

CURRICULUM VITAE

**MATTHEW L. BERNACKI**

Assistant Professor of Learning Sciences and Psychological Studies  
School of Education, University of North Carolina – Chapel Hill

**CONTACT INFORMATION**

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**EDUCATION**

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**Ph.D. Educational Psychology Temple University**

Dissertation: The influence of self-regulated learning and prior knowledge on  
knowledge acquisition in computer-based learning environments

Committee: James P. Byrnes, Jennifer G. Cromley, Julie Booth

**M.S.W. Social Work Temple University**

Fieldwork: Philadelphia Safe & Sound, Bartram High School Beacon Program  
(children and family services; violence reduction, afterschool, literacy)

**M.S. Experimental Psychology Saint Joseph's University**

Thesis: Exploring the impact of service-learning on moral development and moral orientation

Advisor: Elizabeth Jaeger

**B.S. Psychology (Faith-Justice, English) Saint Joseph's University**

**SCHOLARLY APPOINTMENTS**

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Assistant Professor of Learning Sciences and Psychological Studies 2018 to present  
School of Education, University of North Carolina, Chapel Hill

Assistant Professor of Educational Psychology 2013 to 2018  
College of Education, University of Nevada Las Vegas

Postdoctoral Research Associate 2010 to 2013  
Learning Research & Development Center, University of Pittsburgh, with funding through  
LearnLab (Pittsburgh Science of Learning Center), Metacognition & Motivation Thrust

**RESEARCH INTERESTS**

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Self-regulated learning (cognitive, metacognitive, & motivational processes)  
Motivation (achievement goals, self-efficacy, interest; intervention to leverage motivation for learning)  
Learning technologies (intelligent tutoring systems, learning management systems, hypermedia)  
Personalization (of content to students' interests; using software for math problem-solving & -posing)  
Data mining & learner analytics (development of infrastructure to log & analyze learning events)  
K-20 STEM learning (K-12 math and science; undergraduate math, science, & engineering)

## **AWARDS**

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- Bill & Melinda Gates Foundation – ACAO Digital Faculty Fellow**, with Provost Diane Chase, 2017-18, University-wide, University of Nevada, Las Vegas (UNLV)
- Collaborative Group Award; The Learning TAGs Project**, College of Education, 2018, UNLV
- Distinguished Contributor – Best Teaching Practice Expo**, University-wide, 2017, 2018, UNLV
- Scholarship of Teaching and Learning Award**, University-wide, 2017, UNLV
- Best Student Paper Award – 1<sup>st</sup> Place**, 2017 College of Education Division, Graduate & Professional Student Association Annual Conference, UNLV. Awarded to Graduate Student Mentee Rachel Part for “Establishing the Invariant Natures and Exploring the Variable Relations of Value and Cost.”
- Best Student Poster Award – 1<sup>st</sup> Place**, 2017 College of Education Division, Graduate & Professional Student Association Annual Conference, UNLV. Awarded to Graduate Student Mentee Lucie Vosicka for “How precisely do logged events represent students’ learning processes?: Aligning students’ reports with resource use.”
- NASA Mentor Protégé of the Year Award**, 2017 Award to UNLV & Teledyne Brown Engineering for instructional design project for International Space Station payload delivery engineers (co-PI).
- Public Sector Innovation Awards (Mission Award)**, 2016, Splunk, Inc. (software company)
- Distinguished Research Award**, 2016, College of Education, University of Nevada, Las Vegas
- College Policy Fellow**, 2016, UNLV College of Education, University of Nevada, Las Vegas
- Best Student Poster Award – 1<sup>st</sup> Place**, 2016 College of Education Division, Graduate & Professional Student Association Annual Conference, UNLV. Awarded to Graduate Student Mentee Michelle Dominguez for “Using Learning Management System Data to Predict STEM Achievement: Implications for Early Warning Systems”
- Best Student Poster Award – Runner Up**, 2016 College of Education Division, Graduate & Professional Student Association Annual Conference, UNLV. Awarded to Graduate Student Mentee Rachel Part for “Motivation Under the Microscope: A Microgenetic Examination of Motivation to Learn Mathematics”
- Outstanding Author Contribution** 2015, Emerald Literati Network Awards for Excellence for book chapter “Motivating students by ‘personalizing’ learning around individual interests: a consideration of theory, design, and implementation issues.”
- Graduate Student Paper Award** 2011, American Educational Research Association, Studying and Self-Regulated Learning Special Interest Group
- Best Dissertation Award** 2010, Temple University, College of Education
- Graduate Student Seminar Scholarship** 2010, AERA Division C (Learning & Instruction)
- Presidential Fellowship** 2006, 2009, Temple University
- Graduate Student Award** 2007 & 2008, International Association for Research on Service Learning & Community Engagement
- Sigma Xi Research Award** 2002, Saint Joseph’s University

