AERA SIG
Studying and Self-Regulated Learning

2026 Spring Newsletter

Previewing AERA 2026

Editors
Allyson Pitzel
Lauren Cabrera

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If you are looking for organizations to donate to this year, consider our SSRL SIG. In addition to basic operating costs, we use funds to support our three awards and the Graduate Student Mentoring Program. With your help, we can continue to support initiatives like these and possibly expand them in the future. If you are interested in making a charitable donation to our SSRL SIG, follow these three steps:

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Letter From the Chairs

Michelle Taub & Aloysius Anyichie

University of Central Florida & Brandon University

Michelle Taub

Aloysius Anyichie

Dear Members of the SSRL SIG,

We are excited to introduce the Spring 2026 newsletter showcasing the upcoming 2026 annual meeting. This newsletter provides an overview of the SSRL SIG accepted sessions, and features some of the papers and posters that will be presented at the conference. This year, our SIG will host 4 paper, 2 poster, and 2 symposium sessions, along with our SIG's business meeting. We will also co-host a Memorial Session with Division C and the Motivation SIG that honors the legacy of Dr. Barry Zimmerman who passed away last year. This session is formatted as a structured roundtable with student presenters and 1 facilitator at each table who are all previous recipients of the SIG's Barry J. Zimmerman Award for Outstanding Contributions. Looking forward to attending these sessions that highlight the exceptional research conducted by members of our SIG!

As we plan for the upcoming annual meeting, we wanted to highlight some of the events that happened this semester and those that will take place during the conference:

1. The SSRL SIG Graduate Student Committee had their Spring webinar titled, *First Time at AERA? What to Know Before You Go*, on March 27th and it was a great success! Thank you all who attended!
2. The SIG's Graduate Student Mentoring Program has recruited students and faculty who are going to meet at the conference. Please reach out if you would like more information!

This year, our SIG introduced the SSRL SIG Student Travel Award, a new initiative to provide student SIG members an opportunity to receive funds towards travel to the 2026 annual meeting. Congratulations to **Xue Wang** for being our 2026 SSRL SIG Student Travel Award winner! We will be announcing other award winners at the business meeting to be held on Thursday, April 9, at 6:15 pm PDT.

We want to take a moment to recognize a prominent member of our SIG who sadly passed away in late January. Dr. Pamela Murphy was an active member of our SIG and was loved by all. We will deeply miss her.

Wishing everyone a great rest of the Spring semester. Thank you all for your inspiring work and continued support of our SIG. Hope to see you in Los Angeles!

Michelle & Aloy

Letter From the Editors

Allyson Pitzel & Lauren Cabrera

University of Alabama & University of Michigan

Allyson Pitzel

Lauren Cabrera

Dear Members of the SSRL SIG,

It has been our pleasure to bring you these newsletters over the past year. In this issue, we're thrilled to highlight the Studying and Self-Regulated Learning SIG sessions!

Presenters from around the world will be joining us at AERA, and the sessions will cover a variety of topics. Presentations will emphasize the role of self-regulated learning for a variety of age ranges (e.g., elementary-aged students and college students). In addition, presenters will discuss a range of methodological approaches and data sources (e.g., self-report surveys and trace data). Finally, as usual, we have a strong

emphasis on presentations that emphasize methods to support students' engagement in self-regulated learning.

Please note that Dr. Timothy Cleary will be the keynote speaker at our business meeting on Thursday night!

