ANNUAL REPORT

2022–2023

PHOTO CREDIT: CDC

Stanford
Accelerator for
LEARNING

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LETTER FROM THE DIRECTORS

Learning is more like learning to dance than strengthening a muscle. You want to coordinate all the systems to work together.

DEAR FRIENDS

From the start, the Stanford Accelerator for Learning has sought to accelerate solutions and pursue opportunities to address the most pressing challenges facing learners. Part of our strategy has been to ignite new connections between researchers across disciplines, students, educators, policy makers, education private sector leaders, advocates, and the entire ecosystem of people working toward more effective and equitable learning solutions.

After the inaugural years of launching the Accelerator, responding to the needs of learners during a global pandemic, and developing infrastructure to support a new kind of interdisciplinary work at the university, the 2022–23 academic year saw those collaborations come together.

We brought in two new faculty directors, Susanna Loeb and Candace Thille, both renowned in their fields, to expand the Accelerator leadership team by taking charge of the Systems Change for Advancing Learning and Equity (SCALE) and Adult and Workforce Learning initiatives, respectively. Additionally, a task force of faculty, led by Bryan Brown, developed a framework for the Equity in Learning initiative and convened a design workshop of researchers, community organizers, educators, and funders in collaboration with the Stanford d.school. We launched the Stanford

PHOTO CREDIT: LEARNING DIFFERENCES INITIATIVE

Center on Early Childhood, led by Philip Fisher. We also initiated a new program, AI + Education, led by Victor Lee, and awarded acceleration seed grants to fuel new discoveries in response to the unprecedented need for exploration in generative AI in partnership with Stanford Institute for Human-Centered Artificial Intelligence (HAI). You'll read more about these and other activities in this annual report, including how we're adding additional pathways for students to be involved and learn.

We are optimistic about leveraging the collective expertise, creativity, passion, and resources we are cultivating to better humanity through learning. We look forward to another year of connection and research with impact. Thank you for being a part of this pursuit.

Sincerely,

Daniel Schwartz
I. James Quillen Dean, Stanford Graduate School of Education
Nomellini & Olivier Professor of Educational Technology
The Halper Family Faculty Director of the Stanford Accelerator for Learning

Isabelle Hau
Executive Director, Stanford Accelerator for Learning

BRINGING THE UNIVERSITY
TO QUESTIONS OF LEARNING

Housed at the Stanford Graduate School of Education, the Stanford Accelerator for Learning is the first university-wide initiative connecting scholars across disciplines and with external partners to bridge research, innovation, practice, and policy, and bring quality, scalable, and equitable learning experiences to all learners, throughout the lifespan.

HOW WE ACCELERATE SOLUTIONS

FUNDING
Funding for interdisciplinary faculty, staff, and student research around timely themes, and a Learning Design Challenge for students

EXPERTISE
Accelerator Studio support including technology, partnerships, learning design, and research guidance

COMMUNITY & PARTNERSHIPS
Convenings and collaborations that thoughtfully bring together key stakeholders in education

WHERE WE FOCUS

SIX THEMATIC WINDOWS WHERE WE MAKE A DIFFERENCE

Candace Thille,
Faculty Director

Adult and Workforce Learning

The Adult and Workforce Learning Initiative opens doors to new innovations, careers, and passions by providing adults access to new knowledge and skills. Candace Thille rejoined Stanford as an associate professor in February 2023 to lead the initiative in its next chapter.

