HEATHER LEARY, PH.D.

Instructional Psychology & Technology
Brigham Young University
150-G MCKB, Provo, UT 84602

801.422.2765
heather.leary@byu.edu
https://www.drheatherleary.com

Education

2012   **Doctor of Philosophy (PhD)**, Instructional Technology and Learning Sciences
Utah State University, Logan, UT

Dissertation Title: *Self-Directed Learning in Problem Based Learning versus Traditional Lecture Based Learning: A Meta-Analysis*
Dissertation Committee: Andrew Walker (chair), Mimi Recker, Brett E. Shelton, Karl White, Wendy Holliday

2005   **Master of Education (MEd)**, Instructional Technology
Utah State University, Logan, UT

2000   **Bachelor of Fine Arts (BFA),** Photography
Utah State University, Logan, UT

Work Experience

2016-Present   **Assistant Professor**
Instructional Psychology & Technology
Brigham Young University, Provo, UT

2015-2016   **Curriculum Designer**
Online Curriculum Development
Brigham Young University – Idaho, Rexburg, ID

2011-2015   **Research Associate**
Institute of Cognitive Science
University of Colorado Boulder, Boulder, CO

2011-2015   **Visiting Research Scientist**
Digital Learning Sciences
University Corporation for Atmospheric Research, Boulder, CO

2010-2011   **Scholarly Communications & IR Librarian**
Merrill-Cazier Library, Digital Initiatives
Utah State University, Logan, UT

2006-2011   **Graduate Research Assistant**
Instructional Technology and Learning Sciences
Utah State University, Logan, UT

2008-2010   **Institutional Repository/Digital Imaging Coordinator**
Merrill-Cazier Library, Digital Initiatives
Utah State University, Logan, UT

2004-2008	**Digital Library Assistant** Merrill-Cazier Library, Digital Initiatives Utah State University, Logan, UT

2003-2004	**Cataloging Assistant** Merrill-Cazier Library, Cataloging Utah State University, Logan, UT

Awards & Honors

2021	**AECT Presidential Special Service Award** Association for Educational Communications & Technology

2021	**Nancy Peery Marriott Excellence in Mentoring Award** McKay School of Education, Brigham Young University

2020	**Outstanding Reviewer Award** Educational Technology Research & Development Journal

2020	**Outstanding Service Award** Research & Theory Division, Association for Educational Communications & Technology

2019	**Reviewer Excellence Award** Educational Technology Research & Development Journal

2018	**Reviewer Excellence Award – Development Section** Educational Technology Research & Development Journal

2011	**Early Career Symposium Recipient** One of 7 faculty/post docs selected for the symposium sponsored by the National Science Foundation and held at the Association for Educational Communications and Technology annual conference, October/November, Jacksonville, FL.

2011	**Outstanding Research Assistant** Instructional Technology and Learning Sciences, Utah State University, Logan, UT

2009	**Lee W. Cochran Intern** One of 5 graduate students selected for the ECT Internship held at the 2009 Association for Educational Communications and Technology annual conference, October, Louisville, KY

2009	**Professional Staff Award** Merrill-Cazier Library, Utah State University, Logan, UT

2009	**Outstanding Research Assistant** Instructional Technology and Learning Sciences, Utah State University, Logan, UT

2009	**Best Student Paper Award** *Expert Versus Novice Tutors: Impacts on Students Outcomes in Problem Based Learning* American Educational Research Association Sig ATL/LS, April, San Diego, CA

2009   **American Educational Research Association-Division C Graduate Student Seminar Recipient**
One of 20 graduate students selected for the American Educational Research Association annual meeting, April, San Diego, CA

2005   **Master of Education Scholar of the Year**
Instructional Technology, Utah State University, Logan, UT

Research

Research Interests and Expertise

My research focuses on tackling problems of practice in K12 and higher education using innovative approaches, design activities, technology, and iterations to solve them. I collaboratively work with practioners to bridge research and practice in various disciplines using design-based research (DBR), problem-based learning (PBL), and research-practice partnerships (RPPs).

