

Reach

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THE PUBLICATION FOR EDUCATION RESEARCH

Learning Sciences at Rossier

By Robert Rueda and Gale Sinatra

ACCORDING TO THE INTERNATIONAL SOCIETY FOR THE LEARNING SCIENCES (ISLS), research in the learning sciences centers “on how people learn alone and in collaborative ways, as well as on how learning may be effectively facilitated by different social and organizational settings and new learning environment designs.”

The Rossier School has consistently maintained a strong interest in learning as the foundation of its educational programs at all degree levels. There have been various names for the group of faculty most closely associated with this area, including Educational Psychology and Technology, Learning and Instruction, and most recently, Psychology in Education. However, the strong focus on learning and motivation has been constant over time.

In some universities, faculty members who teach this content are relegated to teaching large “service” courses or methodology courses to other specializations or departments. At the Rossier School, however, faculty members in this area are actively involved in teaching and program development in every degree program offered at the master’s and doctoral levels. It was no accident that the major restructuring undertaken by Rossier a decade ago identified Learning as the first of four cornerstones (Learning, Leadership, Accountability, Diversity) upon which new programs have been built.

Significant developments have occurred within the field itself, many prompted by forces outside the field. For example, accountability demands and pressures to increase academic achievement have increased. At the same time, problems have become much more complex – what some have called “wicked” problems. There are calls for researchers to become more involved in real-world problems that children, families, and schools face – to produce research “that matters.”

There are other changes afoot. Researchers have realized that findings from tightly controlled laboratory experiments do not often map on to real-world situations or offer practical solutions. The methodologies and frameworks that have been favored in the field have often minimized or ignored the influences of social context, the social



and collaborative nature of learning, and factors such as language and cultural differences. More importantly, the “one-shot” experiment designed to solve a problem often needs much more refinement before it can be used in practice, and in the past intervention research has often been designed without the collaboration of those most impacted by the research. Finally, it is increasingly apparent that educational challenges are global and require interdisciplinary solutions.

At the Rossier School, we have faculty who directly address these challenges in their work. We have increasingly looked to the developing area of Learning Sciences as a model for how we operate. The Learning Sciences seek to address the challenges noted above through practitioner and researcher collaborative design and evaluation of effective technology-enhanced learning environments, and also present an important middle ground between experimental and naturalistic approaches.

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MESSAGE

From the Dean

At the Rossier School, our four academic pillars, which are woven throughout our programs, are Learning, Leadership, Accountability and Diversity. These four pillars also guide our research agenda.

For educators, knowing how and why students learn effectively is as critical as understanding the content of what they learn. You will see from this issue of REACH, that the USC Rossier faculty is actively engaged in work that is probing this issue. Our goal is the establishment of a Center for the Science of Learning, one that will allow us to understand how to apply this research immediately in educational contexts like schools, curricula and teacher preparation. We plan to create the education equivalent of the “bench to bedside” practice deployed so effectively in medicine, facilitating swift and impactful exchanges between USC Rossier and the field.

Please contact me if I can answer your questions.



Karen Symms Gallagher, PhD
Emery Stoops and
Joyce King Stoops Dean

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Many Rossier faculty are engaged in Learning Sciences research closely connected to real world practice. In addition to studies by Dr. Tynes (*right column*) and Dr. Immordino-Yang (*page 3*):

Dr. Gale Sinatra is engaged in the design of serious web-based games that are both engaging and informative. *Losing the Lake*, provides a simulation game experience to middle-schoolers learning about the effect of climate change on declining Lake Mead water levels.



Gale Sinatra
Professor of Education

Dr. Harry O'Neil specializes in computer-based teaching and assessment of 21st Century Skills (e.g., adaptive problem solving), teaching and assessment of self-regulation skills, such as metacognition, and the effectiveness of computer simulations and games to solve education and training problems in fields such as medicine.

Dr. Robert Rueda focuses on sociocultural factors in learning and motivation, exploring how motivational factors influence student engagement. He is currently synthesizing work on motivational interventions in school settings.



Robert Rueda
Stephen H. Crocker Professor of Education

Dr. Allen Munro develops technologies that support learning in the context of interactive simulations. Explanations, demonstrations, and practice in making decisions can be supported in simulation contexts. At present, he is working on these issues in the domain of Navy tactics in a simulator that supports a “what-if” approach to tactical planning.