We are looking forward to seeing you in Los Angeles,

Allyson & Lauren

SSRL SIG AERA Schedule

Wednesday, April 8th

Phase-Specific Effects of AI in Self-Regulated Learning: A Meta-Analysis of a Decade of Interventions

Virtual Posters Exhibit Hall, Virtual Poster Hall

Motivation, Belonging, and Help-Seeking in Academic Contexts

9:45 to 11:15am PDT, Westin Bonaventure, Floor: Lobby Level, Los Feliz

Promoting Cognitive and Contextual Agency Through Scalable Interventions for Self-Regulated Learning and Adaptive Performance

1:45 to 3:15pm PDT, Westin Bonaventure, Floor: Level 2, Mt. Washington

Motivation, Emotion, and Self-Regulation: Connecting Student Learning and Teacher Practice

3:45 to 5:15pm PDT, Los Angeles Convention Center, Floor: Level Two, Poster Hall - Exhibit Hall A

Thursday, April 9th

Intervening for Impact: Mindsets, Executive Function, and Self-Regulation from Early Childhood to College

9:45 to 11:15am PDT, Westin Bonaventure, Floor: Level 3, Avalon

Assessing and Supporting Self-Regulated Learning Across Learning Contexts

2:15 to 3:45pm PDT, Los Angeles Convention Center, Floor: Level Two, Poster Hall - Exhibit Hall A

Modeling and Supporting Self-Regulated and Metacognitive Learning

4:15 to 5:45pm PDT, Westin Bonaventure, Floor: Lobby Level, Santa Barbara B

SIG Studying and Self-Regulated Learning Keynote and Business Meeting

6:15 to 7:15pm PDT, Westin Bonaventure, Floor: Level 3, Santa Monica B

Friday, April 10th

Reducing Psychological Barriers to Effective Self-Regulated Learning in STEM

9:45 to 11:15am PDT, Westin Bonaventure, Floor: Level 2, Mt. Washington

Saturday, April 11th

Unpacking Self-Regulated Learning: Cognitive, Motivational, and Methodological Insights Across Developmental and Disciplinary Contexts

7:45 to 9:15am PDT, Westin Bonaventure, Floor: Level 3, Avalon

Honoring the Legacy of Dr. Barry J. Zimmerman, a Co-Sponsored AERA Session from Division C, Motivation Special Interest Group, and Studying and Self-Regulated Learning Special Interest Group

11:45am to 1:15pm PDT, Westin Bonaventure, Floor: Level 3, Hollywood Ballroom

Featured Presentations and Posters

Validating 'E' in STEM: How Engineering Fosters Self-Regulation and 21C Skills in Korean High Schools

Woongbin Park, Purdue University; Hyeree Cho, Purdue University; Huiy Lim, Seoul Metropolitan Office of Education; Yunjin Lim, Chinju National University of Education; Hyunuk Park, Purdue University; Jiwon Kim, Purdue University

Woongbin Park

Hyeree Cho

Huiy Lim

Yunjin Lim

Hyunuk Park

Jiwon Kim

We began this work with a shared realization within our interdisciplinary research team, which brings together scholars from STEM education and educational psychology: project/problem-based learning (PBL) and self-regulated learning (SRL) are deeply aligned in their emphasis on student agency (English & Kitsantas, 2013). From this perspective, we became interested in how students' engagement in PBL-centered technology/engineering (TE) and information technology (IT) courses might contribute to students' SRL and 21st Century skills (21SC). Beyond our research interests, this question reflects broader educational priorities.

Across the globe, TE and IT courses are increasingly promoted as pathways for preparing students for a rapidly changing workforce. Beyond technical knowledge, these courses are also expected to foster broader learning capacities, such SRL and 21CS, that help students navigate complex, open-ended problems. Accordingly, we asked a simple question: Do students who choose engineering- or IT-focused electives show greater growth in how they regulate their own learning?

Our work is situated within Korea's recently revised national high school curriculum, which emphasizes student choice, PBL, and future competencies. Under this system, students can voluntarily enroll in newly developed TE and IT electives, many of which involve design challenges, collaboration, and iterative problem solving. These features mirror key SRL processes—planning, monitoring progress, and reflecting on outcomes—making engineering classrooms a promising context for examining SRL in practice.

Using a quasi-experimental pre–post design, we analyzed data from 906 students across 12 high schools who completed matched surveys at the beginning and end of a semester. Students self-selected into TE and/or IT electives, and changes were examined in four dimensions (creativity, converging STEM, collaboration, and

communication) of Korean 21CS (Choi et al., 2013) and two dimensions (metacognitive and cognitive strategies) of SRL (Choi & Son, 1993). Learning gains were compared between TE takers and non-takers, IT takers and non-takers, and students who enrolled in at least one TE or IT elective versus those who did not.