Areas of expertise:

- Teacher professional development
- STEM and Arts education
- Open educational resources
- Self-directed learning

- Research-practice partnerships
- Problem-based learning
- Design-based research
- Meta-analysis and meta-synthesis

Refereed Journal Manuscripts and Book Chapters

Archambault, L., **Leary, H.**, & Rice, K. (accepted). The embodiment of online pedagogy: Preparing K-12 educators for online classrooms. *Educational Psychologist*.

Plummer, K., Kebritchi, M., **Leary, H.**, Halverson, D. (accepted). Decision-based learning: Enhancing learner's critical thinking skills through innovative teaching. *Innovative Higher Education*.

Powell, S., & **Leary, H.** (2021). Measuring learner-content interaction in digitally augmented learning experiences. *Distance Education*, *42*(3).

Leary, H. (2021). Leading by walking next to me. In J. H. Curry & S. R. Jackson (Eds.), *The Greatest Lecture I was Never Taught* (pp.). Brill Publishing.

Leary, H., Lee, V. R., & Recker, M. (2021). It's more than just technology adoption: Understanding variations in teachers' use of an online planning tool. *TechTrends, 65*.

Leary, H., Dopp, C., Turley, C., Cheney, M., Simmons, Z., Graham, C. R., & Hatch, R. (2020). Professional development for online teaching: A literature review. *Online Learning, 24*(4), 254-275.

Andrews, C., Motz, B., Israel, J., & **Leary, H.** (2020). Characteristics who students who opted in to use boost mobile app as an educational support service. *Journal of Teaching and Learning with Technology, 9*(1).

Sansom R. L., Bodily, R., Bates, C. O., **Leary, H.** (2020). Increasing student use of a learner dashboard. *Journal of Science Education and Technology, 29*(3), 386-398.

Leary, H., & Walker, A. (2020). Treating research studies as our primary subject: Using meta-analysis and meta-synthesis to conduct systematic reviews. In Romero-Hall, E. (Ed.) *Research Methods in Learning Design and Technology*. Springer.

Richardson, J. C., Brush, T., Leftwich, A., Karlin, M., **Leary, H.**, Shelton, B. E., Lowell, V., Exter, M., Strycker, J., Shin, S. (2020). Innovations in Instructional Design and Technology Programs A View from PIDT 2018. *TechTrends, 64*, 432-438.

Hu, M., Arnesen, K. T., Barbour, M. K., & **Leary, H.** (2019). A newcomer's lens: A look at K-12 online and blended learning in the Journal of Online Learning Research. *Journal of Online Learning Research*, *5*(2), 123-144.

Bodily, R., **Leary, H.**, & West. R. E. (2019). Research trends in instructional design and technology journals. *British Journal of Educational Technology, 50*(1).

Leary, H., Walker, A., Lefler, M. & Kuo, Y. (2019). Self-Directed Learning in Problem-Based Learning: A literature review. In Moallem, M., Hung, W., & Dabbagh, N. (Eds.), *The Wiley Handbook of Problem-Based Learning*. New Jersey: John Wiley & Sons.

Leary, H. & Walker, A. (2018). Meta-analysis and meta-synthesis methodologies: Rigorously piecing together research. *TechTrends, 62(*5), 525-534.

Leary, H. & Severance, S. (2018). Research-Practice Partnerships: Addressing K-12 Educational Problems Through Active Collaborations. In Branch, R. M. (Ed.) *Educational Media and Technology Yearbook, Volume 41*. New York: Springer.

Severance, S., Penuel, W. R., Sumner, T., & **Leary, H.** (2017). Organizing for Teacher Agency in Curricular Co-Design. In Cole, M., Penuel, W. R., & O'Neill, K. (Eds.), *Cultural-Historical Activity Theory Approaches to Design-Based Research*. New York: Routledge.

Leary, H., Severance, S., Penuel, W. R., Quigley, D., & Sumner, T. (2016). Designing a Deeply Digital Science Curriculum: Supporting Teacher Learning and Implementation with Organizational Technologies. *Journal of Science Teacher Education, 27*(1), 61-77.

