

University of California, Irvine

School of Education

Ph.D. in Education

## 2015 Poster Presentations

featuring

First Year Student Research

in

Learning, Cognition, and Development (LCD)

Educational Policy and Social Context (EPSC)

Language, Literacy, and Technology (LLT)

September 25, 2015

11:00 am - 1:00 pm

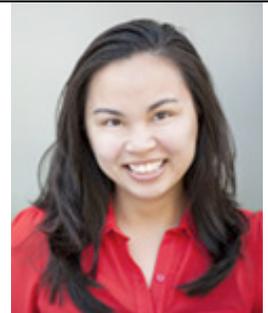
Education Building 3200

# 2015 Ph.D. in Education Poster Presentations

UC Irvine School of Education 3200

September 25, 2015  
11:00 am – 1:00 pm

## 2015 Poster Abstracts

	<p><i>Title:</i> Moving From a Novice to an Experienced Writer: Critical Moments of Transformation in the Case Study of Leo</p> <p><i>Abstract:</i> This case study, situated within a larger intervention conducted by the UCI Pathway Project, explores how both individual agency and the practices within the classroom community influenced a single student, Leo, in his transformation to becoming a writer. Five characteristics of experienced writers, cited within writing theory and research, were used to create a framework from which to track Leo's moves and positioning. The study included 75+ hours of observational field notes, essay pre and post-tests, writing samples, and interviews. Three central themes, Focusing on Growth Over Time, Receiving Positive Feedback, and Reflecting on Progress, emerged from the data as critical components cultivating Leo's transformation into becoming a writer.</p> <p><i>Poster Presentation Advisor:</i> Carol Booth Olson</p>
	<p><i>Title:</i> Academic Efficacy and Math Achievement: The Role of English Language Proficiency Designation</p> <p><i>Abstract:</i> This study examines the association between academic efficacy and math achievement and whether it is moderated by English language proficiency designation. The analysis sample, drawn from Teachers Assisting Students to Excel in Learning Mathematics project data, consists of 3,233 7th and 8th grade students in a large, urban Southern California school, including 51% ELLs and 74% low-SES students. Results from OLS regressions indicate that students with higher efficacy had higher math score gains. However, no interaction is found between language proficiency and efficacy, suggesting that different levels of language proficiency did not influence efficacy. Future studies with different samples/cohorts, testing periods, and Smarter Balanced test scores may clarify whether these findings reflect test-related features or more generalizable patterns of development.</p> <p><i>Poster Presentation Advisor:</i> Penelope Collins</p>



Masha Jones  
LLT & LCD

*Title:* Study Strategies to Enhance Learning

*Abstract:* Research in cognitive and educational psychology has demonstrated that popular study techniques such as highlighting and rereading are largely ineffective. Furthermore, students are typically inaccurate in their estimations of how well they have mastered material and how efficient their study methods are. Thus, it is important to develop and teach instructional techniques that effectively support student learning. In our study, undergraduates were encouraged to write their own multiple choice quiz questions. Our findings show that writing such questions supports performance on multiple choice tests but not on essay tests. This suggests that writing one's own quiz questions is an effective task-specific strategy for improving one's grade, but that the benefits of this strategy do not necessarily extend to new contexts.

*Poster Presentation Advisor:* Susanne Jaeggi



Connie Kang  
EPSC

*Title:* The Role of Forgetting in the Fadeout of the Effect of an Early Mathematics Intervention

*Abstract:* Previous studies have usually described the fadeout of academic intervention effects as a process of the control group "catching up" to the treatment group due to the treatment group learning at a slower trajectory than the control group. While we agree with this premise, it does not rule out the possibility that the fadeout effect can also be explained by a treatment-control difference in the forgetting of mathematics knowledge. Using OLS probability regression analysis, we found that while forgetting is not the primary contributor of the fadeout of intervention impacts, it is a significant contributor and the magnitude of this treatment-control difference in forgetting accounts for about 22%-27% of the size of the fadeout effect of an early mathematics intervention.

*Poster Presentation Advisor:* Greg Duncan



Tarana Khan  
LCD

*Title:* Math Growth Mindset in Adolescents: Is the Key to Success Effort or Talent?

*Abstract:* Math motivational beliefs decline precipitously during early adolescence (Watt, 2004). The current study explores the relationship between growth mindsets and math academic outcomes during early adolescence. Based on Dweck's theory, I hypothesized a growth mindset vs. a fixed mindset would protect students from declines in math outcomes. Using the Michigan Study of Adolescent Life Transitions (MSALT), I used cluster analysis to identify six profiles of students with varying levels of growth and fixed mindsets by categorizing students' attributions for success and failure in math. There were 3,152 students in this study. These student profiles differed in their math academic beliefs and achievement. Results also indicated that the mindset profiles depict more complex relationships of attributions and success.