Digital Learning

The Digital Learning Initiative works to create vibrant, meaningful, and personalized digital learning opportunities that deepen knowledge and expand access. This year, the initiative continued its work on Virtual Field Trips and the Learning Design Challenge and expanded its work to artificial intelligence in education in response to the rise of generative AI tools and their impact on learning.
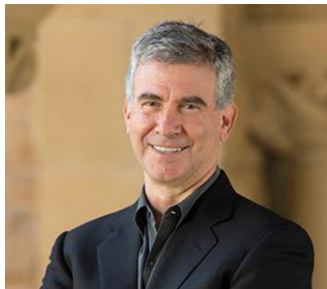
Daniel Schwartz,
Faculty Director

Kristen Blair,
Director of Research

Victor Lee,
Faculty Lead, AI + Education

Early Childhood Learning and Development

The Stanford Center on Early Childhood (SCEC) was established in November 2022 with the goal of launching a trajectory of well-being and high-quality learning during the early years of life. SCEC encompasses the RAPID project, a monthly survey of caregivers of young children, and the Filming Interaction to Nurture Development (FIND) program, which observes and records caregiver-child interactions and empowers responsive and supportive caregivers.

Philip Fisher,
Faculty Director

Bryan Brown,
Task Force Lead

Equity in Learning

The Equity in Learning Initiative works on developing and moving life-changing scholarly learnings and discoveries to those in the best position to deliver them to young people by co-creating collaborative solutions. This year, a task force led by Professor Bryan Brown and composed of faculty members Farzana Saleem, Jonathan Rosa, Anne Charity Hudley, Shima Salehi, Francis Pearman, and Subini Annamma built a framework for the initiative. The May 2023 Equity in Learning Design Workshop, hosted in collaboration with the Stanford d.school, brought together community partners, researchers, educators, and funders to ideate the future work of the initiative.

Learning Differences and the Future of Special Education

The Learning Differences Initiative supports and cultivates breakthrough research, policy innovations, and inclusive leadership development that significantly improve opportunities for children with diverse learning needs. The initiative includes multidisciplinary faculty from across Stanford's campus working on research that will realize the potential of children with learning differences, including researchers from education, psychology, law, computer science, and pediatric medicine.

Elizabeth Kozleski,
Faculty Co-Director

Ira Lit,
Faculty Co-Director

Susanna Loeb,
Faculty Director

Systems Change for Advancing Learning and Equity (SCALE)

The SCALE Initiative mobilizes knowledge, insights, and promising solutions for better education decision making in K–12 education. In February 2023, Professor Susanna Loeb returned to Stanford to lead the initiative, building upon her work on the National Student Support Accelerator (NSSA), which provides comprehensive resources for implementing high-impact tutoring.

Featured Stories
Of Impact on Learners & the Field of Learning

The Stanford Accelerator for Learning supports and amplifies work led by faculty from all seven schools at Stanford as well as students and postdoctoral scholars. Following are examples of some of the work that we are leading in learning design, interdisciplinary research, and external partnerships that pursue new solutions and opportunities to make a difference.

PHOTO CREDIT: ISABEL SAKS

Preparing the Education Sector for New Technology
Generative AI for the Future of Learning Seed Grants

The public launch of ChatGPT shook the field of education this year, and the need for interdisciplinary research into how to teach with this new tool quickly became apparent. In partnership with the Stanford Institute for Human-Centered Artificial Intelligence (HAI), the Accelerator awarded 16 teams a total of $625,000 in seed grants to explore innovative uses of generative AI in education.

Funding was granted to develop AI tools to improve teaching and learning as well as better understand critical issues related to the use of generative AI in the classroom. Interventions being researched include fostering classroom collaboration with AI, leveraging ChatGPT in writing instruction, and understanding cheating behaviors before and after generative AI technology became readily available. The funded projects included 10 from faculty and six from students and staff.

In addition to funding, the Accelerator has built an active community for scholars working on generative AI and education, including a spring quarter weekly discussion series, technical workshops, research and design support, and a Slack channel for sharing resources.

One project, M-Powering Teachers, led by Stanford Accelerator for Learning Faculty Affiliate and assistant professor of education Dora Demszky, is developing a new tool for providing instructors with feedback on their classroom interactions. The team has already published initial results, shared insights at academic conferences, and convened researchers and technologists on campus on the topic — and their work is just beginning. M-Powering Teachers has also garnered media attention in Education Week, Freethink, and EdSurge.

