AERA SIG

Studying and Self-Regulated Learning

2025 Spring Newsletter

Previewing AERA 2025

Editors

Allyson Pitzel

Christine Nardelli

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Letter From the Chairs

Divya Varier & Michelle Taub

George Mason University & University of Central Florida

Divya Varier

Michelle Taub

Dear SSRL SIG Members,

We are delighted to introduce our Spring 2025 newsletter showcasing the outstanding research being presented by our members at the upcoming annual conference. This issue highlights six innovative studies that advance our understanding of self-regulated learning across diverse educational contexts and methodologies. The SIG's AERA program includes 28 fabulous papers in different formats!

From exploring the dynamic nature of motivational regulation strategies to examining self-regulated learning processes in different instructional formats, our members continue to build upon Barry Zimmerman's groundbreaking legacy. The featured presentations investigate how students regulate their motivation throughout a semester, how they engage with video versus text-based instruction, the impact of adaptive feedback in educational technologies, patterns of academic help-seeking behaviors, and multidimensional approaches to college readiness profiling.

These contributions collectively demonstrate the vibrancy of our field and its commitment to understanding the complex processes of self-regulation across educational settings. The studies employ diverse methodological approaches—including intensive longitudinal data collection, think-aloud protocols, hierarchical linear modeling, latent class analysis, and person-centered methods—to capture the multifaceted nature of self-regulated learning. They offer valuable insights for educational practice, particularly in supporting students' development of effective self-regulatory skills in various learning environments.

We hope you will join us at these presentations to engage with cutting-edge research and connect with colleagues who share your passion for advancing self-regulated learning theory and practice. The conference schedule with specific presentation times and locations is included in this newsletter. We also invite you to our annual SIG business meeting on April 25th at 7:00 pm, where we will celebrate our members' achievements and discuss future directions for our community.

Looking forward to seeing you at the conference,

Divya & Michelle

Letter From the Editors

Allyson Pitzel & Christine Nardelli

University of Alabama & George Mason University

Allyson Pitzel

Christine Nardelli

Thank you for taking the time to read the Spring 2025 edition of the SSRL SIG Newsletter! As we are all eagerly anticipating the gathering of scholars, researchers, and practitioners at the 2025 American Education Research Association (AERA) Annual Meeting in Denver, we would like to take this time to highlight the theme "Research, Remedy, and Repair: Toward Just Education Renewal." Together, we can answer this call to action and critically examine the systemic inequities that persist in education and strive to explore innovative, research-driven solutions. We can accomplish this by engaging in critical dialogue, sharing new research, strengthening connections, and focusing on action-oriented solutions while we gather in person or virtually during this premier event. Let us continue to challenge ourselves to strive

for more just and equitable futures for all learners.

This is also a special time to honor the memory and legacy of Dr. Barry J. Zimmerman and his foundational contributions to the field of self-regulated learning. His insights have shaped our understanding of how learners achieve and take ownership of their education. Dr. Zimmerman's work has not only advanced academic theory, but it has also provided practical guidance for educators and students. His work continues to inspire and shape the field of education, and he will be remembered as we explore the latest developments in self-regulated learning.

We look forward to connecting with you at AERA and taking advantage of the exciting program planned. Please feel free to contact us with feedback or ideas for upcoming newsletters.

All the best,

Allyson and Christine
(aapitzel@ua.edu, cnardell@gmu.edu)

SSRL SIG AERA Schedule

Wednesday, April 23rd

Arabic Adaptation and Psychometric Properties of the Self-efficacy for Self-regulated Learning Scale (SESRLS)

April 23rd, 8:00 am to April 27th, 3:00 pm MDT
Virtual Posters Exhibit Hall, Virtual Poster Hall

https://tinyurl.com/28ku2amx

Ahlam Alghamdi, Imam Abdulrahman Bin Faisal University

Examining Self-Regulation in Online Micro-Credentials

April 23rd, 8:00 am to April 27th, 3:00 pm MDT
Virtual Posters Exhibit Hall, Virtual Poster Hall

https://tinyurl.com/279aprrj

Paula Marcelle, Indiana University

Thursday, April 24th

Using Self-Regulated Learning to Address Studying Challenges and Opportunities

1:45 - 3:15 pm MDT, The Colorado Convention Center, Floor: Exhibit Hall Level, Exhibit Hall F - Poster Session

https://tinyurl.com/2cj73nue

Undergraduate Student's Perceived Academic Challenges and Their Use of Strategies - Maria Amoros-Teijeiro, University of Victoria; Allyson Hadwin, University of Victoria; Ramin Rostampour, University of Victoria