## CONTRACTS AND GRANTS

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### Research Grants

- Under Review Principal Investigator: ECR (Level II - Collaborative Proposal): Transformative Undergraduate Self-regulated STEM Learning and Education Research (TUSSLER); co-PIs: Jeffrey Greene, Kathleen Gates, Abigail Panter (Proposed \$1,435,812) National Science Foundation, Education & Human Development (EHR), Division of Undergraduate Education (DUE) – EHR Core Research (ECR).
- 2018-2023 Principal Investigator - UNLV Award ([DUE-1821601](#); PI of lead co-award is Jeffrey Greene, [DUE-1821594](#)): Improving Undergraduate Student Success in Introductory STEM Courses Via Campus Data Systems and Targeted Support for Self-Regulated Learning. Additional co-PIs are Katie Gates, Abigail Panter, Christy Strong and Erin Windsor. (\$1,996,489) National Science Foundation, Education & Human Development, Division of Undergraduate Research, – Improving Undergraduate STEM Education (IUSE).
- 2018-2021 co-Principal Investigator ([DRL-1759238](#)): Collaborative Research: Strategies: Personalizing Mathematics to Maximize Relevance and Skill for Tomorrow's STEM Workforce. PI is Candace Walkington, co-PIs are Neil Heffernan & Harsha Perera. (\$1,037,000). National Science Foundation, Division of Research on Learning (DRL), Innovative Technology Experiences for Students and Teachers (ITEST).
- 2018-2023 co-Principal Investigator ([DUE-1742185](#)): Developing the Skill and Will to Succeed in STEM (\$649,000). National Science Foundation, S-STEM. PI is Jenifer Utz, additional co-PIs are Donald Price, Kathryn Rafferty, and Christy Strong. National Science Foundation. Division of Undergraduate Education (DUE), S-STEM.
- 2017 Principal Investigator: Enhancing the First and Second Year Experience to Help Undergraduates Achieve Mastery of the University Universal Learning Objectives through Linguistic Analysis. (\$1000) UNLV Office of Assessment. Co-PI is Nathan Slife
- 2014-2019 Principal Investigator ([DRL-1420491](#)): Learning Theory and Analytics as Guides to Improve Undergraduate STEM Education. (\$499,973). National Science Foundation Research on Education and Learning.
- 2015-2017 Principal Investigator: Educational Data-mining Under the Supervision of Learning Theory: A Learning Sciences Collaboration Investigating STEM Learning. (support equivalent to \$79,650). UNLV Graduate College. Co-PI is Andreas Stefik.
- 2014-2015 Principal Investigator: Building Capacity for Research on Learning via Analytics and “Big Data”. (\$19,970). UNLV Faculty Opportunity Award.
- 2014 Principal Investigator: Improving Assessment of Undergraduate Learning: Construct, Content, and Predictive Validation Study of the Transparency in Teaching Instrument. (\$998). UNLV Office of Assessment.
- 2012-2014 Principal Investigator: Personalizing Algebra Instruction to Students’ Interests. Pittsburgh Science of Learning Center, Metacognition and Motivation Thrust. (\$15,400). Subaward of National Science Foundation Award SBE-0836012. Additional Principal Investigators are Candace Walkington and Ryan Baker.
- 2011-2013 Principal Investigator: Microgenetic and Longitudinal Approaches to Assessing the Relationship between Motivation and Affect on Robust Learning. Pittsburgh Science of Learning Center, Metacognition and Motivation Thrust. (\$105,447 in 2011-12; renewal for 2012-2013, \$99,318. Total funding to date: \$204,765). Subaward of National Science Foundation Award SBE-0836012. Additional Principal Investigators are Timothy Nokes-Malach and Vincent Alevan.
- 2007-2008 Principal Investigator: Service-Learning As a Transformative Experience. Office of

- Mission, Saint Joseph's University (\$8,000) Co-PI was Francis Bernt.
- 2006 Service to One's Neighbor. Program for Research on Religion and Urban Civil Society, University of Pennsylvania. (\$6,000). Co-PI was Francis Bernt.
- 2002 Examining the impact of service-learning on moral development and moral orientation. Saint Joseph's University Sigma Xi Chapter, Undergraduate Research Program. (\$500). Co-PI was Elizabeth Jaeger.

### **Training & Design Contracts**

- 2015-2017 Co-Principal Investigator: NASA-Teledyne Mentor-Protégé Program. PI is Rama Venkat, additional co-PI is Fatma Nasoz (\$504,513).

### **University-Community Partnership & Training Grants**

- 2006 Scholars in Service. PA Campus Compact (\$7,500).
- 2006 Service-Learning Faculty Development Program. University of Pennsylvania, Philadelphia Higher Education Network for Neighborhood Development. (\$11,300)
- 2004-2007 Developing Educated, Engaged People. Raskob Foundation (\$23,600).

## **PUBLICATIONS**

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(in reverse chronological order) \* - graduate student; \*\* - undergraduate

### **Journal Articles**

- Greene, J.A., Urban, C.J.\*, Plumley, R.D. \*, **Bernacki, M.L.**, Gates, K.M., Hogan, K., Demetriou, C. & Panter, A. T. (accepted). Modeling Temporal Self-Regulatory Processing in a Higher Education Biology Course. *Learning and Instruction*.
- Miller, C.\* & **Bernacki, M.L.** (2019) Training Preparatory Mathematics Students to be High Ability Self-Regulators: Comparative and Case-Study Analyses of Impact on Learning Behavior and Achievement. *Journal of High Ability Studies*.
- Cogliano, M.C.\*, Kardash, C. A., & **Bernacki, M.L.** (2019). The Effects of Retrieval Practice and Prior Topic Knowledge on Test Performance and Confidence Judgments. *Contemporary Educational Psychology*, 56, 117-129.
- Utz, J. C. & **Bernacki, M.L.** (2018). Voluntary Web-Based Self-Assessment Quiz Use Is Associated with Improved Exam Performance, Especially for Learners with Low Prior Knowledge. *HAPS Educator*, 22(2), 129-135. Available online at [hapsweb.org/resource/resmgr/educator\\_archive/HAPS-Journal-SUMMER-2018.pdf](https://hapsweb.org/resource/resmgr/educator_archive/HAPS-Journal-SUMMER-2018.pdf)
- Walkington, C. & **Bernacki, M. L.** (2019). Personalizing algebra to students' individual interests in an intelligent tutoring system: how moderators of impact. *Journal of Artificial Intelligence in Education*. <https://doi.org/10.1007/s40593-018-0168-1>
- Hilts, A.\*\*, Part, R.\*, & **Bernacki, M.L.** (2018). The roles of social influences on student competence, relatedness, achievement, and retention in STEM. *Science Education*, 102, 744-770 [doi.org/10.1002/sce.21449](https://doi.org/10.1002/sce.21449)
- Volkert, D.\*, Candela, L. & **Bernacki, M.L.** (2018). Student motivation, stressors, and intent to leave nursing doctoral study: a national study using path analysis. *Nurse Education Today*. [2016 Impact Factor = 2.533]
- Bernacki, M.L.** & Walkington, C. (2018). The role of situational interest in personalized learning. *Journal of Educational Psychology*, 110(6), 864-881. <http://dx.doi.org/10.1037/edu0000250>