How has the world changed since you went to school?

When I was a student in the 1960s and '70s, libraries were a necessity. Physically seeking music and literature and doing research in collections was a big part of my life. The availability of material on the internet has revolutionized access and had an enormous impact in serving curiosity.

Chris Chafe
Duca Family Professor,
Director of the Stanford
Center for Computer Research in
Music and Acoustics (CCRMA),
Stanford Accelerator for Learning
Faculty Affiliate

Reaching Learners During Crisis Situations
Texting and Tutoring for K–3 Students During the Pandemic

In the midst of pandemic school disruptions in 2020, the Stanford Accelerator for Learning granted funding to interdisciplinary faculty projects to develop resources for K–12 digital learning. Two years later, the funded work of Faculty Affiliates Emma Brunskill, associate professor of computer science, and Rebecca Silverman, associate professor of education, has yielded publishable results.

Brunskill and Silverman, along with their graduate students, designed a text messaging program that provided caregivers with tips to support their children's reading. One group also received one-on-one remote tutoring. The work drew upon the long-term research of SCALE Faculty Director Susanna Loeb on TipsbyText, a similar texting program designed to support caregivers in creating a positive educational environment.

The resulting paper, "Texting and Tutoring: Short-term K-3 Reading Interventions during the Pandemic," published in the Journal of Educational Research, describes the outcomes from the intervention. Survey data showed that the caregivers who received text messages gained self-efficacy, with stronger belief that they could help their child's literacy. However, assessment data did not demonstrate that participating students made gains in reading. Going forward, the researchers are exploring expanding the duration and level of personalization of the program. The low cost and scalability of text messaging make it a tool worth exploring further.

Constructing a Lighthouse Model for Inclusive Education
The Santa Clara Research Practice Learning Partnership

How do we design truly inclusive classrooms, schools, and districts, especially when students with disabilities learn alongside neurotypical peers? Elizabeth Kozleski, faculty director of the Learning Differences Initiative, is building a new model of collaboration with schools, a Research Practice Learning Partnership (RPLP) with Santa Clara Unified School District. Through this relationship, the faculty in Learning Differences are building collaborative projects to envision and test new school designs that enable children with learning differences to participate fully in classrooms. Ultimately, the collaboration will result in a K–12 campus, including an elementary school, a middle school, and a high school, modeling research-supported inclusive practices that can be used as a "lighthouse" for other schools and districts.

PHOTO CREDIT: RYAN ZHANG

One of the first projects was Para Pro Academy, a collaboration to provide in-service paraeducators with training, coaching, and community. Led by Chris Lemons, associate professor of education and faculty affiliate of the Stanford Accelerator for Learning, and researcher Lakshmi Balasubramanian, the team worked with 15 paraeducators at Agnew School, where students with a range of disabilities learn alongside neurotypical peers. Agnew School now has a nucleus of Para Pro Academy-trained paraeducators as Santa Clara spreads inclusive practices across the district.

Next, Stanford faculty and educators in Santa Clara are working on a career planning program for high schoolers, incorporating communities and families; a middle school math project; and a collaboration with researchers from the School of Medicine to develop imaginative ways to support behavior and development.

Training the Next Generation of Thoughtful AI Users
Classroom-ready Resources about AI for Teaching (CRAFT)

The rapid development of AI tools has implications for learners as they consider their place in a world where AI is present in their jobs and in their daily lives. Associate Professor and Faculty Lead for AI + Education Victor Lee saw a gap in open source curricular materials for teachers who want to give their students balanced, critical perspectives on a constantly evolving technology. In collaboration with 10 in-service high school teachers, Lee mobilized Stanford education and AI experts to develop CRAFT, a collection of AI literacy lesson plans. The library of resources is free and intentionally multidisciplinary, and it can be sorted by topic area or type of lesson. CRAFT's goal is to provide access to basic AI teaching tools to reduce inequity in instruction about AI literacy, which has the potential to worsen existing inequities.