Fostering Self-Regulated Learning Through Educational Technology: A Differentiated Perspective on the Role of Feedback - Mathias Mejeh, Zurich University of Teacher Education; Yvonne Hemmler, University of Mannheim

Friday, April 25th

Toward a Contextually Grounded and Sociocultural Understanding of Academic Help-Seeking: New Directions and Perspectives

8:00 – 9:30 am MDT, The Colorado Convention Center, Floor: Meeting Room Level, Room 711

https://tinyurl.com/22m7gr6s

Session Type: Symposium

Chairs: Alana Aiko Uilani Kennedy, Northern Arizona University; Carlton J. Fong, Texas State University

Academic Help-Seeking and Belonging in the Classroom: Experiences of Asian American and Latinx Undergraduates - Alana Aiko Uilani Kennedy, Northern Arizona University; Mabel Eunice Hernandex, University of Southern California

Developing a Measure of Help Seeking Climate: Links with Belonging Help-seeking Tendencies, and Campus Climate - Pedram Zarei, Texas State University; Carlton J. Fong, Texas State University

Academic Help-Seeking in a Cultural Context: The Roles of Individualism and

Collectivism - Amos Jeng, University of Illinois at Urbana-Champaign

Picking and Choosing Battles: Self-Regulatory Responses to Help-Seeking as a Black Latina Woman in Engineering - Destiny Williams-Dobosz, University of Illinois at Urbana-Champaign

Discussant: Teomara Rutherford, University of Delaware; Kara A. Makara, University of Glasgow

Contextual Factors in Self-Regulated Learning

3:20 - 4:50 pm MDT, The Colorado Convention Center, Floor: Ballroom Level, Four Seasons Ballroom 4

https://tinyurl.com/22bgn73e

Session Type: Roundtable Session

Chair: Anna C. Brady, Georgia Southern University

Cultural Consideration for Emotion Regulation in Multicultural Learning Environments - Hongwei Xie, McGill University; Lea Smit, McGill University; Nikki G. Lobczowski, McGill University

Examining Preservice Teachers' Perception and Engagement in Classroom That Integrated Relevance and Self-Regulated Learning Practices - Aloysius C. Anyichie, Brandon University

Mentorship and Time Management: A Synergistic Approach to Supporting Academic Achievement - Linlin Luo, Texas A&M University; Qiyue Zhang, Texas A&M University; Melissa Burt, Colorado State University; Sandra M. Clinton, University of North Carolina - Charlotte; Mica Estrada, University of California - San Francisco; Emily V. Fisher, Colorado State University; Milena Guajardo, Colorado State University; Natalia Maldonado, University of California - San Francisco; Megan Patterson, Texas A&M University; Ilana B. Pollack, Colorado State University; Sarah Schanz, Colorado College; Paul R. Hernandez, Texas A&M University

What is Co-regulated Learning? A Review and Synthesis of Divergent Theories - Piet Wesling, University at Albany - SUNY; Heidi L. Andrade, University at Albany - SUNY

Saturday, April 26th

Advancing Self-Regulated Learning in Higher Education: Profiliens, Strategies, and Interventions Across Diverse Learning Contexts

8:00 - 9:30 am MDT, The Colorado Convention Center, Floor: Meeting Room Level, Room 712

https://tinyurl.com/25fk65eb

Session Type: Paper Session

Chairs: Dalila Dragnic-Cindric, Digital Promise

Dynamic Interplay of Motivational Regulation Strategies and Achievement: Insights From Intensive Longitudinal Data

- Yeo-eun Kim, Florida State University; Patrick N. Beymer, University of Cincinnati; Elise C. Allen, University of Northern Colorado; Emily Quinn Rosenzweig, Teachers College, Columbia University

Examining How Undergraduate Students' Self-Regulated Learning Unfolders During Video-Based Versus Text-Based Instruction - Shelbi Laura Kuhlmann, University of Memphis; C. Noelle Patterson, University of Memphis; Haley Siegfried, University of Memphis

Identifying and Distinguishing College Readiness Profiles Across Academic Outcomes: The Importance of Integrating Academic Skills and Self-Regulated Learning - Timothy J. Cleary, Rutgers University; Jason Bryer, City University of New York; Elie Chingyen Yu, University at Albany - SUNY

Investigating the Effect of Self-Regulated Learning Prompts on Undergraduate Physics Students' Self-Efficacy, Metacognition, and Learning - Louis Leblond, Pennsylvania State University; Ying Wang, FHI 360; Rayne A. Sperling, Pennsylvania State University