*Poster Presentation Advisor:* Jacquelynne Eccles



Hansol Lee

LLT

*Title:* The Effects of Concordance-Based Electronic Glosses on L2 Vocabulary Learning

*Abstract:* This study investigates the effects of two different vocabulary learning conditions in digital reading environments equipped with electronic textual glossing. The first condition presents the concordance lines of a target lexical item, thereby making learners infer its meaning by reading these sentences. The second condition additionally offers the definition of a target lexical item after learners consult the concordance lines, thus enabling learners to confirm their meaning inference. Overall, the findings showed that the second condition resulted in higher vocabulary gains than both the first condition and the control condition. Yet, a closer look at the complex and unexpected learner interactions showed that each target lexical item may require different treatments for it to be recalled most efficiently and effectively.

*Poster Presentation Advisor:* Mark Warschauer



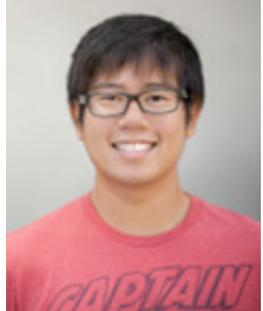
Qiujie Li

LCD

*Title:* Video Engagement is Predictive of Quiz Achievement in a Pre-Calculus MOOC

*Abstract:* Studies found that learners in Massive Open Online Courses (MOOCs) spent most of their time watching videos and only around 5% of them actually participated in online discussion. Previous studies about video engagement in MOOCs have mainly focused on learners' behaviors; however, the relationship between video engagement and learning outcomes still remains unclear. This study addressed the following question: is higher weekly video engagement associated with higher weekly quiz achievement in MOOCs? Using data for 10,766 learners from one Coursera MOOC, this study found that distinct video number played an important role only in predicting total quiz score not average quiz score and all the video interaction events, especially pausing and rate changing, played an important role in predicting learners' average quiz score.

*Poster Presentation Advisor:* Mark Warschauer



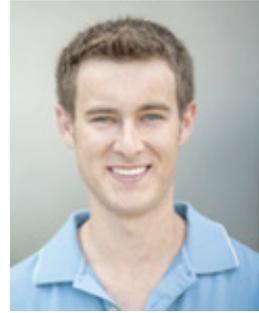
David Liu

LCD

*Title:* Argumentation and Explanation when Participating in an After School Citizen Science Program

*Abstract:* Despite the increasing attention to afterschool science programs, little is known about the conditions under which children likely engage in meaningful scientific practices, such as argumentation and scientific explanation in those settings. This analysis draws on 4 hours of video data collected of elementary-aged children ( $n = 4$ ) during a 14-day after-school science program. Findings suggest students rarely engaged in argumentation and evidence-based explanation on their own, but did so when explicitly prompted to account for either observation from experiment or data collected for themselves in relation to big science ideas. In such instances, students drew extensively on everyday experiences to support their ideas but are limited in expanding their thinking. Implications for designing afterschool science programs are discussed.

*Poster Presentation Advisors:* Hosun Kang and Tesha Sengupta-Irving



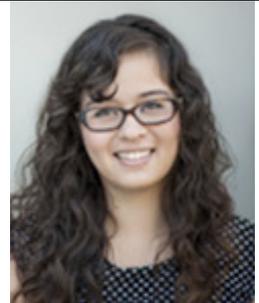
Peter McPartlan

LCD

*Title:* The Links Between Perceived Competition in Math Classrooms and Academic Identity in Adolescents

*Abstract:* This study examined the relationship between early adolescents' perceptions of competition in their math classrooms and the importance of math to those students' academic identities. I hypothesized that there would be a somewhat negative effect of perceived competition on math importance, but that this effect would be moderated by relative math performance. Using longitudinal data from the Michigan Study for Adolescent Life Transitions (MSALT), data from 7th grade students showed that higher perceptions of competition are generally associated with lower ratings of math importance ( $\beta = -0.10$ ). This effect was found to be slightly, though significantly mediated by students' frequency of ability comparisons. However, the interaction of these variables with relative performance level was insignificant.

*Poster Presentation Advisor:* Jacquelynne Eccles



Wendy Ochoa

LLT

*Title:* Using Baby Books to Decrease the Depressive Symptoms and Stress of First-Time Mothers

*Abstract:* Maternal depression and stress are associated with detriments in child development, including adjustment issues (Lee, Gopalan, Harrington, 2014; Lovejoy, Graczyk, O'Hare, & Neuman, 2000). These associations are stronger during early childhood (Singer et al., 1999). Using a randomized three-group design, this study tests whether embedding education information about parenting and child development into baby books could decrease low-income women's ( $n=167$ ) depressive symptoms and stress. Hierarchical linear models reveal that although depressive symptoms and parenting stress decreased for all mothers overtime, the mothers who received the educational intervention shed their stress and depressive symptoms at a faster rate than mothers in the comparison (non-educational books) and control (no-books) groups.