Clear domain-specific patterns emerged. Students who enrolled in TE electives showed greater gains in creativity, converging STEM, collaboration, and metacognitive strategies than their peers. These findings suggest that PBL and design-based learning environments may support integrative thinking and metacognitive regulation, such as planning and monitoring. In contrast, participation in IT electives was not associated with significant gains across these outcomes, potentially reflecting fewer opportunities for iterative regulation. When participation in TE or IT electives was considered together, modest gains—particularly in creativity, converging STEM, and metacognitive strategies—were observed, indicating selective benefits of elective participation.

Several limitations warrant consideration. Because students self-selected into courses, course effects cannot be fully separated from pre-existing differences. In addition, school- and teacher-level variation was not modeled, and course participation was treated as a binary indicator, limiting insight into cumulative engagement.

Building on these findings, our team is extending the analyses using mixed-effects models to better capture growth over time and account for school-level contexts. These efforts aim to deepen understanding of how student choice in TE and IT coursework relates to the development of SRL and 21CS.

References:

- Choi, J., & Son, J. (1993). The development of Korean students' motivated strategies for learning scale. *Student Life Research Institute, 21*, 89–119.
- English, M. C., & Kitsantas, A. (2013). Supporting student self-regulated learning in problem- and project-based learning. *Interdisciplinary Journal of Problem-Based Learning, 7*(2), 127–150.
- Choi, Y., Noh, J., Lim, Y., Lee, D., Lee, E., & Noh, J. (2013). The development of the STEAM literacy measurement instrument for elementary, junior-high, and high school students. *Journal of the Korea Technology Education Association, 13*(2), 177–198.

Dynamic Listening To Music Boosts Students' Homework, Enjoyment, Focus, And Effort

Siena Adwere-Boamah, Knox College; Daeun Kim, Knox College; Mai Hasegawar, Knox College; Evan Morris, Knox College; Sasha Jeffries, Knox College; Leah Binzel, Knox College; Gabriela Orduña-Aparicio, Knox College; Aaron Shinefield, Knox College; Drishti Shrestha, Knox College; Emily R. Lieder, The University of Tübingen, Knox College

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Emily R. Lieder

Students employ various strategies in order to increase their motivation to complete homework and study (Wolters, 2003). Goal-based strategies aim to support motivation by increasing the incentive for completing the task. Alternatively, experience-based strategies adjust the process by which a task is completed to make it more enjoyable (Sansone and Thoman, 2005). Sansone and Thoman (2005) argued that experience-based strategies could better support sustained motivation, because goal-based strategies did not address internal resistance to a task, but simply increased the external pressure to complete it (Sansone and Thoman, 2005). Despite the potential advantages of the experience-based approach, a significant portion of previous studies have focused on goal-based strategies (Wolters, 2003).

A common experience-based strategy is listening to music while completing homework (Calderwood et al., 2014). One study found that approximately 60% of students reported using music to help them complete tasks such as homework (Calderwood et al., 2014). Music is known to affect mood, however despite this many previous studies have focused predominantly on negative aspects like distraction risk, rather than positive ones like mood regulation. The present study sought to examine the impact of listening to music on students' mood, focus, and effort while studying.

A sample of 160 undergraduate students were recruited from an American liberal arts institution. Participants completed two 45-minute study sessions, one with music and one without, as well as before and after questionnaires for each session. Focus was assessed using an adapted version of the Situational Interest Scale by Knogler and Colleagues (2015). Enjoyment, boredom, and anxiety were measured using adapted subscales from the Achievement Emotions Questionnaire Short Version (AEQ-S) by Bieleke and Colleagues (2021). Curiosity was measured using an adapted version of the Epistemic Curiosity Scale by Schmidt and Rotgans (2021). Effort was measured using an adapted version of the Effort subscale from the Intrinsic Motivation Inventory by McAuley, Duncan, & Tammen (1989).