Discussant: Hefer Bembenutty, Queens College - CUNY

Motivating Effective Strategy Use Through Interventions

9:50 - 11:20 am MDT, The Colorado Convention Center, Floor: Meeting Room Level, Room 712

https://tinyurl.com/289h3fqu

Session Type: Symposium

Chairs: Patricia Chen, University of Texas at Austin; Matthew L. Bernacki, University of North Carolina - Chapel Hill

Multimedia Self-Regulated Learning Training Designs Can Boost Intervention Fidelity and Train Students' Academic Performance in Biology - Matthew L. Bernacki, University of North Carolina - Chapel Hill; Leiming Ding, University of North Carolina - Chapel; Sirui Ren, University of North Carolina - Chapel; Erin Windsor, College of Southern Nevada; Nancy Webb, College of Southern Nevada; Johnathan C. Hilpert, University of Nevada - Las Vegas

How Students' Knowledge on Self-regulation and Their Misconceptions can be Changed by a Model-based Instructional Video

- Charlotte Dignath, Goethe University Frankfurt; Antonia Fisher, Technische Universität Dortmund

Customized Peer-Modeled Mindset Interventions Promote Persistence in Undergraduate Science Courses - Cameron Hecht, University of Rochester; Nirel Jones Mitchell, University of California - Los Angeles; Anita Latham, University of Texas at Austin; Zachariah A. Page, University of Texas at Austin; David Yeager, University of Texas at Austin

A Strategic Mindset Intervention Heterogeneously Promotes Effective Learning Strategy Use and Achievement - Patricia Chen, University of Texas at Austin; Qiao Kang Teo, National University of Singapore; Xing Yuan Foo, National University of Singapore; Yifan Jiang, National University of Singapore; Lining Sun, National University of Singapore; Xiang Ling Ong, National University of Singapore; Xi Hui Chua, National University of Singapore; Delphinna Neo, National University of Singapore; Don Pereira, National University of Singapore; Niveditha Iyer, National University of Singapore; Desmond Ong, University of Texas at Austin

Discussant: Andrew C. Butler, Washington University in St Louis

Emerging Perspectives on Self-Regulated Learning

5:10 - 6:40 pm MDT, The Colorado Convention Center, Floor: Ballroom Level, Four Seasons Ballroom 2-3

https://tinyurl.com/2xnszgup

Session Type: Roundtable Session

Chairs: Dalila Dragnic-Cindric, Digital Promise

Development and Validation of a GenAI-Based Self-Regulated Learning Questionnaire for Second Language Education: Examining the Mediating Role of L2 Self-Efficacy - Lin Liu, The University of Hong Kong; Aiqing Yu, Southwest Jiaotong University; Guanyao Xu, Xihua University

Does Metacognitive Prompting Support Self-Regulated and Multiple-Text Learning?

– Michele Dornisch, Long Island University - C.W. Post Campus; Taylor Marie Young, Pennsylvania State University; Rayne A. Sperling, Pennsylvania State University

Effects of Learning Environment, Self-Efficacy, and Mindset on Engineering Students' Learning Strategies

- Qingmin Shi, University of Nevada - Las Vegas; Chengcheng Li, The Open University of China; Tiberio Garza, Florida International University; Shaoan Zhang, University of Nevada - Las Vegas; Yingtao Jiang, University of Nevada - Las Vegas

Pre-Service Teachers' Value Regulation during Field Experiences

- Hyeree Cho, Purdue University; Toni Kempler Rogat, Purdue University

Sunday, April 27th

Self-Regulated Learning Strategies and Academic Performance (Table 7)

1:30 - 3:00 pm MDT, The Colorado Convention Center, Floor: Ballroom Level, Four Seasons Ballroom 2-3

https://tinyurl.com/24yaz2qf

Session Type: Roundtable Session

Chairs: Taylor W. Acee, Texas State University

Birds of a Feather Self-Regulate Together - Linlin Luo, Texas A&M University; Joseph C. Tise, Institute for Advancing Computing Education; Megan Patterson, Texas A&M University; Daniel Alge, Texas A&M University; Paul R. Hernandez, Texas A&M University

Identifying College Students' Academic Help-Seeking Groups and Their Relationships with Antecedents and Academic Performance -

- Linyu Yu, University of North Carolina - Chapel Hill; Sirui Ren, University of North Carolina - Chapel Hill; Hanall Sung, University of Tennessee; Robert D. Plumley, University of North Carolina - Chapel Hill; Alaina Garland, University of North Carolina - Chapel Hill; Jeff A. Greene, University of North Carolina - Chapel Hill; Carlton J. Fong, Texas State University; Peter F. Halpin, University of North Carolina - Chapel Hill; Matthew L. Bernacki, University of North Carolina - Chapel Hill