- Richey, J.E., **Bernacki, M.L.**, Belenky, D.M. & Nokes-Malach, T.J. (in press). Comparing dispositional and dynamic methodological perspectives of achievement goals as predictors of classroom performance. *Journal of Experimental Education*
- Walkington, C. & **Bernacki, M.L.** (2018). Personalization of instruction: design dimensions and implications for cognition. *Journal of Experimental Education*, 86 (1), 50-68. doi: 10.1080/00220973.2017.1380590
- Winkelmess, M.A., **Bernacki, M. L.**, Butler, J., Zochowski\*, M., Golanics\*, J., & Weavil\*, K. H. (2016). A Teaching intervention that increases underserved college students' success, *Peer Review*, 18 (1/2), 31-36.
- Bernacki, M. L.**, Nokes-Malach, T. J., Richey, J.E., & Belenky, D.M. (2016) Science diaries: a brief writing intervention to improve motivation to learn science. *Educational Psychology*, 36 (1), 26-46. doi: 10.1080/01443410.2014.895293
- Walkington, C. & **Bernacki, M.L.** (2015). Students authoring personalized "algebra stories": problem-posing in the context of out-of-school interests" *Journal of Mathematical Behavior*, 40 (B), 171-191. doi: 10.1016/j.jmathb.2015.08.001
- Bernacki, M. L.**, Alevan, V. & Nokes-Malach, T. J. (2015) An examination of self-efficacy during a learning episode: initial levels, changes and associations with learning. *Metacognition & Learning*, 10 (1), 99-117. doi: 10.1007/s11409-014-9127-x
- Ben-Eliyahu, A. & **Bernacki, M. L.**, (2015). Context, contingency, and dynamic relations in self-regulated learning. *Metacognition & Learning*, 10 (1), 1-13. doi:10.1007/s11409-015-9134-6
- Bernacki, M. L.**, Alevan, V., & Nokes-Malach, T. J. (2014). Stability and change in adolescents' task-specific achievement goals for learning mathematics with an intelligent tutoring system. *Computers in Human Behavior*, 37, 73-80. doi: 10.1016/2014.04.009
- Bernacki, M. L.**, Byrnes, J. P. & Cromley, J. G. (2012). The effects of achievement goals and self-regulated learning behaviors on reading comprehension in technology-enhanced learning environments. *Contemporary Educational Psychology*, 37(2), 148–161. doi: 10.1016/j.cedpsych.2011.12.001.
- Stull, J. C., Majerich, D. M., **Bernacki, M. L.**, Varnum, S. J., & Ducette, J. P. (2011). The effects of formative assessment, pre-lecture online chapter quizzes, and student-initiated inquiries to the instructor on academic achievement. *Educational Research and Evaluation*, 17 (4), 253-262
- Stull, J.C., Varnum, S.J., Ducette, J, Schiller, J. & **Bernacki, M. L.** (2011). The many faces of formative assessment. *International Journal of Teaching and Learning in Higher Education*, 23 (1), 30-39.
- Bernacki, M.L.** & Jaeger, E. A. (2008). The impact of service learning on moral development and moral orientation. *Michigan Journal of Community Service-Learning*, 14 (2), 5-15.

#### **EDITED BOOK AND HANDBOOK CHAPTERS**

- Bernacki, M.L.** (2018). Examining the cyclical, loosely sequenced, and contingent features of self-regulated learning: trace data and their analysis. In D.H. Schunk & J.A. Greene (eds.) *Handbook of Self-Regulated Learning and Performance*. New York: Routledge.
- Schraw, G. & **Bernacki, M.L.** (2016). Teaching introductory statistics: challenges and strategies. In M. C. Smith & N. DeFrates-Densch (eds). *Challenges and Innovations in Educational Psychology Teaching and Learning*. Charlotte, NC: InfoAge

- Walkington, C. & **Bernacki, M. L.** (2014). Motivating students by “personalizing” learning around individual interests: A consideration of theory, design, and implementation issues. In S. Karabenick & T. Urda (eds). *Advances in Motivation and Achievement* (Vol. 18). (pp. 139-176) Bingley, UK: Emerald **Outstanding Author Contribution, 2015 Emerald Literati Network**
- Bernacki, M. L.**, Nokes-Malach, T. J., & Alevan, V. (2013). Fine-grained assessment of motivation over long periods of learning with an intelligent tutoring system: Methodology, advantages, and preliminary results. In R. Azevedo & V. Alevan, (Eds.) *International Handbook of Metacognition and Learning Technologies* (pp. 629-644). Springer New York.
- Byrnes, J. P. & **Bernacki, M. L.** (2012). Cognitive development and information behavior. In J. Beheshti & A. Large (Eds.), *Children’s information behavior in the digital age*. Lanham, MD: Scarecrow Press.
- Bernacki, M.L.** Aguilar, A. & Byrnes, J. (2011). Self-regulated learning and technology-enhanced learning environments: an opportunity propensity analysis. In G. Dettori and D. Persico (Eds.), *Fostering self-regulated learning in ICTs*. (pp. 1-26) Hershey, PA: IGI Global Publishers.
- Bernacki, M.L.** & Bernt, F.M. (2007). Service-learning as a transformative experience: an analysis of the impact of service-learning on student attitudes and behaviors after two years of college. In S. B. Gelmon & S. Billig (Eds.), *From Passion to Objectivity: International and Cross-Disciplinary Perspectives on Service-Learning Research* (pp. 111-134) Charlotte, NC: InfoAge.

### Policy Briefs

- Bernacki, M. L.** & Perera, H. (2017). Encouraging young Nevadans to choose and stick with STEM careers: a choice and retention perspective on science, technology, engineering, and mathematics workforce development. *Policy Issues in Nevada Education 1* (2).