Johnson, R., Severance, S., Penuel, W. R., & **Leary, H.** (2016). Teachers, Tasks, and Tensions: Lessons from a Research-Practice Partnership. *Journal of Mathematics Teacher Education*, *19* (1/2). http://dx.doi.org/10.1007/s10857-015-9338-3

Severance, S., Penuel, W. R., Sumner, T., **Leary, H.** (2016). Organizing for Teacher Agency in Curricular Co-Design. *Journal of the Learning Sciences, 25*(4), 531-564.

Lundstrom, K., Diekema, A., **Leary, H.**, Haderlie, S., & Holliday, W. (2015). Teaching and Learning Information Synthesis: An intervention and rubric based assessment. *Communications in Information Literacy, 9*(1), 60-82.

Ye, L., Recker, M., Walker, A., **Leary, H.**, & Yuan, M. (2015). Expanding Approaches for Understanding Impact: Integrating Technology, Curriculum, and Open Educational Resources in Science Education. *Educational Technology Research and Development, 63*(3), 355-380.

Belland, B. R., Walker, A. E., Olsen, M. W., & **Leary, H.** (2015). A Pilot Meta-Analysis of Computer-Based Scaffolding in STEM Education. *Educational Technology and Society, 18*(1), 183-197.

Walker, A., **Leary, H.**, Hmelo-Silver, C.E., & Ertmer, P.A. (Eds.). (2015). *Essential Readings in Problem-Based Learning: Exploring and Extending the Legacy of Howard S. Barrows*. West Lafayette, IN: Purdue University Press.

Leary, H., Walker, A., Shelton, B. E., & Fitt, M. H. (2015). Exploring the Relationships Between Tutor Background, Tutor Training, and Student Learning: A Problem-Based Learning Meta-Analysis. In Walker, A., Leary, H., Hmelo-Silver, C.E., & Ertmer, P.A. (Eds.), *Essential Readings in Problem-Based Learning: Exploring and Extending the Legacy of Howard S. Barrows*. West Lafayette, IN: Purdue University Press.

Walker, A., **Leary, H.**, Lefler, M. (2015). A Meta-Analysis of Problem-Based Learning: Examination of Education Levels, Disciplines, Assessment Levels, Problem Types, Implementation Types, and Reasoning Strategies. In Walker, A., Leary, H., Hmelo-Silver, C.E., & Ertmer, P.A. (Eds.), *Essential Readings in Problem-Based Learning: Exploring and Extending the Legacy of Howard S. Barrows*. West Lafayette, IN: Purdue University Press.

Butcher, K., **Leary, H.**, Foster, J., Devaul, H. (2014). Adopting an Online Curriculum Planning Tool: Facilitation for teachers' thinking about constructive pedagogy and technology integration. *Journal of Technology and Teacher Education*, *22*(4), 423-447.

Lee, V. R., **Leary, H.**, Sellers, L., Recker, M. (2014). The Role of School District Science Coordinators in the District-Wide Appropriation of an Online Resource Discovery and Sharing Tool for Teachers. *Journal of Science Education and Technology*, *23*(3), 309-323. doi: 10.1007/s10956-013-9465-5

Leary, H., Walker, A., Shelton, B. E., & Fitt, M. H. (2013). Exploring the Relationships Between Tutor Background, Tutor Training and Student Learning: A Problem-Based Learning Meta-Analysis. *Interdisciplinary Journal of Problem-Based Learning, 7*(1), 40-66.

Wetzler, P., Bethard, S., **Leary, H.**, Butcher, K., Danesh, S., Zhao, J., S., Martin, J. H., Sumner, T. (2013). Characterizing and Predicting the Multi-faceted Nature of Quality in Educational Web Resources. *Transactions on Interactive Intelligent Systems, 3*(3).

Leary, H., Lundstrom, K., & Martin, P. (2012). Copyright Solutions for Institutional Repositories: A Collaboration with Subject Librarians. *Journal of Library Innovation*, 3(1), 62-71.