We hypothesized that students would experience more positive emotions and fewer negative emotions relating to their task when listening to music. We also hypothesized that students would focus more while listening to music. Finally, we hypothesized that students would work harder on their tasks when listening to music. A repeated measures MANOVA revealed significant differences in emotion between the two conditions. Post-hoc tests revealed significant differences in the expected direction for all four emotions. Students reported more enjoyment and curiosity, less boredom, and lower anxiety while studying with music. Second, A paired sample t-test found that students were significantly more focused on their work while listening to music. Finally, A paired sample t-test revealed that students worked significantly harder when listening to music.

Our findings suggest that in real-world contexts, music can have a positive effect on

students' homework experience, potentially making it a useful tool for studying. Researchers and educators should more seriously consider music's potential value in motivating and engaging students. This does not mean students should always study with music, but it challenges the view that listening to music while studying is inherently negative.

References:

- Calderwood, C., Ackerman, P. L., & Conklin, E. M. (2014). What else do college students "do" while studying? An investigation of multitasking. *Computers & Education*, *75,* 19–29. https://doi.org/10.1016/j.compedu.2014.02.004
- Sansone, C. & Thoman, D. B. (2005). Interest as the missing motivator in self-regulation. *European Psychologist, 10*, 175–186. https://doi.org/10.1027/1016-9040.10.3.175
- Wolters, C. A. (2003). Regulation of motivation: Evaluating an underemphasized aspect of self-regulated learning. *Educational Psychologist, 38*, 189–205. https://doi.org/10.1207/s15326985ep3804_1

Promoting Metacognitive Problem-Solving Among Non-Calculus-Ready First-Year Engineering Students

Jake Follmer, West Virginia University; Megan Hut, West Virginia University; Lizzie Santiago, West Virginia University

Jake Follmer

Megan Hut

Lizzie Santiago

Problem-solving has been identified as an important and under-studied career skill across a range of STEM domains (Cárcamo Mansilla et al., 2024). In this work, we examined a course-embedded intervention that combined framing and utility reflection activities with distributed metacognitive monitoring practice in a first-year engineering reasoning course. The intervention was designed to foster students' ability to monitor their problem-solving performance as they integrated mathematics in engineering reasoning. We implemented the intervention work with non-calculus-ready students, targeting a group of learners not well retained in engineering disciplines and whose pre-college experiences may challenge their persistence in STEM (Carver et al., 2017).

The 16-week intervention was based on integration of 1) instruction on principles of self-regulated learning, 2) sequenced reflection activities promoting adaptive framing of challenge in engineering coursework and utility-oriented connections to course material, and 3) distributed metacognitive monitoring practice (e.g., Gutierrez & Schraw, 2015). The study was conducted with 71 first-year, non-calculus-ready students enrolled in a fundamentals of engineering program. We analyzed students' performance and metacognitive monitoring accuracy during problem-solving at the end of the course and their grades obtained in common mathematics coursework at the end of the subsequent semester.

Using Bayesian analysis of covariance (controlling for students' pre-intervention engineering interest and mathematics self-efficacy beliefs, prior mathematics achievement, and prior metacognitive monitoring accuracy), students completing the intervention demonstrated higher scores on a course-based assessment of problem-solving

and were more accurate in their metacognitive monitoring during problem-solving. Bayes factor estimates indicated moderate effects of the intervention on these problem-solving and metacognitive monitoring outcomes, BF_{10}>3.00, d>0.50. Completion of the intervention was anecdotally associated with end-of-year mathematics achievement.

Through this work, we demonstrate the potential of a course-embedded metacognitive reflection intervention to improve problem-solving and metacognitive skills and, in turn, end-of-year achievement in engineering. Our findings support implications for the design of course interventions to promote knowledge and regulation of cognition in foundational engineering curricula more broadly, and in engineering problem-solving more specifically.