Strength of Commitment to Self-Regulated Learning and First-Year College Outcomes - Chingyen Yu, University at Albany - SUNY; Heidi L. Andrade, University at Albany - SUNY; David W. Franklin, Diagnostic Assessment and Achievement of College Skills (DAACS); Angela M. Lui, CUNY - School of Professional Studies; Jason Bryer, City University of New York

Testing the Agenda-Based Regulation Model with Worked Examples and Problem-solving - Xinran Wang, Vanderbilt University; Rebecca Adler, Vanderbilt University; Cristina D. Zepeda, Vanderbilt University; Bethany Rittle-Johnson, Vanderbilt University

Featured Presentations and Posters

Identifying and Distinguishing College Readiness Profiles Across Academic Outcomes: The Importance of Integrating Academic Skills and Self-Regulated Learning

Timothy J. Cleary, Rutgers, The State University of New Jersey; Elie ChingYen Yu, Albany University; Jason Bryer, City University of New York

Session Name: Advancing Self-Regulated Learning in Higher Education: Profliens, Strategies, and Interventions Across Diverse Learning Contexts

Timothy J. Cleary

Elie ChingYen Yu

Jason Bryer

Our research offers an alternative approach to college readiness assessments and interpretation. Historically, college readiness assessments (e.g., SAT, placement exams) have focused on students' academic skills (e.g., reading, mathematics) but have typically ignored the multidimensional aspects of this construct (e.g., self-regulated learning [SRL]). Additionally, researchers have emphasized research approaches dedicated to identifying the most important predictors of college success (variable-centered) rather than how such

predictors intersect college within individuals (person-centered).

In this study, we addressed these two gaps. Specifically, we: (1) leveraged data about newly enrolled students' academic (i.e., reading, mathematics, and writing) and SRL skills (i.e., motivation, strategies use, metacognition) from the Diagnostic Assessment and Achievement of College Success (DAACS, Bryer et al., 2024); (2) used a person-centered approach to examine how the academic and SRL skills intersect to form distinct college readiness profiles; and (3) examined differences in academic engagement across the profiles (i.e., DAACS feedback page views, on-time progress). Data was gathered from a large sample (N = 6,376) of newly enrolled adult learners at an online college.

Analysis and Results

Using K-means cluster analysis, we identified five college readiness profiles (Figure 1, left side): two adaptive (*High SRL-Average Academic* and *Average SRL-High Academic)*, one maladaptive (*Low Motivation-Low Academic*), and two mixed (*Average SRL-Mixed Academic* and *Low SRL-Average Academic*). We validated this solution using a two-step process involving split-sample comparisons and predictive modeling (Ullmann et al., 2022).

Among those profiles, we observed greater variability in skills *between* the two college readiness domains (i.e., academic vs SRL) than among skills *within* each domain (e.g., metacognition, strategy, and motivation skills within the SRL domain). Thus, while the academic and SRL skills within most profiles tended to vary (e.g., high vs average), domain-specific skills were relatively consistent (e.g., all low SRL skills).

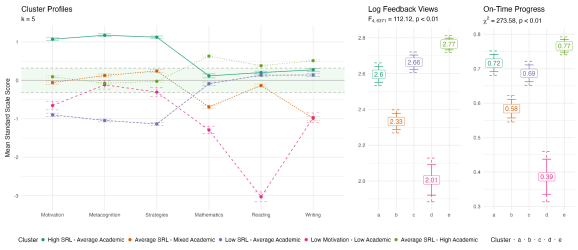
We also observed statistically significant differences across profiles. Profiles exhibiting consistently average or high academic skills (*High SRL-Average Academic*; *Average SRL-High Academic*, and *Low SRL-Average Academic*) were more engaged than those with weaker academics, regardless of SRL skills. Importantly, the profile exhibiting *above-average* skills in all three areas (*Average SRL-High Academic*) displayed significantly higher engagement than all other profiles. Although the role of SRL skills were less clear, there was some evidence to speculate that SRL skills may be most helpful for explaining engagement outcomes for students with weak academic skills.

Significance and Implications

This study addresses critical gaps in the SRL, person-centered, and college readiness literatures and expands our understanding regarding how academic and non-academic skills concurrently operate within entry-level adult college learners. From a practical perspective, our study underscored the premise that college advisors and support personnel cannot simply rely on data about core academic skills to understand the needs of newly enrolled students at their institutions, nor can they assume that entry-level college students will possess the necessary academic or SRL skills to function optimally. Looking forward, it is important to explore how advising and support services can use college readiness profiles to identify students at greatest academic risk and to provide multi-tiered interventions to concurrently address weaknesses across motivation, strategy use, and foundational academic skills.

Figure 1

Illustration of Five-Cluster Solution and Average Score on Dependent Measures by Cluster



Note. The confidence intervals displays are based on using ± 1 standard error.