Walker, A., Recker, M., Ye, L., Robertshaw, M. B., Sellers, L., & **Leary, H**. (2012). Comparing Technology-Related Teacher Professional Development Designs: A multilevel study of teacher and student impacts. *Educational Technology Research and Development*, 60(3), 421-444.

Ye, L., Walker, A., Recker. M., Robertshaw, M. B., Sellers, L., & **Leary, H**. (2012). Designing for problem-based learning: A comparative study of technology professional development. *US-China Education Review B, 5*, 510-520*.*

Walker, A., Recker, M., Robertshaw, M. B, Olsen, J., **Leary, H**., Ye, L., & Sellers, L. (2011). Integrating Technology and Problem-Based Learning: A Mixed Methods Study of Two Teacher Professional Development Approaches. *Interdisciplinary Journal of Problem Based Learning*, 5(2), 70-94.

Diekema, A. R., Holliday, W., & **Leary, H**. (2011). Re-Framing Information Literacy: Problem-Based Learning as Informed Learning. *Library & Information Science Research*, 33(4), 261-268.

Diekema, A. R., **Leary, H.**, Haderlie, S, & Walters, C. (2011). Teaching Use of Digital Primary Sources for K12 Settings. *D-Lib Magazine*, 17(3/4).

Leary, H., Giersch, S., Walker, A., & Recker, M. (2011). Developing and Using a Review Rubric to Assess Learning Resource Quality in Education Digital Libraries. In Kuo Hung Huang (Ed), *Digital Libraries Methods and Applications (*pp. 181-196). InTech.

Robertshaw, M.B., Walker, A., Recker, M., **Leary, H.** & Sellers, L. (2010). Experiences in the Field: The Evolution of a Teacher Technology Professional Development Model. In Myint Swe Khine & Issa M. Saleh (Eds.), *New science of learning: Cognition, computers, and collaboration in education* (pp. 307-324). New York: Springer.

Walker, A. & **Leary, H.** (2009). A Problem Based Learning Meta-analysis: Differences Across Problem Types, Implementation Types, Disciplines, and Assessment Levels. *Interdisciplinary Journal of Problem Based Learning*, 3(1), 6-28.

Robertshaw, M.B., **Leary, H.,** Walker, A., Bloxham, K., & Recker, M. (2009). Reciprocal Mentoring "In the Wild": A Retrospective, Comparative Case Study of ICT Teacher Professional Development. In E. Stacey (Ed.) *Effective Blended Learning Practices: Evidence-Based Perspectives in ICT-Facilitated Education* (pp. 280-297). Melbourne: IGI Global Press.

Recker, M., Walker, A., Giersch, S., Mao, X., Halioris, S., Palmer, B., Johnson, D., **Leary, H**., & Robertshaw, M.B. (2007*). *A Study of Teachers' Use of Online Learning Resources to Design Classroom Activities*. New Review of Hypermedia and Multimedia*, 13(2), 117-134.

Journal Columns

Leary, H., & Lockee, B. (2018). History Corner Update: Greetings from new co-editors. *TechTrends, 62*(1), 4-5.

Leary, H., & Parker, P. (2011). Fair Use in Face-to-Face Teaching. *TechTrends,* 55(4), 16-18.

Leary, H. (2010). ECT Internship: Building Connections and Establishing Relationships. *TechTrends*, 54(5), 13.

Leary, H. & Parker, P. (2010). Author rights: Knowing is More than Half the Battle. *TechTrends*, 54(3), 23-24.

Reports

Archibald, D., Barbour, M. K., **Leary, H.**, Wilson, E. V., & Ostashewski, N. (2020). Teacher education and K12 online learning. Half Moon Bay, BC: Canadian E-Learning Network. https://k12sotn.ca/wp-content/uploads/2020/07/k12ol-teacher-ed.pdf

Book Reviews

Leary, H. (2017). Educational technologies in medical and health sciences education. *The Interdisciplinary Journal of Problem-Based Learning, 11*(1).