### CONFERENCE PROCEEDINGS

- Bernacki, M.L.** (2019, March). Development, Sustainment, and Scaling of a Learning Analytics, Prediction Modeling and Digital Student Success Initiative. *Proceedings of the 10th Annual Learning Analytics and Knowledge Conference Workshop on Sustainable and Scalable Learning Analytics Solutions*. Society of Learning Analytics Research.
- Hayes, D., **Bernacki, M.L.**, Hong, W., Markle, J. & Voorhees, N. (2017, August). Using LMS data to provide early alerts to struggling students. *Proceedings of the 9th Annual First Year Engineering Experience Conference*. American Society for Engineering Education Retrieved from <http://www.asee.org/public/conferences/96/papers/20933>
- Hong, W.\* & **Bernacki, M. L.** (2017, June) A prediction and early alert model using learning management system data and grounded in learning science theory. In X. Hu, T. Barnes, A. Hershkovitz and L. Paquette (eds.) *Proceedings of the 10th International Conference on Educational Data Mining*, (pp. 358-359). Educational Data Mining Society. Retrieved from <http://educationaldatamining.org/EDM2017>
- Dominguez\*, M., **Bernacki, M. L.**, & Uesbeck\*, P. M. (2016, July). Using learning management system data to predict STEM achievement: implications for early warning systems. In T. Barnes, M. Chi and M. Feng (eds.) *Proceedings of the 9th International Conference on Educational Data Mining*. Educational Data Mining Society. Retrieved from <http://educationaldatamining.org/EDM2016/>

Fancsali, S., **Bernacki, M.L.**, Nokes-Malach, T. J., Yudelson, M. & Ritter, S. (2014, June). Goal orientation, self-efficacy, and “online measures” in intelligent tutoring systems. In *Proceedings of the Cognitive Science Society*, 36, 2169-2174, Retrieved from: <http://escholarship.org/uc/item/0p53v46r>

### **MANUSCRIPTS UNDER REVIEW**

**Bernacki, M.L.** (under review). Development, Sustainment, and Scaling of a Learning Analytics, Prediction Modeling and Digital Student Success Initiative.

**Bernacki, M.L.**, Vosicka\*, L. & Utz, J. (in revision). Can brief, web-delivered training help STEM undergraduates “learn to learn”?

Murukutla\*, M., Calkins\*, C. & **Bernacki, M.L.** (under review). A mixed methods examination of social and cognitive reflective writing interventions and relations to motivational change.

### **Manuscripts in Preparation**

#### *Manuscripts invited*

**Bernacki, M.L.**, Greene, J.A. & Crompton, H. (in progress). Mobile Technology, Learning, and Achievement: A Critical Perspective on the Role of Mobile Technology in Education. *Contemporary Educational Psychology*.

Walkington, C. & **Bernacki, M. L.** (in progress). Personalization in Technology-Enhanced Learning Environments. *Journal of Research on Technology in Education*.

#### *Manuscripts drafted*

Mefferd, K.\* & **Bernacki, M.L.** M. C. (in preparation). Tracing Undergraduate Science Learners’ Digital Cognitive Strategy Use and Effects on Achievement.

**Bernacki, M.L.** & Cogliano\*, M. C. (in preparation). Web-based training to improve undergraduates’ cognitive and metacognitive skills: impact on performance and behavior.

**Bernacki, M.L.**, Dominguez\*, M. M., & Uesbeck\*, P. M. (in preparation). Predicting STEM achievement with learning management system data: prediction modeling and a test of an early warning system.

**Bernacki, M.L.**, Vosicka\*, L. & Utz, J. (in preparation). The effects of web-delivered training on under-represented and first generation STEM undergraduate achievement.

Part\*, R., Perera, H., **Bernacki, M.L.** & Marchand, G. (in preparation). Establishing the invariant natures and exploring the variable relations of value and cost.

#### *Analyses complete*

**Bernacki, M. L.**, Alevin, V., & Nokes-Malach, T. J. (in preparation). Interest in mathematics and its relationship to intelligent tutor use and course performance in middle school mathematics.

**Bernacki, M.L.**, Dai, T., Part\*, R., Nokes-Malach, T.J. & Alevin, V. (in preparation). A longitudinal and comparative examination of academic motivation measures across domain, topic, and task

**Bernacki, M.L.**, Marti\*, E., Alevin, V. & Nokes-Malach, T. J. (in preparation). Assessing the applicability of assumptions about motivation and classroom help-seeking in technology contexts

### **CONFERENCE PRESENTATIONS, & REPORTS (IN REVERSE CHRONOLOGICAL ORDER)**

**Bernacki, M.L.**, Kaplan, A, & Linnenbrink-Garcia, E. (2019, April) *Embracing and Modeling the*

*Complex Dynamics of Motivation and Engagement: Contextual, Temporal, Dynamic, and Systematic.* Session presented at the 2019 Annual Meeting of the American Educational Research Association, Toronto, ON.

- Cogliano, M.C. \*, Kardash, C.A. & **Bernacki, M.L.** (2019, April). *A Retrieval Practice Intervention: Undergraduates' Frequency and Spacing of Self-Directed Practice-Testing in the Classroom*, Paper presented at the 2019 Annual Meeting of the American Educational Research Association, Toronto, ON.
- Greene, J.A., Urban, C.J.\*, Plumley, R.D. \*, **Bernacki, M.L.**, Gates, K.M., Hogan, K., Demetriou, C. & Panter, A. T. (2019, April) *Theory-Driven Data Mining to Understand Self-Regulated Learning Processing in a Higher Education Biology Course*, Paper presented at the 2019 Annual Meeting of the American Educational Research Association, Toronto, ON.
- Hilley, C.\*, Marchand, G.C., & **Bernacki, M.L.** (2019, April). *Longitudinal complexity of affect and mathematics self-efficacy in middle school*. Poster presented at the 2019 Annual Meeting of the American Educational Research Association, Toronto, ON.
- Hong, W.\* & **Bernacki, M.L.** (2019, April). *Latent Profile Analyses of Achievement Motivations and Metacognitive Behaviors, and Their Relations to Achievement*, Poster presented at the 2019 Annual Meeting of the American Educational Research Association, Toronto, ON.
- Hong, W.\* & **Bernacki, M.L.** (2019, April). *Examining the Power of Multiple Data Sources in Predicting Academic Achievement in Undergraduate STEM Courses*, Paper presented at the 2019 Annual Meeting of the American Educational Research Association, Toronto, ON.
- Mefferd, K.C.\* & **Bernacki, M.L.** (2019, April). *Tracing Science Learners' Digital Distribution of Self-Assessment Quizzes, Lecture Access, and Effects on Achievement*. Poster presented at the 2019 Annual Meeting of the American Educational Research Association, Toronto, ON.
- Bernacki, M. L.** (April, 2018). *An Integrative and Comparative Analysis of Approaches to Developing Undergraduates' Learning Skills*. Session presented at the 2018 Annual Meeting of the American Educational Research Association, New York, NY.
- Bernacki, M. L.** (April, 2018). *Scaffolding Self-Regulation, Co-Regulation, and Socially Shared Regulation of Future Learning: Affordances of Learning Analytics Dashboards*. Session presented at the 2018 Annual Meeting of the American Educational Research Association, New York, NY.
- Bernacki, M. L.**, Voorhees, N.\*, & Bellomo-Warren (April, 2018). *The Effects of Embedded Digital Learning Skills Training on Undergraduates' Science and Math Achievement*. Paper presented at the 2018 Annual Meeting of the American Educational Research Association, New York, NY.
- Cogliano, M.C.\*, & **Bernacki, M.L.** (April, 2018). *The Effects of a Retrieval Practice Intervention on Undergraduates' Monitoring and Control Using Performance Feedback*. Poster presented at the 2018 Annual Meeting of the American Educational Research Association, New York, NY.
- Hong, W\*. & **Bernacki, M.L.** (April, 2018) *Data-Driven Digital Alerts and Learning Support: Effects on Achievement and Moderation by Unintended Course Events*. Poster presented at the 2018 Annual Meeting of the American Educational Research Association, New York, NY.
- Mefferd, K.\*. & **Bernacki, M.L.** (April, 2018) *Tracing Undergraduate Science Learners' Digital Cognitive Strategy Use and Effects on Achievement*. Paper presented at the 2018 Annual Meeting of the American Educational Research Association, New York, NY.



