developed through a 2022 [ED/IES SBIR](#) award, a 2008 [IES/NCER](#) award, and NIH/NINR awards in 1998 and 2003. Contact: Sandee McClowry (sandee.mcclowry@nyu.edu)

Mission HydroSci is a single player game-based 3D virtual learning environment for middle school students learning hydrologic systems and scientific argumentation. Students crash land on an earth-like planet and must learn about water systems and develop their competencies in scientific argumentation to build a sustainable community. Developed by Adroit Studios and University of Missouri through funding at IES/NCER in [2015](#) and EIR. Contact Jim Laffey (laffeyj@missouri.edu).

OpenStax Kinetic is a platform for rapid cycle research that connects with OpenStax products. The engaging studies on Kinetic provide learners with insights and techniques to improve their learning based on evidence from learning science research. OpenStax, founded in 1999, is the world's largest nonprofit digital publisher and edtech developer of open education resources (OER), providing access to a growing library of 60+ high-quality, peer-reviewed, open-source, and free digital textbooks covering most introductory college courses and many Advanced Placement (AP) high school courses. The OpenStax mission is to improve educational access and learning for everyone. Serving over 6.5M learners annually all over the world since 2021, OpenStax is found across 70% of the US higher ed institutions, in over 3,000 US K12 schools, and across 144 countries. Research is an integral part of all OpenStax products and offerings. OpenStax Kinetic is being developed through a [2021](#) IES/NCER grant. Contact Debshila Basu-Mallick (debshila@rice.edu)

Physics Playground ([video trailer](#)) is a two-dimensional computer game which significantly improves middle school and high school students' understanding of Newtonian physics. Gameplay consists of mastering increasingly difficult levels via sketching (drawing objects on the screen) and manipulation interfaces (changing sliders of physics parameters). Developed by Florida State University with an IES/NCER award in [2017](#). Contact Valerie Shute (vshute@fsu.edu)

SELweb is a normed and validated social-emotional assessment system for middle school and SEL Quest is a platform to deliver SEL assessments. Developed at Rush University Medical Center and XSel Labs through multiple [IES/NCER](#) research grants and [ED/IES SBIR](#). Contact Clark McKown (cmckown@xsel-labs.com)

Terracotta (Tool for Education Research with RAnDomiZed COntrolled TriAls) is a first-of-its-kind web application that enables experimental research on what teachers assign in their learning management system (LMS) course sites. Terracotta is a free and open-source service of Indiana University, supported by Schmidt Futures and the Institute of Education Sciences through a [2021 IES/NCER](#) grant. Contact Benjamin Motz (info@terracotta.education)

UpGrade is an open-source A/B testing platform that facilitates randomized experiments within MATHia, Carnegie Learning's adaptive software used in middle and high schools across the country. Experiments take place as part of students' normal math instruction and take the form of alternative instructional approaches (which can include changes to content, images, videos, manipulatives, etc.). MATHia is mastery based, so existing mastery "workspaces" can act as assessments as well as instruction. Integrating MATHia and UpGrade is in progress through a [2021 IES/NCER](#) grant. Contact Steve Ritter (sritter@carnegielearning.com)

vSchool is a school-friendly, game-based assessment for students in grades 2 to 4. This assessment is designed to evaluate students' prosocial behavior and the effectiveness of social-emotional learning interventions. Developed by Adroit Studios and the University of Missouri with funding from IES/NCER in [2021](#). Contact: Joe Griffin (jggmr2@gmail.com)