Manuscripts Under Review

Powell, S., & **Leary, H.** Thirty years of learner-content interaction: Analyzing the discourse about digitally augmented learning experiences.

Johnstun, K., **Leary, H.**, & Jensen, B. Spanish for lunch: Engaging young interpreters in teacher professional development.

Leary, H., Devaul, H., & Sumner, T. Scenario-guided design evaluation: A structured methodology for engaging distributed teachers in technology design.

Leary, H., Butcher, K., & Devaul, H. Adopting an online curriculum planning tool: Facilitation for teachers' thinking about student-centered pedagogy and technology integration.

Price, J. L., & **Leary, H.** Teaching and learning at charter schools: A review of best practices.

Leary, H., Wadham, R., Graham, C. R., Dopp, C., Farmer, T., Cheney, M., & Simmons, Z. Exploring perceptions of novice and expert online teaching competencies in higher education.

Manuscripts in Preparation

Price, J. L., **Leary, H.**, & McDonald, J. Innovating at charter schools: A design case study

Cavan, M., & **Leary, H.** Implementation of student-centered teaching methods among STEM faculty.

Allman, B., & **Leary, H.** Pedagogical intent: A guiding principle for designing online and blended learning experiences.

Severance, S., Penuel, W. R., Manz, E., **Leary, H.** Implementation of a novel professional development program to support teachers' understanding of modeling.

Powell, L., **Leary, H.**, McLachlan, L., & Brock, K. J. Teachers collaboratively creating micro-credentials for professional development.

Leary, H., Jensen, B., & Mason, S. Institutional arrangements to foster connections and prepare partners in research-practice partnerships.

Leary, H., Jackson, B., & Hunter, M. Exploring STEM+Arts using meta-synthesis.

Leary, H., & Severance, S. Using wicked problems, design-based research, and research-practice partnerships for research and practice reciprocity.

Refereed Conference Proceedings

Allman, B., & **Leary, H.** (2021). A template for facilitating knowledge-building discourse in online teacher professional development. Poster in the proceedings of the International Conferences of the Learning Sciences. Bochum, Germany: International Society of the Learning Sciences.

Leary, H., & Severance, S. (2020). Using design-based research to solve wicked problems. Poster in the proceedings of the International Conference of the Learning Sciences. Nashville, TN: International Society of the Learning Sciences.

Johnstun, K., **Leary, H.,** & Jensen, B. (2019). Young interpreters: The situated as supportive. In Lund, K., Niccolai, G., Lavoué, E., Hmelo-Silver, C., Gweon, G., and Baker, M. (Eds.), *A Wide Lens: Combining Embodied, Enactive, Extended, and Embedded Learning in Collaborative Settings, 13th International Conference on Computer Supported Collaborative Learning (CSCL) 2019*, Volume 2 (pp. 557-560). Lyon, France: International Society of the Learning Sciences.

Powell, S., **Leary, H.**, McLachlan, L., Brock, K. (2018). Teachers collaboratively creating micro-credentials for professional development. In J. Kay & R. Luckin (Eds.), *Rethinking learning in the digital age: Making the Learning Sciences count 2018, Volume 2* (pp. 1157-1160). London, England: International Society of the Learning Sciences.

Leary, H., Lee, V.R., & Recker, M. (2014). More Than Just Plain Old Technology Adoption: Understanding Variations in Teachers' Use of an Online Planning Tool. In J. L. Polman, E. A.

Kyza, K. O'Neill, I. Tabak, W. R. Penuel, A. S. Jurow, K. O'Connor, T. Lee, & L. D'Amico (Eds.), *Learning and becoming in practice: The International Conference of the Learning Sciences (ICLS) 2014, Volume 1* (pp. 110–117). Boulder, CO: International Society of the Learning Sciences.

Johnson, R., Severance, S., **Leary, H.**, & Miller, S. (2014). Mathematical tasks as boundary objects in design-based implementation research. In J. L. Polman, E. A. Kyza, K. O'Neill, I. Tabak, W. R. Penuel, A. S. Jurow, K. O'Connor, T. Lee, & L. D'Amico (Eds.), *Learning and becoming in practice: The International Conference of the Learning Sciences (ICLS) 2014, Volume 2* (pp. 1127–1131). Boulder, CO: International Society of the Learning Sciences.