PHOTO CREDIT: CDC

What experience do you wish every learner could have?
To get a vivid sense of the historical past, so much so that the learner can imagine the experiences of different persons within a particular period and place. So vivid, in fact, that they develop a sense of what is different and what is similar about the experience of x person in y place during z period. This experience is both the historical imagination and human empathy.

Grant Parker,
Associate Professor of Classics,
Stanford Accelerator for Learning
Faculty Affiliate

Ensuring All Children Learn to Read
Expanding the Rapid Online Assessment of Reading (ROAR)

Identifying struggling young readers to get them the support they need has historically been a time-consuming, inefficient, expensive task. Associate Professor and Stanford Accelerator for Learning Faculty Affiliate Jason Yeatman has developed an open-access tool, the Rapid Online Assessment for Reading (ROAR), that delivers reading tests significantly more quickly and at scale with scores consistent with other standardized reading assessments. With scaling support from the Stanford Accelerator for Learning, the tool is now used in urban, suburban, and rural districts across 14 states, with 25,000 assessments administered in September 2023 alone. The project aims to serve 1 million students free of charge by the end of 2024.

Yeatman and his team at the Stanford Reading & Dyslexia Research Program have now expanded their suite of measures to include phonological awareness (ROAR-PA), sentence reading efficiency (ROAR-SRE), and vocabulary (ROAR-Vocab). They have published preprints of initial results from these new tests, which are under active development, gathering input from users to improve the tests.

Shaping the Conversation on Early Childhood
Three Years of Findings from the RAPID Survey Project

The RAPID survey project, launched in April 2020 to understand the experiences of the caregivers of young children during the COVID-19 pandemic, continues to collect monthly data informing the national conversation about early childhood.

RAPID has expanded to include two national surveys, six community surveys across the United States, and a statewide survey in California, with several more in the pipeline. The data continues to yield critical, actionable information for policy makers, practitioners, and researchers. According to this year's data, the percentage of families experiencing hardship has risen since spring 2022, peaking at 47% in December 2022, and remained high, likely a result of the rollback of pandemic-era public support systems.

Over three years, RAPID has reached 16, 514 households, has published 51 fact sheets, has been referenced over 180 times in the media, and has an average of 3,000 monthly readers.

Scaling High-Impact Tutoring Nationwide
### The National Student Support Accelerator Moves to Stanford

High-quality tutoring is one of the most effective educational interventions we have in improving learning trajectories, particularly for students without other educational resources who are emerging from a pandemic where many students' learning was disrupted. Since 2020, Susanna Loeb, Faculty Director for the SCALE initiative, has built an influential organization that translates research about tutoring to best practices on the ground. In 2023, the National Student Support Accelerator moved to Stanford, starting with its annual convening of researchers, tutoring providers, district leaders, and policy makers.

NSSA builds toolkits for teachers and tutors on how to tutor for different age groups and subject areas, as well as reports and briefs that share learnings from across the country on scaling effective tutoring. The team curates a database of tutoring programs, academic interventions, and technology