References:
Bryer, J., Andrade, H., Cleary, T., Lui, A. M., Franklin, D., & Akhmedjanova, D. (in press). The effects and predictive power of the diagnostic assessment and achievement of college success (DAACS) intervention on academic success indicators. *Educational Technology and Research Development.*

Ullmann, T., Hennig, C., & Boulesteix, A. L. (2022). Validation of cluster analysis results on validation data: A systematic framework. *Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery, 12*(3), e1444. https://doi.org/10.1002/widm.1444

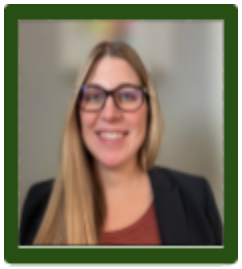
Dynamic Interplay of Motivational Regulation Strategies and Achievement: Insights From Intensive Longitudinal Data

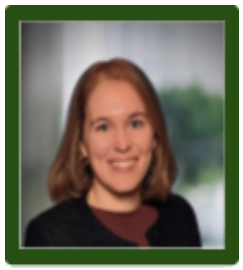
Yeo-eun Kim, Florida State University; Patrick N. Beymer, University of Cincinnati; Elise C. Allen, University of Northern Colorado; Emily Q. Rosenzweig; Teachers College, Columbia University

Session Name: Advancing Self-Regulated Learning in Higher Education: Profiliens, Strategies, and Interventions Across Diverse Learning Contexts


Yeo-eun Kim


Patrick N. Beymer


Elise C. Allen


Emily Q. Rosenweig

Recently, there has been growing attention among researchers on how students can self-regulate their own motivation, a process known as *motivational regulation* (Wolters, 2003). Emerging evidence highlights the role of motivational regulation in various outcomes such as effort, achievement, and engagement (Fong et al., 2024). However, researchers have overwhelmingly relied on single time-point assessments of motivational regulation, and this approach inevitably overlooks the dynamic nature of motivational regulation. As a result, less is known about how students overcome motivational challenges and what strategies they employ to sustain their motivation as they negotiate various commitments and course requirements each week during a semester. Our study addresses this gap by using weekly intensive longitudinal data to explore how students use various motivational regulation strategies over time, how these strategies dynamically interact with each other, and how they differentially contribute to academic achievement.

To explore the evolving patterns of motivational regulation strategies throughout a semester, we recruited 223 undergraduate students from a calculus course. Students completed a baseline survey at the beginning of the semester to indicate their initial motivation for the course (expectancy, interest, utility value, cost) and provide demographic information (ethnicity, gender, first-generation status). Additionally, weekly throughout the semester, students reported the motivational regulation strategies they planned to use (a total of 1,366 responses). Finally, at the end of the semester, we collected their official course grades from the instructor.

Overall, our study offers several key contributions. First, we highlighted that students employ multiple motivational regulation strategies concurrently and that these strategies evolve across the semester. Our findings revealed a general decline in strategy use, with a higher focus on performance- and behavior-focused strategies. This nuanced understanding allows educators to tailor interventions not only to enhance overall strategy use to enhance motivation but also to shift towards specific strategies that emphasize interest and intrinsic value in learning. Second, we focused on the interconnected nature of motivational regulation strategy use, illustrating how certain strategies serve as catalysts for others throughout the semester. For example, by examining the temporal

interplay of diverse motivational regulation strategies, we demonstrated the pivotal role of mastery self-talk and proximal goal setting in sustaining and triggering additional strategies in subsequent weeks. Finally, our findings showed that not all motivational regulation strategies are equally effective in predicting course grades. Strategies such as reminding oneself about the importance of learning outcomes and eliminating distractions were more powerful in enhancing academic achievement. We believe that our findings add to the growing evidence on how effective regulation of motivation can be a powerful mechanism to support students' academic success, but also raise questions about the relative effectiveness of various strategies. By identifying which strategies are most helpful for students in different contexts, educators would be able to offer targeted interventions or tailored guidance to support students with their motivational challenges. Moving forward, researchers should continue to investigate this mechanism to offer more nuanced implications on how the dynamic use of motivational regulation strategies, either independently or in combination with others, operates simultaneously.