Severance, S., **Leary, H.**, & Johnson, R. (2014). Tensions in a multi-tiered research-practice partnership. In J. L. Polman, E. A. Kyza, K. O'Neill, I. Tabak, W. R. Penuel, A. S. Jurow, K. O'Connor, T. Lee, & L. D'Amico (Eds.), *Learning and becoming in practice: The International Conference of the Learning Sciences (ICLS) 2014, Volume 2* (pp. 1171–1175). Boulder, CO: International Society of the Learning Sciences.

Cole, M., Engeström, Y., Sannino, A., Gutiérrez, K., Jurow, S., Packer, M., Penuel, W. R., Johnson, R., Severance, S., **Leary, H.**, & Miller, S. (2014). Toward an argumentative grammar for socio-cultural/cultural-historical activity approaches to design research. In J. L. Polman, E. A. Kyza, K. O'Neill, I. Tabak, W. R. Penuel, A. S. Jurow, K. O'Connor, T. Lee, & L. D'Amico (Eds.), *Learning and becoming in practice: The International Conference of the Learning Sciences (ICLS) 2014, Volume 3* (pp. 1254–1263). Boulder, CO: International Society of the Learning Sciences.

Leary, H., Recker, M., Walker, A., Wetzler, P., Sumner, T., & Martin, J. (2011). Automating Open Educational Resource Assessments: A Machine Learning Generalization Study. In proceedings of the *Joint Conference on Digital Libraries*, New York: ACM.

Leary, H., Giersch, S., Walker, A., & Recker, M. (2009). Developing a Review Rubric for Learning Resources in Digital Libraries. In proceedings of the *Joint Conference on Digital Libraries*, New York: ACM.

Giersch, S. **Leary, H.,** Palmer, B., & Recker, M. (2008). Developing a Review Process for Online Resources*. In *proceedings of the Joint Conference on Digital Libraries*, New York: ACM.

Conference Presentations and Workshops

Leary, H., Brock, K., Roberts, C., & Rosenvall, A. (2022, April). Elementary science storylines with arts adaptations: A research-practice partnership. Paper presentation at the American Educational Research Association annual conference, San Diego, CA.

Leary, H., Andrews, C., Measom, E., Hemmingway, J., Tuiloma, S., Fuge, J., Gardner, K., West, L., Cutri, R. M., Losser, J. L. (2022, April). Developing stakeholders' readiness to thrive online: A higher education research-practice partnership. Paper presentation at the American Educational Research Association annual conference, San Diego, CA.

Measom, E., Tuiloma, S., Fuge, J, & **Leary, H.** (2021, October). Supporting online students through peer instructor training. Presentation at the Northern Rocky Mountain Educational Research Association annual conference, Sun Valley, ID.

Measom, E., Fuge, J., **Leary, H.,** Tuiloma, S., Call, H., West, L., Gardner, K., & Cannon, A. (2021, November). Designing learning supports for online teaching assistants. Presentation at the International Convention of the Association for Educational Communications and Technology, Chicago, IL.

Leary, H., Tuiloma, S., Fuge, J., Measom, E., Gardner, K., & Andrews, C. (2021, November). Cultivating 21st century lifelong learning skills. Presentation at the International Convention of the Association for Educational Communications and Technology, Chicago, IL.

Blevins, S., Clark-Stallkamp, R., Dousay, T., **Leary, H.**, Doyle, R., & Blatt, L. (2021, November). Mid-Career: Leading through professional service. Panel presentation at the International Convention of the Association for Educational Communications and Technology, Chicago, IL.

Harris, T., Hickey. D., Jutzi, K., Mujana, P., Pawan, F., Chartrand, G., & **Leary, H.** (2021, November). Responsive engagement for instructional designers and online education in asynchronous professional development. Panel presentation at the International Convention of the Association for Educational Communications and Technology, Chicago, IL.