- Part, R.\*, Perera, H. N., **Bernacki, M.L.** & Marchand, G. C. (April, 2018). *Expectancies, Values, and Costs: Reciprocal-Effects Models*. Poster presented at the 2018 Annual Meeting of the American Educational Research Association, New York, NY.
- Ryjova, Y.\*. & **Bernacki, M.L.** (April, 2018) *Learning and Development Through Community Engagement and Group Learning*. Paper presented at the 2018 Annual Meeting of the American Educational Research Association, New York, NY.
- Bernacki, M.L. & Johnson, C. (November, 2017). *Increasing student success, completion, and retention through machine data and predictive analytics*. Poster presented at the annual meeting of EDUCAUSE, Philadelphia, PA.
- Cogliano\*, M.C. & **Bernacki, M.L.**, (October, 2017). *Students' metacognitive monitoring of retrieval practice and heuristics for preparedness in a college classroom*. Poster presented at the Southwestern Consortium of Innovative Psychology in Education (SCIPIE), Las Vegas, NV.
- Ryjova\*\*, Y., **Bernacki, M. L.** & Slife, N., (October, 2017). *The Effects of Service-Learning on College Students' Learning Outcomes: An Analysis of Service-Learning Reflections*. Poster presented at the Southwestern Consortium of Innovative Psychology in Education (SCIPIE), Las Vegas, NV.
- Bernacki, M.L.** & Backstrom, C. J. (September, 2017). *Continuing collaboration between IT operations + research: the impact of student achievement predictions to operational prediction...and back again*. Paper presented at the .conf 2017 user conference of Splunk [data management software), Washington, DC. Splunk.com
- Bernacki, M. L.**, Dai, T., & Part, R.\* (August, 2017). *Cross-sectional, longitudinal, and contextual examination of student efficacy and achievement goals*. Paper presented at the Annual Convention of the American Psychological Association, Washington, DC.
- Hilts, A.\*\*, Part, R.\*, & **Bernacki, M. L.**, (August, 2017). *The roles of social influences on student efficacy, belongingness, achievement and retention in STEM*. Paper presented at the Annual Convention of the American Psychological Association, Washington, DC.
- Bernacki, M. L.** & Johnson, C. (July, 2017). *Using Splunk to increase student success at UNLV*. Paper presented at the Campus Technology Conference, Chicago, IL.
- Hong, W.\* & **Bernacki, M. L.** (June, 2017). *A prediction and early alert model using learning management system data and grounded in learning science theory*. Workshop Presentation at the 10<sup>th</sup> Annual Meeting of the Educational Data Mining Society, Wuhan, China.
- Utz, J. & **Bernacki, M.L.** (May, 2017) *Voluntary web-based self-assessment quiz use improves exam performance, especially for learners with low prior knowledge*. Poster presented at the Human Anatomy and Physiology Society Annual Meeting, Salt Lake City, UT.
- Bernacki, M. L.**, Vosicka\*, L. & Utz, J. (April, 2017). *Web-delivered training to improve learning and achievement for under-represented and first generation STEM learners*. Paper presented at the 2017 Annual Meeting of the American Educational Research Association, San Antonio, TX.
- Bernacki, M. L.** & Walkington, C. (April, 2017). *The role of situational interest in personalized learning*. Paper presented at the 2017 Annual Meeting of the American Educational Research Association, San Antonio, TX.
- Bernacki, M. L.** & Winne, P.H. (April, 2017). *What can be inferred from trace data?: current methods to triangulate and validate traces of learning behavior*. Symposium presented at the 2017 Annual Meeting of the American Educational Research Association, San Antonio, TX.
- Cogliano\*, M. C. & **Bernacki, M. L.** (2017). *Web-based Training to Improve Undergraduates' Cognitive, Metacognitive, and Environmental Regulation Strategies: Impact of Treatment*