References:

Fong, C. J., Altan, S., Gonzales, C., Kirmizi, M., Adelugba, S. F., & Kim, Y. (2024). Stay Motivated and Carry On: A Meta-Analytic Investigation of Motivational Regulation Strategies and Academic Achievement, Motivation, and Self-Regulation Correlates. *Journal of Educational Psychology*. Advance online publication. https://doi.org/10.1037/edu0000886

Wolters, C. A., Iaconelli, R., Peri, J., Hensley, L. C., & Kim, M. (2023). Improving self-regulated learning and academic engagement: Evaluating a college learning to learn course. *Learning and Individual Differences, 103*, Article 102282. https://doi.org/10.1016/j.lindif.2023.102282

Examining How Undergraduate Students' Self-Regulated Learning Unfolds during Video-Based versus Text-Based Instruction

Shelbi L. Kuhlmann, University of Memphis; C. Noelle Patterson, University of Memphis; Haley Siegfried, University of Memphis

Session Name: Advancing Self-Regulated Learning in Higher Education: Profiliens, Strategies, and Interventions Across Diverse Learning Contexts

Shelbi L. Kuhlmann

C. Noelle Patterson

Haley Siegfried

This study examines how undergraduate students engage in self-regulated learning (SRL) processes during video-based versus text-based instruction. Instructional videos are widely used in STEM education due to their ability to help students organize complex and abstract information (Kuhlmann et al., 2024). However, students often struggle to actively engage with videos, limiting their effectiveness (Dodson et al., 2024). Effective SRL is crucial for learning in autonomous environments, like those online environments that include videos. Specifically, students must be capable of adapting their learning strategies, integrating verbal and visual information, and monitoring their understanding (Kuhlmann et al., 2024).

In a between-subjects design, undergraduate students were randomly assigned to either a video-based (n = 33) or text-based (n = 29) instruction group. The learning materials included a video or text-based lesson on the human kidneys, with identical images and text/oral narration between the groups. The video-based group viewed images being drawn dynamically and heard the narration delivered in real-time, while the text-based group viewed static images alongside written text. Students took a pre-test assessing their prior knowledge of the human kidneys, engaged in the learning session while thinking aloud, and completed a post-test to assess what they learned. The post-test measured both retention and transfer outcomes. Participants' think-aloud protocols were coded by two raters using an established codebook (Greene & Azevedo, 2009). The codebook includes 6 macro-level SRL categories: adaption, task codes, metacognitive monitoring, domain-general strategies, domain-specific strategies, and assessment strategies. Each of those macro-level categories include several individual micro-level codes.

Results from an independent samples *t*-test between the groups on learning outcomes revealed no statistically significant difference on retention (M_{video} = 3.06, M_{text} = 2.80) or transfer (M_{video} = 5.97, M_{text} = 7.15). Results from an independent samples *t*-test between the groups on macro-level SRL codes revealed a statistically significant difference in the occurrence of goal setting (M_{video} = 29.10, M_{text} = 6.20) and strategy-use (M_{video} = 7.57, M_{text} = 14.11). Interestingly, these findings were in opposite directions, in which the video-based group engaged in significantly more goal setting, while the text-based group used significantly more strategies.

These results highlight differences in SRL processes between static and dynamic multimedia environments, and provide insight into potential boundary conditions of dynamic, video-based environments. While videos might encourage students to think about what they will do next with the video (i.e., via goal setting), they do not seem to encourage students' use of strategies to the same degree that more text-based environments encourage students to use strategies. These findings have implications for adaptive video-based environments that can measure students' lack of or poor strategy-use in real-time and offer them scaffolds to support their strategy-use during video learning.

References:

Dodson, S., Roll, I., Fong, M., Yoon, D., Harandi, N. M., & Fels, S. (2018, June). An active viewing framework for video-based learning. In *Proceedings of the fifth annual ACM conference on learning at scale* (pp. 1-4). https://doi.org/10.1145/3231644.3231682

Greene, J. A., & Azevedo, R. (2009). A macro-level analysis of SRL processes and their relations to the acquisition of a sophisticated mental model of a complex system. *Contemporary Educational psychology*, *34*(1), 18-29. https://doi.org/10.1016/j.cedpsych.2008.05.006

Kuhlmann, S. L., Plumley, R., Evans, Z., Bernacki, M. L., Greene, J. A., Hogan, K. A., ... & Panter, A. (2024). Students' active cognitive engagement with instructional videos predicts STEM learning. *Computers & Education*, *216*, 105050. https://doi.org/10.1016/j.compedu.2024.105050

Fostering Self-Regulated Learning through Educational Technology: A Differentiated Perspective on the Role of Feedback

Mathias Mejeh, Zurich University of Teacher Education; Yvonne Hemmler, University of Mannheim (not pictured)

Session Name: Using Self-Regulated Learning to Address Studying Challenges and Opportunities

Mathias Mejeh

This study addresses the critical need to enhance our understanding of how educational technologies can effectively support learners' self-regulated learning (SRL), with a specific focus on adaptive learning technologies (ALT). Over the past three decades, the integration of digital technologies in education has grown substantially, significantly influencing SRL research and practice through advancements in data collection, analysis, and the promotion of SRL processes (e.g., Azevedo & Gašević, 2019).