PHOTO CREDIT: KENNY ELIASON

platforms, and it collects and disseminates the results of research about tutoring. The team works directly with 19 districts and has led webinars reaching over 20,000 decision makers; two states have implemented tutoring policies grounded in its work. High-impact tutoring is now estimated to reach 10% of all students in U.S. public schools, and the percentage of schools offering high-impact tutoring has increased from 6% in 2019 to 33% in 2022.
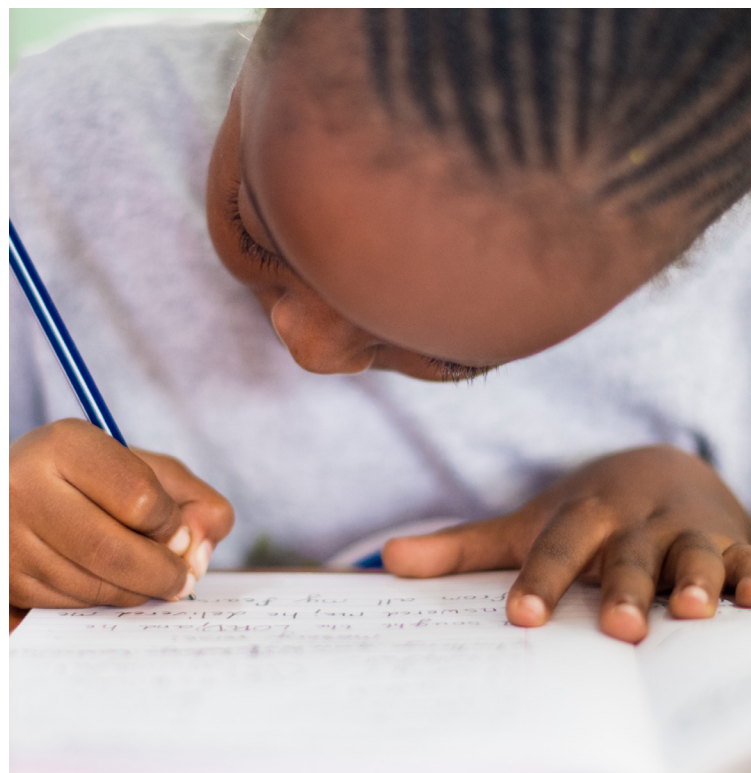
Engaging the Next Generation of Scholars

Stanford is, at its core, an institution of higher learning, and students are a central part of our Stanford Accelerator for Learning community. Below are some of the ways we actively engage Stanford students in our work.

What is education for?
Education helps people develop the skills, motivation, and agency to inquire, to create, to contribute, and to connect in their world.

Jelena Obradović
Professor of Education, Associate Director of the Stanford Center on Early Childhood, Stanford Accelerator for Learning Faculty Affiliate

Entrepreneur in Residence Program

With the Graduate School of Education, the Accelerator brings experienced education entrepreneurs to campus to provide guidance and learning opportunities for students interested in entrepreneurship. Six entrepreneurs in residence, with experience across sectors and across the globe, have held the position since 2019.

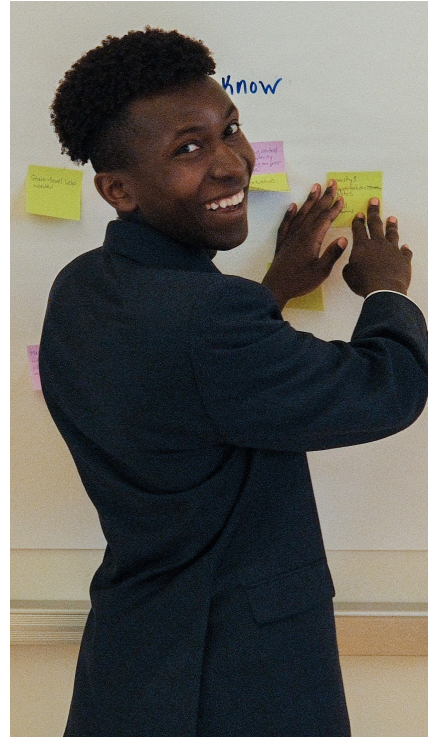PHOTO CREDIT: RYAN ZHANG

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PHOTO CREDIT: RYAN ZHANG

Events on Campus & Beyond

The Accelerator includes students in nearly all of its hosted events on campus, large and small, giving students the opportunity to interact personally with education leaders from the public, private, and academic sectors.

Learning Design Challenge

This two-quarter course guides students

to design and prototype an innovative idea that promotes learning and community in digital environments. Students participate in workshops and receive mentorship, training them to leverage advances in the science and design of learning to develop project ideas focused on impact. At the culmination of each quarter, teams pitch their projects to faculty and industry experts for funding.