- Fidelity on Performance. Paper presented at the 2017 Annual Meeting of the American Educational Research Association, San Antonio, TX.
- Hong\*, W. & **Bernacki, M. L.** (April, 2017). *Examining students' achievement goals, metacognitive monitoring behaviors, and achievement using person-centered and data-mining approaches.* Paper presented at the 2017 Annual Meeting of the American Educational Research Association, San Antonio, TX.
- Murukutla\*, M., Calkins\*, C. & **Bernacki, M. L.** (April, 2017). *Are there benefits to combining social and cognitive writing interventions?: A Mixed Methods Investigation.* Paper presented at the 2017 Annual Meeting of the American Educational Research Association, San Antonio, TX.
- Part\*, P. & **Bernacki, M. L.** (April, 2017). *Establishing the invariant natures and exploring the variable relations of value and cost.* Paper presented at the 2017 Annual Meeting of the American Educational Research Association, San Antonio, TX.
- Poitras, E. & **Bernacki, M.L.** (April, 2017). *Data-driven techniques that complement theoretical study of cognition and learning with technology.* Symposium presented at the 2017 Annual Meeting of the American Educational Research Association, San Antonio, TX.
- Vosicka\*, L. & **Bernacki, M. L.** (April, 2017). *How well do logged events represent students' learning processes?: aligning students' reports with trace data.* Paper presented at the 2017 Annual Meeting of the American Educational Research Association, San Antonio, TX.
- Bernacki, M.L.**, Johnson, C., Whitaker-Freitas, L. (September, 2016). *From IT troubleshooting & service monitoring to predicting student achievement: an operations research love story.* Paper presented at the Annual Users Conference (.conf 2016), Orlando, FL.
- Dominguez\*, M., **Bernacki, M. L.**, & Uesbeck\*, P. M. (July, 2016). *Using learning management system data to predict STEM achievement: implications for early warning systems.* Poster presented at the Educational Data Mining Conference, Raleigh, NC.
- Bernacki, M.L.**, (June, 2016). *Scalable, web-delivered supports to help students "learn to learn".* Poster presented at CIRCL Cyberlearning Annual Conference. Arlington, Virginia.
- Bernacki, M.L.**, (June, 2016). *Predicting undergraduate STEM achievement using only early learning behavior.* Paper presented at CIRCL Cyberlearning Annual Conference. Arlington, Virginia.
- Walkington, C. & **Bernacki, M. L.** (April, 2016). *Exploring the "algebra stories" students tell: evaluating personalized problem-posing.* Paper presented at the 2016 Annual Meeting of the American Educational Research Association, Washington DC.
- Bernacki, M.L.**, Vosicka\*, L. & Utz, J. (April, 2016). *Can brief, web-delivered training help STEM undergraduates "learn to learn" and improve their achievement?* Paper presented to American Educational Research Association Annual Meeting, Washington, DC.
- Bernacki, M.L.** (April, 2016). *Self-Regulated Learning Analytics: Aligning data and their treatment to the assumptions of theory.* Symposium presented to American Educational Research Association Annual Meeting, Washington, DC.
- Part\*, R., **Bernacki, M.L.**, Nokes-Malach, T.J. & Aleven, V. (April, 2016). *Motivation under the microscope: a microgenetic examination of motivation to learn mathematics.* Poster presented at the American Educational Research Association Annual Meeting, Washington, DC.
- Walkington, C. & **Bernacki, M.L.** (April, 2015). *The Effects of personalization of algebra instruction to students' interests on learning, behavior, and interest in mathematics.* Paper presented at the 2015 Annual Meeting of the American Educational Research Association. Chicago, IL.
- Richey, J.E., **Bernacki, M.L.**, Belenky, D. M. & Nokes-Malach, T. J. (July, 2014). *Predicting performance with a task-based behavioral measure of achievement goals.* Paper presented at the Annual Meeting of the Cognitive Science Society, Quebec City, Quebec.

- Bernacki, M. L., & Walkington, C.** (July, 2014). *The impact of a personalization intervention for mathematics on learning and non-cognitive factors*. Paper presented at the Non-Cognitive Factors & Personalization for Adaptive Learning Workshop at the 7th International Conference of Educational Data Mining, London.
- Bernacki, M. L., Nokes-Malach, T. J., Alevan, V. & Glick, J.** (April, 2014). *Intelligent tutoring systems promote achievement in middle school mathematics, especially for students with low interest*. Paper presented at the Annual meeting of the American Educational Research Association, Philadelphia, PA.
- Bernacki, M. L., Nokes-Malach, T. J., & Alevan, V.** (April, 2014). *An examination of self-efficacy during a learning episode: initial levels, changes and associations with learning*. Paper presented at the Annual meeting of the American Educational Research Association, Philadelphia, PA.
- Walkington, C., & **Bernacki, M. L.** (April, 2014). *Students authoring personalized “algebra stories”: Problem-posing in the context of out-of-school interests*. Paper presented at 2014 Annual Meeting of American Educational Research Association.
- Bernacki, M. L., Nokes-Malach, T. J., Richey, J.E., & Belenky, D.M.** (November, 2012). *Science diaries: a brief writing intervention to improve motivation to learn science*. National Science Foundation Site Visit (Award #0836012). Arlington, VA.
- Ben-Eliyahu, A. & **Bernacki, M. L.** (April, 2012). *Integrating different approaches to investigating self-regulated learning*. Symposium presented at the Annual meeting of the American Educational Research Association, Vancouver, BC, Canada.
- Bernacki, M. L., Nokes-Malach, T. J., & Alevan, V.** (April, 2012). *Investigating stability and change in unit-level achievement goals and their effects on math learning with intelligent tutors*. Paper presented at the Annual meeting of the American Educational Research Association, Vancouver, BC, Canada.
- Belenky, D. M., Nokes, T. J., & **Bernacki, M. L.** (September, 2011). *Achievement goals over time: How changes in mastery and performance-approach predict deep knowledge*. Paper presented at the 14th Biennial Conference EARLI 2011, Exeter, UK.
- Bernacki, M. L.** (April, 2011). *The effect of self-regulated learning and prior knowledge on knowledge construction in computer-based learning environments*. Paper presented at the Annual meeting of the American Educational Research Association. New Orleans, LA.
- Bernacki, M. L.** (April, 2010). *An exploration of self-regulated learning, prior knowledge and knowledge acquisition in computer-based learning environments*. Poster presented at the Conference on Human Development at Fordham University. New York, NY.
- Bernacki, M. L., Stull, J.C., Varnum, S.J., Schiller, J., & Ducette, J.** (April, 2010). *How does online embedded student self-assessment affect achievement?* Poster presented at the Annual meeting of the American Educational Research Association. Denver, CO.