Clark-Stallkamp, R., Watson, G. S., Stefaniak, J., **Leary, H.**, Lockee, B., Dietzel, R., Doyle, R. G., & Kozak, K. S. (2021, November). From teaching machines to televisions: Educational technology 1950-1975. Presentation at the International Convention of the Association for Educational Communications and Technology, Chicago, IL.

Lin, L., Moore, S., **Leary, H.**, Beck, D., Warren, S., Tillberg-Webb, H. (2021, November). Ethical issues in practical problems: Implications for design, decision making, and leadership. Panel presentation at the International Convention of the Association for Educational Communications and Technology, Chicago, IL.

Leary, H., Allman, B., Short, C. R., Wadham, R. L., & Zhang, J. (2021, November). Building the plane mid-flight: Navigating the tumultuous skies of design-based research. Workshop at the International Convention of the Association for Educational Communications and Technology, Chicago, IL.

Leary, H., & Gray, E. (2021, June). STEM and Arts together: Glassworks and physical properties of matter. Presentation for the annual Arts Express conference, Virtual conference.

Hu, M., Arnesen, K. T., Barbour, M., & **Leary, H.** (2021, April). A newcomer's lens: A look at K-12 online and blended learning in the journal of online research. Presentation for the annual conference of the American Educational Research Association, Virtual conference.

Leary, H., Short, C., Wadham, R., Zhang, J., (2020, November). Building the plane mid-flight: Navigating the tumultuous skies of design-based research. Workshop at the International Convention of the Association for Educational Communications and Technology, Virtual Convention.

Leary, H., Watson, G., Stefaniak, J., Dietzel, R., & Shelton, K. (2020, November). The first 25 years of AECT: The formative and consolidation periods. Presentation at the International Convention of the Association for Educational Communications and Technology, Virtual Convention.

Leary, H., & Gubler, S. (2020, November). Building teacher capacity in STEM and Arts. Presentation at the International Convention of the Association for Educational Communications and Technology, Virtual Convention.

Watson, G., **Leary, H.**, Oh, E. G., Bolliger, D. U. (2020, November). Impact of an early career symposium on individuals, AECT, & IDT. Presentation at the International Convention of the Association for Educational Communications and Technology, Virtual Convention.

Gubler, S., West, R. E., **Leary, H.**, McDonald, J. (2020, November). Reverse mentoring: An opportunity for the classroom? Presentation at the International Convention of the Association for Educational Communications and Technology, Virtual Convention.

Cox, S. & **Leary, H.** (2020, March). Breaking down silos: CS and CT integration in secondary education. Utah Coalition for Educational Technology Conference, Provo, UT.

Kimmons, R., Graham, C., West, R. E.., & **Leary, H.** (2020, March). What Do We Mean By Technology Integration NOW?. Utah Coalition for Educational Technology Conference, Provo, UT.

Leary, H., Jackson, B., & Hunter, K. (2019, October). STEM and the arts explored through a meta-synthesis. Presentation at the Association for Educational Communications and Technology international convention, Las Vegas, NV.

West, R., & **Leary, H.** (2019, October). Scaffolding new qualitative researchers through decision-based learning. Presentation at the Association for Educational Communications and Technology international convention, Las Vegas, NV.

Hu, M., Arnesen, K. T., Barbour, M., & **Leary, H.** (2019, October). Newcomer's lens: A look at K-12 online and blended learning in the journal of online research. Roundtable presentation at the Association for Educational Communications and Technology international convention, Las Vegas, NV.

Leary, H., Shelton, K., Dietzel, R., Ames, M., Doyle, R., Draper, D., Johnson, W., Lockee, B., Stefaniak, J., & White, C. (2019, October). Leadership voices: Past presidents and their roles in shaping our future. Presentation at the Association for Educational Communications and Technology international convention, Las Vegas, NV.