PHOTO CREDIT: LEARNING DIFFERENCES INITIATIVE

What are three qualities of your favorite teacher you ever had?
Compassion, interest, and openness: compassion to understand the life experiences of their students; interest to seek what students need; openness to utilize different approaches depending on the strengths of the students.

Victor G. Carrión
John A. Turner, MD, Professor and Vice-Chair of Psychiatry and Behavioral Sciences, Director of the Stanford Early Life Stress and Resilience Program, Stanford Accelerator for Learning Faculty Affiliate

Funding

Student projects are eligible for funding through the Learning Design Challenge as well as through many of the Accelerator's themed seed grants.

PHOTO CREDIT: RYAN ZHANG

Community and Convenings

To achieve our goal of connecting scholars across disciplines and with external partners to bridge research, innovation, practice, and policy, events are an important part of our work. We convene groups of key players in education around timely topics, creating intentional space for connection, ideation, solution-orientation, and optimism. Following are highlights of our signature events that brought together researchers, practitioners, and the education community to envision a future where learners are able to adapt and thrive in an ever-changing world.

PHOTO CREDIT: ISABEL SACKS

New Pathways for Equity and Impact in Early Childhood: Celebrating the Launch of the Stanford Center on Early Childhood

The Stanford Center on Early Childhood celebrated its official launch with a convening of leaders in the field. The gathering provided an unparalleled opportunity for collaboration and connection among researchers, community leaders, pediatricians, funders, policy makers, and the early care and education workforce.

PHOTO CREDIT: SHERRY TESLER

PHOTO CREDIT: TREVER TACHIS

ASU+GSV Summit

An annual conference on education innovation and technology, the ASU+GSV Summit draws start-up founders, edtech CEOs, investors, policy makers, and members of foundations from over 130 countries. The voice of academic research at the event has, in the past, been limited. However, at this year's gathering, more than a dozen Stanford scholars were invited to speak, and 60 students were invited to participate at no cost. Faculty Director and Dean Dan Schwartz delivered a keynote address on StageX, the largest platform of the conference. The Accelerator also hosted a reception for faculty, students, partners, and friends.

Equity in Learning Design Workshop

The Equity in Learning Design Workshop was the inaugural gathering of the Equity in Learning initiative, designed to create a community of practitioners, funders, and researchers to contribute to and refine the vision for the initiative. Co-created with the Stanford d.school K–12 Lab, the all-day, in-person workshop included an invocation, icebreaker activities, a question-generating session, panel discussions with researchers and community organizations, small group discussions, and a concluding tribute to the legacy of the late education and civil rights advocate Bob Moses.

PHOTO CREDIT: SHERRY TESLER

PHOTO CREDIT: ASHLEIGH PANOO

NOVEMBER 2022

APRIL 2023

MAY 2023

SEPTEMBER 2022

FEBRUARY 2023

JUNE 2023

Energizing the Potential of All Learners: Summit with the Yidan Prize Foundation

The day-long summit brought together the leading minds in learning from across the globe. Panel sessions facilitated discussion, debate, and audience engagement around equity in learning, early childhood learners, and learning differences. Summit speakers included Yidan Prize founder Charles Chen Yidan and disability rights activist Judy Heumann.

PHOTO CREDIT: RYAN ZHANG

AI+Education Summit: AI in the Service of Teaching and Learning

Co-hosted by the Stanford Accelerator for Learning and Stanford Institute for Human-Centered Artificial Intelligence (HAI), the summit showcased the latest research in AI and education from Stanford faculty and researchers, examining how AI can be used to advance human learning through new pedagogies, new modalities of assessment, new foundational models, and more. The summit asked how AI can transform teaching and learning in an ethical, equitable, and safe manner. Researchers from across disciplines spoke, as well as industry leaders Sal Khan of Khan Academy, Andrew Magliozzi of Mainstay, and Jamie Poskin of TeachFX.