Online Racial Victimization and the Academic Consequences for Teens

RECENT NEWS STORIES OF TEEN SUICIDES have put cyberbullying and its tragic effects at the forefront of public discourse and awareness. Adolescents, who are some of the most avid users of social media and online spaces, are especially susceptible to online victimization and can be gravely impacted psychologically and academically.

Since 2001, Associate Professor Brendesha Tynes has been researching this troubling and increasingly prevalent behavior and its effects on young people. Currently, with support from a \$1.5 million National Institutes of Health grant, she is studying how online victimization impacts the academic performance, mental health and behavior of 6th to 12th graders.

“We know about cyberbullying in general, but we’ve just scratched the surface of understanding how different types of victimization, including race-related experiences, impact developing adolescents,” she said.

“...Internet safety and antibullying programs don’t really address race. I’m hoping we can develop interventions to help youth protect themselves...”



Brendesha Tynes
Associate Professor

Tynes and colleagues have developed a scale to measure types of online victimization – from sexual harassment to racial discrimination to bullying, and are examining resources that might buffer the negative impact of online victimization on teens.

Among the study’s preliminary findings is that teens who are victims of general and sexual harassment online perform worse in science than teens who are not victimized. Her team has also found that total GPA is lower among youth who have these experiences.

She also found that for Black and Latino youth who are direct targets of discrimination online, these experiences are associated with higher levels of depressive symptoms. This is not the case for white youth, likely because they are victimized because of their race less frequently than other groups and racial-ethnic groups experience discrimination online differently. For example, though more than 30 percent of all youth reported being shown a racist image, most of these images include Blacks and Latinos.

Tynes aims to use her research to develop intervention and prevention programs for youth who experience online racial victimization. Adolescents can be easy targets for cloaked hate sites, for example, because they do not critically examine online content and recognize propaganda or other questionable sources as well as adults do, she said.

“I’m hoping that, because many Internet safety and antibullying programs don’t really address race, we can develop interventions to help youth protect themselves, and give them coping and antiracist strategies to use,” Tynes said. “We need more programs to help youth counter the negative messages they’re getting about racial groups.”

HOW DO CULTURE AND ENVIRONMENT SHAPE how we (and our brains) experience social emotions and self?

This is one of the intriguing domains Professor Mary Helen Immordino-Yang is exploring with her most recent research, funded by a prestigious \$600,000 National Science Foundation CAREER grant.

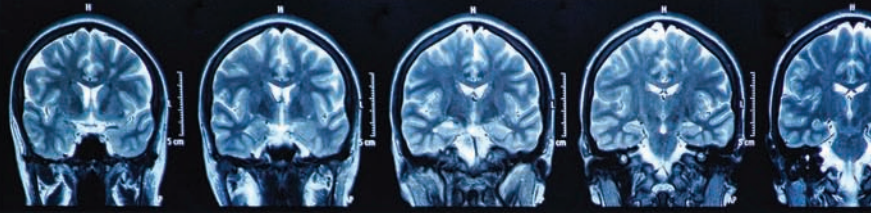
In adolescence, our bodies and brains are transforming into our adult selves, and a massive amount of perceptions, actions, emotions, memories, and experiences shape that process.

Immordino-Yang is particularly interested in social emotions that promote learning, motivation and resilience, such as compassion, admiration and inspiration. She is studying how these emotions develop in urban young people – studying both the teens’ meaning-making and their neural activity over time.

“The ways we think and imagine and feel things about ourselves and the social world are actually organizing and organized by individual differences in the way our brain activates,” she explained.

“It’s impossible to know which came first – the thought pattern or the brain pattern. Your habits and certain acculturated thought patterns potentially shape your neurobiology, and this in turn potentially shapes your experiences and meaning-making about self and the social world.”

NSF CAREER Study: How Culture Shapes Emotional Development



Her NSF study investigates students in three Los Angeles area high schools in neighborhoods with different ethnic compositions and with a high frequency of community violence. She is following Latino and Asian American teens over the four years of middle adolescence. During this time period, teens develop identities that are more associated with their peer groups, become acculturated to a more adult world, and feel emotions amid the stressors around them.

It is the first project to investigate how community violence and culture can influence the way social emotions, self-identity, and inspiration about one’s future develop neurobiologically and psychosocially. Her longitudinal study will include neuro-imaging with fMRI (Functional Magnetic Resonance Imaging) brain scans and a series of interviews.