Despite these developments, a deeper understanding is required of how ALT can effectively support learners in their SRL, particularly through the provision of adaptive feedback (Theobald & Bellhäuser, 2022). Therefore, this research investigated the role of feedback provided by ALT in the distinct phases of the self-regulation process and explored potential variations in the impact of different feedback forms.

An ALT was implemented in a 12-week university stochastics course with 194 future teachers. Throughout the course, students completed weekly homework assignments using a digital tool designed to foster SRL. Before (pre-actional phase) and after (post-actional phase) completing each assignment, students used self-report questionnaires embedded within the ALT to reflect on their motivational, emotional, and metacognitive states. Based on their responses, students received one of three types of personalized feedback: directive feedback (short videos with SRL strategy suggestions – feed-forward), informative feedback (a dashboard displaying individual SRL progress over time – feed-back), or transformative feedback (a combination of both strategy videos and the dashboard – feed-forward and feed-back). To capture the feedback conditions, four dummy variables were created for both the pre-actional and post-actional phases of each week. These variables captured the feedback conditions – directive, informative, both, or none – and were included as moderators in the statistical analyses.

Hierarchical linear modeling was employed to analyze the collected longitudinal data, allowing for the examination of within-subject and between-subject effects and the testing of hypothesized relationships between the pre-actional, actional, and post-actional phases of SRL, as well as the moderating influence of the different feedback types.

Consistent with the theoretical framework of SRL as a dynamic and cyclical process (Zimmerman, 2000), the findings revealed significant positive associations between various pre-actional variables – such as planning, task value, self-efficacy, goal orientation, joy, and hope – and students' regulatory behavior during the actional phase. Conversely, negative emotions including anger and anxiety were negatively associated with regulation.

Furthermore, the study demonstrated that adaptive feedback moderated some of these

relationships and also influenced the connections between students' satisfaction in the post-actional phase and their subsequent motivation and emotions in the following pre-actional phase. Notably, some feedback interactions yielded unexpected outcomes. For example, transformative feedback weakened the positive association between joy and regulation.

These results underscore the complex role of feedback in supporting SRL through digital tools and emphasize the need for more nuanced, personalized, and context-aware feedback mechanisms within ALT.

References:

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Identifying College Students' Academic Help-Seeking Groups and Their Relationships with Antecedents and Academic Performance

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Session Name: Self-Regulated Learning Strategies and Academic Performance (Table 7)


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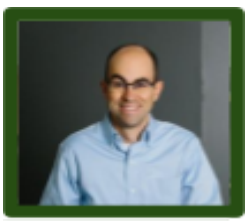
Matt Bernacki

Academic help-seeking (AHS) is a crucial self-regulated learning (SRL) strategy for college students (Karabenick & Gonida, 2017). AHS research has a focus on intelligent tutoring systems, and this narrow focus may overlook the variety of help-seeking opportunities in college environments—such as course forums, peer review sessions, and campus resources—limiting a holistic understanding of AHS in real-world settings. In this study, we had three research questions. First, what distinct student groups can be identified based on help-seeking behaviors? Second, how are students' help-seeking group membership related to student background (e.g., first-generation college status, FGCS) and prior knowledge? Third, how are students' help-seeking group membership related to academic performance?

The study involved 488 undergraduates in an introductory biology course from a Southeastern public university in the U.S. Help-seeking behaviors, recorded from digital platforms and campus resource usage, were categorized across four settings: (1) System-Embedded (SE) (e.g., online hints), (2) Structured Supplemental (SS) (e.g., peer-led review sessions), (3) Information Search (IS) (e.g., course forums), and (4) Personalized Support (PS) (e.g., one-on-one office hours). These were aggregated into two time intervals: Time 1 (early, proactive help-seeking) and Time 2 (later, reactive help-seeking).

We conducted latent class analysis (LCA) using eight median-split dichotomized variables representing help-seeking in each setting across the two time periods (e.g., students' SE behavior counts at Time 1). This analysis revealed four distinct help-seeking profiles:

1. Low Help Seekers – minimal help-seeking across all settings, especially SE, SS, and PS.
2. Consistent Supplemental Seekers – frequent users of SS at both time points.
3. System Reliant Seekers – relied primarily used on SE with low engagement elsewhere.
4. Information and Support Seekers – actively used IS and PS at both times.

Chi-square tests showed no significant association between FGCS status and group membership. However, group differences were found in prior knowledge and academic outcomes. Low Help Seekers had the highest average pretest scores, whereas Consistent Supplemental Seekers had the lowest. Information and Support Seekers outperformed System Reliant Seekers in final exam scores and overall course grades.