References:

- Cárcamo Mansilla, N., Aravena-Díaz, M. D., & Berres, S. (2024). Metacognitive strategies in mathematical modelling with groups of engineering students. In *Researching mathematical modelling education in disruptive times* (pp. 101-111). Springer Nature Switzerland.
- Carver, S. D., Van Sickle, J., Holcomb, J. P., Jackson, D. K., Resnick, A., Duffy, S. F., Sridhar, N., Marquard, A., & Quinn, C. M. (2017). Operation STEM: Increasing success and improving retention among mathematically underprepared students in STEM. *Journal of STEM Education: Innovations and Research*, *18*(3), 30-39.
- Gutierrez, A. P., & Schraw, G. (2015). Effects of strategy training and incentives on students' performance, confidence, and calibration. *The Journal of Experimental Education*, *83*(3), 386-404. https://doi.org/10.1080/00220973.2014.907230

The Different Metacognitive Effects of Peer-Generated Visual Feedback in Learning by Drawing

Xiyu Chen, East China Normal University; Zhe Wang, East China Normal University

Xiyu Chen

Zhe Wang

Drawing, a widely used strategy in the domain of learning and instruction, aligns with key principles from both the multimedia learning (Mayer, 2014) and generative learning theories (Fiorella & Mayer, 2015). These theories suggest that students tend to achieve better learning outcomes from scientific texts when the material is accompanied by relevant visuals or when learners actively transform incoming information into meaningful mental representations. However, existing research has predominantly focused on the impacts of expert-generated instructional visuals in learning by drawing, leaving critical research gaps in the study of peer-generated visual feedback. This study investigated the effects of comparing self-generated drawings with peer-generated visuals on students' learning and metacognitive accuracy.

A randomized experimental design was employed with 120 undergraduate and graduate students from a research-intensive university. Participants studied a scientific text describing the human circulatory system and created a corresponding drawing, followed by initial retrospective judgments of drawings. They were then randomly assigned to either a compare group, which compared their drawings with a peer-generated visual, or a control group, which restudied the text without visual comparison. Participants made new retrospective and prospective judgments regarding their drawings.

Next, they proceeded to the final drawing, recall and transfer tests without the original text. Repeated-measures analysis of variance and independent-samples t-tests revealed different metacognitive effects of peer-generated visual feedback. First, comparing self-generated drawings with peer-generated visual feedback impaired drawing metacognitive accuracy. Although both groups lowered their retrospective judgments after restudy, the compare group exhibited a significant shift from overconfidence to underconfidence, indicating increased self-doubt and disrupted calibration. However, peer comparison did not significantly influence prospective drawing judgments. In contrast, peer-generated visual feedback improved metamemory accuracy. The compare group made significantly more conservative and better-calibrated predictions of recall performance compared to the control group. Despite this metacognitive improvement, no significant differences were found between groups in actual learning outcomes, including drawing, recall, and transfer performance.

The results suggest that students may require more structured and diagnostic feedback that clearly distinguishes between aesthetic features and content accuracy in their drawings. This could be achieved by providing more explicit frameworks for modification and designing tasks that guide drawing revisions.

References:

- Mayer, R. E. (2014). The Cambridge handbook of multimedia learning (2nd ed.). Cambridge University Press.
- Fiorella, L., & Mayer, R. E. (2015). Learning as a generative activity: eight learning strategies that promote understanding. Cambridge University Press.

Keynote Speaker Address

The Promise and Challenge of School-Based SRL Assessment Practices: Guiding Questions and Solutions

Timothy J. Cleary, Rutgers, The State University of New Jersey

Presented During SSRL SIG Business Meeting

Timothy J. Cleary

Over the past several decades, assessments of self regulated learning (SRL) have progressed from static self report questionnaires to dynamic, context sensitive tools capable of capturing learners' strategic, motivational, and metacognitive processes in real time. This keynote will trace these major shifts, highlighting the movement from early aptitude focused measures to today's multidimensional assessment landscape shaped by technology enabled and AI supported formative practices.