Many people have observed that different cultures express their emotions in different ways, but research is just beginning to explore how cultural factors influence the experience of an emotion and its manifestation in brain activity. In previous studies, Immordino-Yang found that groups with different cultural norms reported experiencing emotions similarly, but found that individuals’ experiences corresponded to brain activity in cultural patterns.

This NSF study will look at individual and cultural differences among ambitious, low socioeconomic status 9th to 12th grade adolescents who are doing well in school.

“Adolescence is a time when kids are really coming to understand and own themselves in ways they don’t in childhood, and are really starting to think abstractly and prospectively about their own futures,” she said.

“They’re struggling to reconcile their own beliefs and values with those of their families and cultural heritage, with expectations in school, and also with social interactions modeled in the neighborhood, which are too often not good.”

Immordino-Yang is at the forefront of research in this field, where neuroscience meets the psychology of learning and motivation. “I’m so astounded by the beauty of the data. It is just outrageous what you find if you put someone in a scanner and ask them how they feel. The cultural influences on correspondences between individuals’ subjective experiences and their neural activations are striking.”

At the conclusion of her study, Immordino-Yang will develop and test a curriculum that teaches the adolescents social emotional awareness and skills for mindfulness and reflection, working with community members to develop curricula that implement scientific insights and honor the participants’ cultural heritage. Using findings from her study of students at the three high schools, Immordino-Yang will create educational materials that promote compassion, well-being, resilience and academic achievement among at-risk urban youth, and will develop and test these materials with young people who will participate in a science summer camp.

Results from the scientific studies and the summer camp will then inform a curriculum that will be implemented broadly through partnerships with Mental Health America, The Ball Foundation, SERP and Annenberg Media, and through a series of workshops for teachers that Immordino-Yang holds around the world.

The findings will also be featured in a free, online course for educators, found at: www.learner.org/courses/neuroscience.

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Mary Helen Immordino-Yang
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Major Research Grants Awarded to Faculty

Between October 2012 and April 2013

William G. Tierney was awarded **\$110,000** from the College Access Foundation in support of the Increasing Access via Mentoring (I AM) Program, led by the USC Pullias Center for Higher Education. The program pairs USC faculty and staff with neighborhood high school students in one-on-one mentoring as they anticipate graduation and college or career. Tierney also received **\$60,000** from the California Community Foundation in support of scholarships for the I AM Program, and **\$50,000** from The Ahmanson Foundation in support of the 2013 SummerTIME program to improve writing skills for college-going high school graduates.

Morgan Polikoff received **\$124,000** from an anonymous donor for his project examining textbooks that claim to be Common Core aligned, Florida state-standards

aligned texts, and variations in effectiveness.

David Dwyer received a **\$100,000** grant from the Weingart Foundation in support of USC Hybrid High School, the Los Angeles charter school developed by USC Rossier to graduate students who are college and career ready, with individualized and self-directed curricula, new technology tools, and expanded school hours.

The Center for Urban Education received a **\$50,000** grant from the Carnegie Corporation of New York to improve the data analysis and reporting capacity of the online platform, the Benchmarking Equity and Student Success Tool (BESST). **Estela Mara Bensimon** is PI on the project.

EMERGING RESEARCH *at* ROSSIER

In **December 2012**, Estela Mara Bensimon presented her research at a Latino College Completion Town Hall, hosted by the California State Assembly Committee on Higher Education. The forum provided higher education leaders across the state with an opportunity to learn about promising policies and practices to improve success rates for Latinos and address gaps in Latino student success.

Bensimon, who is co-director of the Center for Urban Education (CUE) and professor at USC Rossier, testified as an expert panelist before Assemblyman Das Williams and Senator Hannah-Beth Jackson on the importance of reframing the low rates of college completion as a problem of institutional effectiveness, rather than blaming the students. She drew on examples of her work with institutions around the U.S. to examine racial and ethnic patterns on indicators of academic success and implement measures for more equitable outcomes using tools created by CUE, including its Equity Scorecard.

She commended the formation of a California Community Colleges accountability scorecard to measure student outcomes by race and ethnicity, but warned that data alone will not “motivate the desired improvements in college performance and productivity in the absence of supports to involve practitioners in the use of the scorecard



Estela Mara Bensimon, Professor
Co-Director of the Center for Urban Education

data to examine their practices.” Bensimon concluded with recommendations to engage practitioners in the remediation of their own practices that disadvantage Latinos.

For her full testimony, visit: <http://tinyurl.com/dyl3lu6>.

Scan this code with your smart phone to read her op-ed on the topic online in The Huffington Post.



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**Center for Outcomes
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