Regression models showed that help-seeking group membership added predictive value beyond prior knowledge and FGCS status. Including group membership increased the variance explained for final exam scores (R^2 from .145 to .175, $p < .001$). Compared to System Reliant Seekers, Information and Support Seekers scored 6.690 points higher ($p < .001$), with other groups also showing significant gains.

This study provides behavioral evidence of real-world help-seeking patterns. It confirms group patterns identified in previous self-report studies, showing that System Reliant Seekers, who relied primarily on system-embedded help, are similar to the self-reliant group described by Fan and Lin (2023). It also highlights how early and diverse engagement—especially through forums and one-on-one support—is linked to stronger performance. The findings align with findings that early help-seeking benefits learning (Szu et al., 2011) and suggest help-seeking profiles can guide targeted academic support.

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Testing the Agenda-Based Regulation Model With Worked Examples and Problem-Solving

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Session Name: Self-Regulated Learning Strategies and Academic Performance (Table 7)

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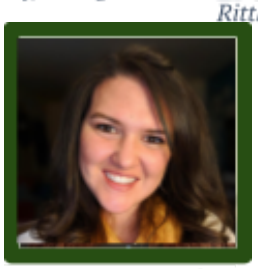

Cristina D. Zepeda

Background

When students are in charge of their studying, the learning strategies they choose impact how much they actually learn (Bjork et al., 2013). But do students make effective choices—particularly in math? Research shows that beginners tend to learn more from switching between worked examples (step-by-step solutions) and problem solving, yet they often gravitate toward using mostly problem solving (Foster et al., 2018). To understand how students make these decisions, we drew on the Agenda-Based Regulation (ABR) model (Ariel et al., 2009). This model suggests that students study strategically, making choices based on their goals and value of the content. By comparing how they use different learning strategies for higher- versus lower-value content, we can gain insight into their beliefs about how to best use learning strategies and when.

We had three research questions:

1. Do students switch between worked examples and problem solving more when studying high- versus low-value content?
2. Are students more likely to choose worked examples after making mistakes than getting the question correct?
3. What are students' reasons for using problem solving versus worked examples?

Method

Using a within-subject design, 36 undergraduates completed a self-paced, online probability learning task. Each problem was worth 1 (low value) or 5 points (high value) on a posttest, assignments counterbalanced. For each of the 24 problems, students chose to study via a worked example or solve it themselves. We tracked their learning strategy choices, accuracy, and number of switches. Afterward, participants completed a posttest and a questionnaire about their learning strategy decisions.

Results

- Strategy Switching and Content Value: Students did not use worked examples more frequently for high-value problems, but they switched between learning strategies more often, suggesting greater metacognitive

engagement when content seemed more important.

- Adjusting After Errors:
  Students were more likely to choose worked examples after making a mistake than after solving a problem correctly, though this difference was marginal. This pattern aligns with the idea that students use mistakes as a cue to seek support through worked examples.
- Student Reasoning:
  When asked why they used each learning strategy, students associated worked examples with improving or checking their understanding, while they linked problem solving with monitoring their learning or testing application. These responses aligned with observed behavior, suggesting students are reflective in their choices. At first glance, these patterns reflect distinct purposes for each strategy. However, students often selected overlapping reasons for both, suggesting that their thinking wasn't strictly divided into clear categories. Instead, their reasoning revealed a more nuanced approach—indicating that strategy use is not a simple either-or decision, but a complex process shaped by multiple factors.

Implications

This study offers three contributions:

1. Broadens the ABR model to a new area—mathematics learning strategies.
2. Highlights how students are strategic, especially when the content is perceived valuable.
3. Emphasizes the importance of helping students understand when and why to use different strategies.

Understanding students' beliefs and behaviors around learning strategies opens the door to supporting more effective self-regulated learning in classrooms—especially in STEM.

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The Enduring Legacy of Barry Zimmerman in Self-Regulated Learning: Inspiring Excellence in Research, Teaching, and Mentorship

Anastasia Kitsantas, George Mason University

Presented during SSRL SIG Business Meeting

Anastasia Kitsantas

Barry Zimmerman has made groundbreaking contributions to the theory, research, and practice of self-regulated learning (SRL). His work has helped us better understand how SRL impacts learning and performance across disciplines, offering useful guidance for educators to support students in developing these skills. His impact also extends beyond research, as he mentored many scholars who have carried his ideas forward, fostering a new generation of educators and researchers. Zimmerman's lasting influence continues to shape the field, with his legacy carried forward through both his pioneering work and the ongoing contributions of his students and colleagues.

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