PHOTO CREDIT: RYAN ZHANG

National Student Support Accelerator 2023 Conference High-Impact Tutoring: From Research to Sustainability

The annual conference of the National Student Support Accelerator, hosted for the first time on Stanford's campus, brought together a community committed to the power of high-impact tutoring for learners. Collaborative activities throughout the day fostered connections among tutoring providers, researchers, and school district leaders to share information and renew their inspiration. The conference began with a keynote address from Penny Schwinn, then commissioner of education for the state of Tennessee, and followed with work sessions for researchers, district and state leaders, and tutoring providers.

Early Childhood Policy Academy

More than a dozen policy leaders from across the political spectrum and representing states across the country gathered at Stanford to take part in the 2023 Early Childhood Policy Academy, a training event aimed at educating and empowering leaders to support early education and care in their regions. The Stanford Center on Early Childhood hosted this year's event in collaboration with The Hunt Institute, a nonprofit dedicated to informing policy makers about educational issues. Participants visited All Five School, a full-day, year-round early education program in Menlo Park which serves children 6 weeks to 5 years old; 75% of families in the high-quality program have low incomes. The day continued with expert panels and interactive discussions on early childhood research and policy.

Recognition & Awards

The work of the Accelerator's faculty, staff, students, and collaborators is pushing forward the field of learning. Below is a snapshot of the honors, awards, and funding that the projects from our community have received this year.

GSV Elite 200 Edtech Startups 2023

· Short Answer
 Ben Thier, Learning Design and Technology MS '22

· EcoSystemOne
 Alex Stolyarik, Learning Design and Technology MS '23

Stanford–SFUSD Partnership

· The Power and Possibilities of Accessible Ethnic Studies
 Subini Annamma, Associate Professor of Education

· Finding the Relationships Among Feedback, Instructional Improvement, and Student Success
 Janet Carlson, Associate Professor [Research], Faculty Director of CSET

· Identifying and Addressing Human Resource (HR) Needs in SFUSD
 Susanna Loeb, Professor of Education, Faculty Director of SCALE

· Shoestrings: Disrupting Racial/Ethnic Disproportionality in Discipline and Special Education
 Jelena Obradović, Professor of Education

Stanford-Sequoia K–12 Research Collaborative

· Disentangling the Complexities of Developing English and Learning English When English is a Second Language
 Guillermo Solano-Flores, Professor of Education

· Learning to Lead for Equity: Leader Identity and Development
 Janet Carlson, Associate Professor [Research], Faculty Director of CSET

· Rapid Online Assessment of Reading (ROAR)
 Jason Yeatman, Associate Professor of Education, Psychology, and Pediatrics

· Ravenswood Reads Tutoring
 Rebecca Silverman, Associate Professor of Early Literacy

Stanford Impact Labs Stage 2 Funding

· Bridging Reading Science and Educational Practice
 Jason Yeatman, Associate Professor of Education, Psychology, and Pediatrics, and Rebecca Silverman, Associate Professor of Early Literacy

· Slowing the Spread: Developing, Evaluating, and Scaling Technique-based Approaches to Reduce Misinformation Sharing
 Susan Athey, Professor of Economics and Technology

Tools Competition

· PeerTeach
 Soren Rosier, PhD in Learning Sciences and Technology Design '20

· Rapid Online Assessment of Reading (ROAR)
 Jason Yeatman, Associate Professor of Education, Psychology, and Pediatrics

· Tilli
 Kavindya Thennakoon, PhD student in education

PHOTO CREDIT: RYAN ZHANG

GET INVOLVED WITH US

To learn more about our work, to sign up to receive biweekly updates on our research and other activities, and to be notified of upcoming convenings and opportunities, visit us at **acceleratelearning.stanford.edu**.

We'd love to hear from you, too.
Contact us at **acceleratelearning@stanford.edu**

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