## **INVITED TALKS**

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- Bernacki, M.L. (November, 2017). *Analyzing the full student experience: the powerful intersection between curricular, co-curricular, and student life data*. Panel presentation at the annual meeting of EDUCAUSE, Philadelphia, PA.
- Bernacki, M.L. & Johnson, C. (June, 2017). *Achieve institutional excellence by harnessing campus-wide intelligence*. Webinar sponsored by Campus Technology. Retrieved online at <https://campustechnology.com/webcasts/2017/06/splunk-acheive-institutional-excellence-062217.aspx?tc=page0>

- Bernacki, M.L. (April, 2017). *Predicting achievement using existing university data and intervening to promote achievement and retention*. School of Education, University of North Carolina-Chapel Hill.
- Bernacki, M.L., Johnson, C., & Backstrom, C. (April, 2017). *Achieving the connected campus experience*. Panelist in presentation at the Splunk Higher Ed Forum, Durham, NC.
- Bernacki, M.L., Johnson, C. & Backstrom, C. (February, 2017). *From IT troubleshooting to predicting student achievement at UNLV*. Webinar to the Splunk Higher Education Group. Retrieved online at <http://carahevents.carahsoft.com/Event/Details/20149-cs1a>
- Bernacki, M.L. (January, 2017). *Cognitive, metacognitive, and motivational mechanisms to improve STEM learning*. College of Education, Pennsylvania State University.
- Bernacki, M.L. (April, 2016). *Cognitive, metacognitive, and motivational mechanisms to improve STEM learning*. Curry School of Education, University of Virginia.
- Bernacki, M.L. (February, 2016) *Helping students “Learn to learn” more effectively – right in their Blackboard courses*. Talk presented as a session of the UNLV Faculty Development Series, Las Vegas, NV.
- Bernacki, M.L. (February, 2016) *Supporting math learners with technology, analytics and lessons on learning*. Talk presented at the UNLV Math Learning Center, Las Vegas, NV
- Bernacki, M.L. (December, 2015) *Learning theory and analytics to understand and improve STEM achievement*. Talk presented at the Learning Analytics Technical Topics Exchange series, Pearson, Web-delivered.
- Bernacki, M.L. (November, 2015) *Using learning theory and analytics to understand and improve STEM achievement*. Presented at UNLV School of Nursing, Las Vegas, NV.
- Bernacki, M.L. (July, 2015) *Motivation under the microscope: applying a microgenetic approach to understanding the role of motivation in an intelligent tutoring context*. Talk presented at Teacher’s College, Columbia University, New York, NY.

**TEACHING EXPERIENCE**

<b>Course</b>	<b>Dept</b>	<b>Institution</b>	<b>Semester(s)</b>	<b>Size</b>
Development and Learning (Graduate Seminar)	SOE	University of North Carolina Chapel Hill	F18	15
Introduction to Statistics (Online; Development of Master Course)	EPY	UNLV	F16, S17	≥20
Principles of Learning in Education Media	EPY	UNLV	S16	8
Cognition & Instruction	EPY	UNLV	F15, F17	13
Self-Regulated Learning	EPY	UNLV	S15, S18	10
Research Methods	EPY	UNLV	F14	25
Introduction to Statistics	EPY	UNLV	6 times	25
Assessment & Evaluation	EDU	Temple University	F07(2), S08(2)	35
Lifespan Development	EDU	Temple University	F06(2) S07 (2)	35
Child Development	PSY	St. Joseph's University	S03	25
Developmental Psychology	PSY	St. Joseph's University Chestnut Hill College	S03 (2) F09*	25
Research Methods	PSY	St. Joseph's University	F02 (2)	28

**MENTORING EXPERIENCE****Advising & Committee Membership**

<i>Student</i>	<i>Institution (Completion Year)</i>	<i>Program</i>	<i>Role</i>
Nikki Lobczowski	University of North Carolina, Chapel Hill (UNC)	PhD, Learning Sciences and Psychological Studies (LSPS)	Committee Member
Rebekah Freed	UNC	PhD, Learning Sciences and Psychological Studies (LSPS)	Committee
Vic Deekens	UNC	PhD, Learning Sciences and Psychological Studies (LSPS)	Committee
Christopher Oswald	UNC (2018)	MS Learning Sciences	Committee
Mustafa Gunozu	University of Nevada, Las Vegas (UNLV)	Educational Psychology, PhD	Chair
Kyle Mefferd	UNLV	Educational Psychology, PhD	Chair
Elsa Mason	UNLV	Educational Psychology, PhD	Chair
Michael Wilder	UNLV	Learning & Technology, PhD	Co-Chair
Nancy Webb	UNLV	Learning & Technology, PhD	Chair
Rachel Part	UNLV	Educational Psychology, PhD	Committee
Yvette Aqvi	UNLV (2018)	Learning & Technology, PhD	Co-Chair
Megan Cogliano	UNLV (2018)	Educational Psychology, PhD	Co-Chair
Wonjoon Hong	UNLV (2018)	Learning & Technology, PhD	Chair

Jason Boggs	UNLV (2018)	Educational Psychology, PhD	Committee
Scot Ewen	UNLV (2018)	Teaching & Learning, PhD	Committee
Lucie Vosicka	UNLV (2017)	Educational Psychology, MS	Thesis Chair
Elif Adibelli	UNLV (2016)	Science Education, PhD	Graduate College Representative
Delene Volkert	UNLV (2016)	Nursing, PhD	Grad College Rep
Patrick Daleiden	UNLV (2016)	Computer Science, MS	Grad College Rep
P. Merlin Uesbeck	UNLV (2016)	Computer Science, MS	Grad College Rep
G.K. Nwosu	UNLV (2015)	Higher Education, PhD	Committee

### Undergraduate

Scholarship (for credit)	Institution	Department	Year(s)
Britney Trieu	UNLV	Biology; Honors Thesis	2017
Alexis Hilts	UNLV	Biology Honors Thesis	2016
Julia Glick	U of Pittsburgh	Biology – Independent Study	2012-13
Yana Ryjova	UNLV	Psychology – Independent Study	2017

### SLATE Research Interns

### Research Internship in

Danielle Cristofano, Joshua Durando, Julia Farrell, Amanda George, Sarah Jones, Mairead McInerney,	Saint Joseph's University	Sociology	2007-2008
Angela Citti, Michael Ortiz Meghan Ochs, Jessica Salefski	Saint Joseph's University	Psychology	2006- 2008