A central emphasis of the talk is the application of SRL assessment in school settings, with particular attention to the experiences of educators and school psychologists. As these practitioners face increasing expectations to select, interpret, and apply SRL assessment data, many still report limited training and confidence in doing so. Emerging applied models now focus on building practitioners' competencies in measure selection, diagnostic interpretation, and the translation of SRL data into equitable instructional and intervention decisions.

The keynote will also introduce a novel, task specific SRL diagnostic interview for test preparation, designed to capture students' learning strategies, motivational beliefs, emotional responses, and reflections on common academic challenges. Collectively, these innovations signal a future in which SRL

assessment becomes more authentic, culturally responsive, and instructionally actionable, ultimately strengthening students' agency and academic success.

Additional Announcements

Message From the Graduate Student Committee

Dear Members of the SIG:

We were excited to host our recent webinar, *First Time at AERA: What to Know Before You Go*. This session was designed for anyone preparing to attend AERA for the first time, or anyone who wanted to strengthen their conference experience. Our panel brought together four amazing scholars who shared practical advice, personal insights, and strategies for making the most of your time at AERA:

- **Dr. Cristina Zepeda**, Assistant Professor, Vanderbilt University
- **Dr. Helenrose Fives**, Professor, Montclair State University
- **Willow Alston-Socha**, Ph.D. Candidate, North Carolina State University
- **Julia Choi**, Ph.D. Student, University of North Carolina at Chapel Hill

The conversation was facilitated by **Claire Consadine** (Ph.D. Student, Old Dominion University) and **Michael Berro** (Ph.D. Candidate, University of North Carolina at Chapel Hill). Thank you for coming with questions and being ready to learn about navigating sessions, networking, presenting, and finding your place within the AERA community.

This event was hosted by the SSRL SIG Graduate Student Committee. A huge thank you to our committee (Stephanie Greenquist-Marlett (co-chair), Vida School; Michael Berro, University of North Carolina-Chapel Hill; Bridget Daleiden, University of Nevada, Las Vegas; Willow Alston-Socha, NC State University; and Claire Consadine, Old Dominion University) for all of their hard work planning this event.

Sincerely,

Anna Brady

SSRL Graduate Student Committee Co-chair
Georgia Southern University

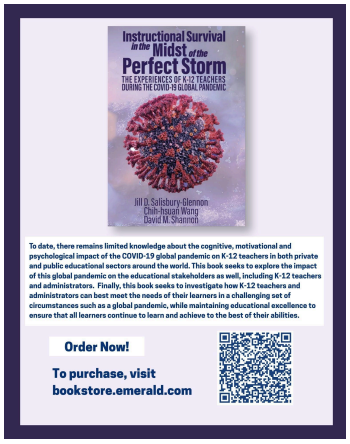
Honoring Dr. Pamela Murphy

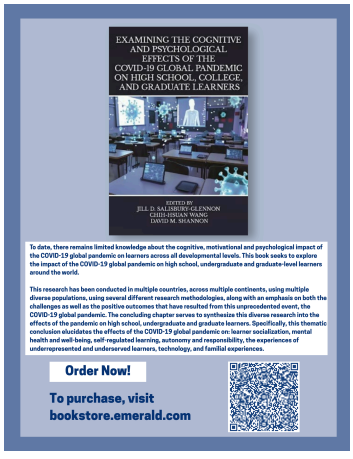
The SSRL SIG community would like to honor Dr. Pamela Murphy who recently passed away. Dr. Murphy had a huge influence on our SIG and was a true legend in the field. She will be deeply missed by our SIG community and her legacy will continue to live on through the lives that she impacted.

Book Announcement

Check out these two new books published by Jill Salisbury-Glennon and some of our SSRL SIG members!

- Examining the Cognitive and Psychological Effects of the COVID-19 Global Pandemic on High School, College and Graduate Learners
- Instructional Survival in the Midst of the Perfect Storm: The Experiences of K-12 Teachers During the COVID-19 Global Pandemic





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