*Poster Presentation Advisor:* Stephanie Reich



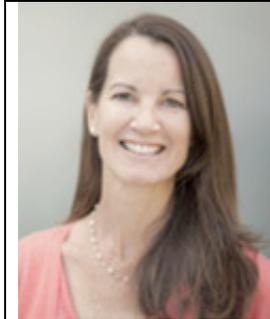
Sabrina Solanki

EPSC

*Title:* College Majors: Their Role in the STEM Pipeline

*Abstract:* Increasing the number of graduates prepared for a STEM occupation is a key component of America's national agenda. Retaining more students in STEM fields is one way to achieve this goal. To better understand STEM retention, this study explores patterns of persistence among demographic subgroups--and across subfields--as students progress through college and into careers. Findings show that females are less likely than males to enter a STEM major and progress to a STEM occupation. When compared to White students, underrepresented minority students have similar odds of receiving a STEM degree but lower odds of having a STEM occupation. Pertaining to subfields, engineering shows the clearest pattern with the highest rates of persistence to graduation and to STEM employment.

*Poster Presentation Advisor:* George Farkas



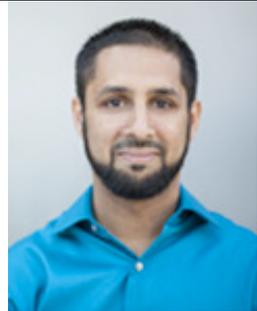
Karen Taylor

LLT

*Title:* Argumentation in 6th Grade Persuasive Writing: A Cross-Topic Descriptive Study

*Abstract:* The K-12 Common Core State Standards emphasize cultivation of advanced literacy skills such as written argumentation (CCSSI, 2010). However, there is not a clear articulation of the nature of reasoning or how the writing standards might be achieved (Kuhn & Crowell, 2011). This study examines argumentation in 158 persuasive essays written by sixth-grade students. Essays were divided into idea units and coded by argument type. Analyses revealed that students' production of complex arguments differed according to the essay topic type. Analysis of adolescents' written argumentation contributes to research that identifies and measures students' complex reasoning in their academic writing. This study also informs curriculum developers, policy makers, and educators concerned with written argumentation.

*Poster Presentation Advisor:* Joshua Lawrence



Osman Umarji

LCD

*Title:* Is it Wise to Target Utility-Value in Motivational Interventions? An Analysis of Subjective Task Values in Predicting High School Math Intentions

*Abstract:* What factors explain student intentions for taking math classes in high school? Expectancy-value theory states that students make choices depending on their expectations for success in a particular task and the amount of value they attach to it. Interventions have recently focused on increasing utility value in students on account of its malleability and association with choice. However, is it wise to target utility value instead of other expectancy-value components? In this study, the relationship between task values and expectancies on middle school students' future math intentions reveals the importance of task values, while additionally highlighting significant sex differences of task value components. Utility-value interventions are justified in light of the findings.

*Poster Presentation Advisor:* Jacquelynne Eccles



Winnie Yu

EPSC

*Title:* Public School Pre-K vs. Community-Based Pre-K: Variation in Associations with Academic Achievement

*Abstract:* There are significant structural quality differences between public school pre-K programs and those located in other community settings. One structural feature that policy can regulate is whether state-funded pre-K programs should be under the auspices of public schools. This study examines whether pre-K programs located in public schools are associated with greater gains in children's academic achievement, compared with programs that are community-based. Furthermore, I examine whether these associations vary depending on children's prior skill levels. Results suggest that associations with academic gains between pre-K programs appear to be marginal or insignificant, with the exception that children with the lowest prior math skills make significantly greater gains in math when they attend pre-K in a public school.

*Poster Presentation Advisor:* George Farkas



Doron Zinger

LCD

*Title:* Professional Development and Elementary Teacher Enactment of Inquiry-Based Science

*Abstract:* Inquiry is central to science instruction, and discourse is key to scientific inquiry. In elementary grades, inquiry science instruction is especially challenging. Professional development (PD), however, has shown mixed results in supporting teacher scientific inquiry development. This study examines the relationship between inquiry lessons provided to teachers in a summer PD workshop and the classroom enactment of these lessons. Data include field notes of classroom observations, teacher surveys and interviews, and videos from the PD. Analysis revealed that teachers enacted limited inquiry discourse practices in classrooms, after being provided with few opportunities to learn to teach the lessons through PD. Findings suggest that, beyond surveys and interviews, classroom observations are needed to inform the design and improvement of PD.

*Poster Presentation Advisor:* Elizabeth van Es