### Supervision of Research Assistants

<i>Graduate Student</i>	<i>Institution</i>	<i>Program</i>	<i>Year(s)</i>
Rachel Part*	UNLV	Educational Psychology	2016-present
Wonjoon Hong^	UNLV	Educational Psychology	2016-present
Megan Cogliano^	UNLV	Educational Psychology	2017-present
Elizabeth Hofschulte*	UNLV	Educational Psychology	2017-present
Nicholas Voorhees*	UNLV	Higher Education	2016-17
Michelle Dominguez*	UNLV	Higher Education	2015-16
Monique Yarnell	UNLV	Learning & Technology	2015-16
Lucie Vosicka*	UNLV	Educational Psychology	2014-2017
Erica Marti*	UNLV	Environmental Engineering	2014-15
Jason Boggs	UNLV	Educational Psychology	2013-14
G.K. Nwosu	UNLV	Higher Education	2013-14
Caleb Picker	UNLV	Psychology	2013-14
Phillip M. Uesbeck*	UNLV	Computer Science	2014
Marissa Owens*	UNLV	Learning & Technology	2014
Hossein Zangoeei*	UNLV	Mechanical Engineering	2014

*Undergraduate Student*

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Jerra Strong	UNLV	Computer Science	2016-2017
Robert Coe	UNLV	Computer Science	2015-2016
Kira Albers	UNLV	Computer Science	2015-2016
Kyle Bowen	UNLV	Computer Science	2014-2015
Stephanie Torres	UNLV	Psychology	2015
Hermella Misiker	UNLV	Life Sciences	2015-2017
Arelyn Lozano	UNLV	Psychology	2017
Nicholas Moellers	Pitt	Psychology	2012

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\* - funded via sponsored projects; see the Awards section ^ - funded through on-campus collaborations

**PROFESSIONAL WORK EXPERIENCE**

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<b>Consultant</b>	2018-
<i>Learning Analytics Initiative, UNLV College of Education</i>	
<b>Consultant</b>	2013
<i>Carnegie Learning, Inc. Pittsburgh, PA</i>	
<b>Primary Investigator, Grant Writer &amp; Research Coordinator (SLATE project)</b>	2002-2008
<i>Faith-Justice Institute, Saint Joseph's University</i>	
<b>Research Assistant</b>	2003-2007
<i>Department of Psychology, Temple University, Pathways to Desistance Study.</i> <i>PIs: Laurence Steinberg, Sonia Cota-Robles, et al.</i>	
<b>Program Coordinator</b>	2005-2006
<i>Youth Violence Reduction Partnership, Literacy Program &amp; Jobs Program</i>	
<b>Policy Research Assistant &amp; Classroom Coordinator</b>	2004-2006
<i>Philadelphia Safe &amp; Sound, Bartram High School Beacon Program.</i>	
<b>Research Assistant</b>	2000-2003
<i>Department of Psychology, Saint Joseph's University</i> Development Lab, Director was Elizabeth Jaeger.	
<b>Research Assistant</b>	2000-2002
<i>Department of Psychology, Temple University; National Institute of Child Health and Human Development; Study of Early Child Care Child Care Matters</i> PIs: Kathy Hirsh-Pasek, Marsha Weinraub, et al.	

## **PROFESSIONAL SERVICE**

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### **Professional Activities**

#### Editorial Board Member

*Journal of Educational Psychology* (2015 - present)

*Contemporary Educational Psychology* (2014 - present)

*Journal of Experimental Education* (2014 - present)

#### Guest Editorships

*Contemporary Educational Psychology* (with Jeffrey Greene & Helen Crompton; Editor: Patricia Alexander; 2019 issue) Issue Title: *Mobile Technology, Learning, and Achievement: A Critical Perspective on the Role of Mobile Technology in Education*

*Journal of Research on Technology in Education* (with Candace Walkington; Editor: Albert Ritzhaupt; 2019 Issue) Issue Title: *Personalization in Technology-Enhanced Learning Environments*

*Metacognition & Learning* (with Adar Ben-Eliyahu; Editor: Roger Azevedo; April 2015 issue) Issue Title: *Context, Contingency, and Dynamic Relations in Self-Regulated Learning*

#### AERA Division C (Learning & Instruction) Program co-Chair, 2016 - 2018

Section 2b (Cognitive & Motivational Processes, 2016)

Section 3a (Technology-based Learning Environments, 2017, 2018)

#### Program Committee, 2014,

Educational Data Mining, Personalization & Non-Cognitive Factors Workshop, 2014

#### Poster Award Chair, AERA SIG Studying and Self-Regulated Learning, 2014-2019

#### Ad hoc reviewer

*AERA Open, British Journal of Educational Psychology, Computers & Education, Educational Assessment, Educational Research, Educational Psychology, International Journal of Artificial Intelligence in Education, Journal of Educational Data Mining, Learning and Instruction*

#### Conference Program Reviewer

American Educational Research Association Annual Meeting, 2011-2014

Cognitive Science Society (CogSci) 2011-2014

International Association for Research on Service Learning & Community Engagement, 2007-8

### **University and Center Activities [UNLV]**

2017-18 (U) Senate Committee Instructional Infrastructure

2017-18 (C) Committee Scholarship and Awards

2016-17 (D) Subcommittee Educational Psychology Program – Program Evaluation

2016-18 (U) Advisory Board Office of Online Education Faculty Advisory Committee

2014-18 (C) Advisory Board College of Education Office of Research & Sponsored Projects

2014-17 (D) Subcommittee Learning & Technology Program – Program Evaluation

2013-18 (U) Committee University Learning Management System Committee

2013-18 (U) Advisory Board Transparency in Teaching & Learning Project

2013-14 (D) Subcommittee EPHE Graduate Studies

2010-2013 Coordinator LearnLab Metacognition and Motivation Thrust

2010-2011 Postdoctoral Rep LearnLab Executive Committee

2010-2011 Coordinator LearnLab Postdoctoral Professional Development (PD) Series



2010-2011 Co-Coordinator LearnLab Junior Faculty/Postdoctoral Researcher PD Series

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C- Service to College, D – to Department, U – to University

*Updated 1/2019*