Francom, G., **Leary, H.**, Ritzhaupt, A. D., Oh, E. G., & Bloxham, K. (2019, October). You are more than your career: Finding an inspired work-life balance in the instructional design field. Panel presentation at the Association for Educational Communications and Technology international convention, Las Vegas, NV.

Graham, C. R., **Leary, H.**, Dopp, C., Farmer, T. S., Cheney, M., Simmons, Z. (2019, October). Exploring perceptions of online teaching competencies in higher education. Presentation at the Association for Educational Communications and Technology international convention, Las Vegas, NV.

Gray, E., & **Leary, H.** (2019, June). Bioluminscent sea creatures that glow in the dark! Presentation at the Arts Express Conference for Elementary Educators, Alpine, UT.

Leary, H., Jensen, B., Mason, S., Allman, B. (2019, April). Institutional arrangements to foster connections and prepare partners in RPPs. Presentation for the annual conference of the American Educational Research Association, Toronto, Canada.

Powell, S., **Leary, H.**, Hodges, C., McEllroy, A. D., & Gamrat, C. (2018, October). Teacher professional development through micro-credentials: Lessons learned and next steps. Presentation at the Association for Educational Communications and Technology international convention, Kansas City, MO.

Leary, H., & Mason, S. (2018, October). Adopting research-practice partnerships in K-12 education: Problems of practice and equitable learning for all. Presentation at the Association for Educational Communications and Technology international convention, Kansas City, MO.

McLachlan, L, **Leary, H.**, Powell, S., & Brock, K. (2018, October). Promoting teacher change through teacher choice and competency-based teacher professional development. Paper presented at the Northern Rocky Mountain Educational Research Association conference. Salt Lake City, UT.

Leary, H., Butcher, K., & Devaul, H. (2018, April). Impact of an ICT planning tool on student-centered technology integration. Presentation for the annual conference of the American Educational Research Association, New York, NY.

Jackson, B., Hunter, K., & **Leary, H.** (2018, April). Exploring STEM+Arts through meta-synthesis. Poster presentation at the annual MSE Mentored Research Conference. Provo, UT.

Leary, H., & Walker, A. (2017, November). Meta-analysis and meta-synthesis methodologies: Rigorously piecing together and analyzing research knowledge. Presentation at the Association for Educational Communications and Technology international convention, Jacksonville, FL.

Leary, H., Dopp, C., Cheney, M., Simmons, Z., & Graham, C. (November, 2017). Professional development for online teaching: A review of research questions and recommendations. Presentation at the Association for Educational Communications and Technology international convention, Jacksonville, FL.

Cates, W., Glazewski, K., Kaplan, G. A., Lockee, B., Peck, K., Reiser, R., Savenye, W., Smaldino, S., Young, P., **Leary, H.**, & Draper, D. (November, 2017). Propelling Into the Future: Educational Technology Scholarship Fueled by Core Philosophy and Emerging Trends. Presentation at the Association for Educational Communications and Technology international convention, Jacksonville, FL.

Kebritchi, M., Plummer, K., Swan, R. & **Leary, H.** (November, 2017). Evaluation of decision based learning (DBL) and its relation with students critical thinking skills and achievement. Presentation at the Association for Educational Communications and Technology international convention, Jacksonville, FL.

Leary, H., Devaul, H., & Sumner, T. (2017, April). Engaging Geographically Distributed Teachers in Technology Design: The scenario-guided design evaluation methodology. Presentation for the annual conference of the American Educational Research Association, San Antonio, TX.

Doyle, R., Lockee, B., Donaldson, A., Persichette, K., & **Leary, H.** (2016, October). Paralleling Women as President of AECT with Changes in U.S. Laws and Social Norms. Presentation at the Association for Educational Communications and Technology international convention, Las Vegas, NV.

Affolter, R., Bailey, D., Bell, T., McGill, T., **Leary, H.,** Manz, E., Michaels, S., Moon, J., Novak, M., Park, A., Penuel, W. R., Reiser, B. J., Severance, S., & Wilson, S. (2016, April). Models, Strategies, and Research on PD for Science Educators: Responding to the Framework and NGSS. Symposium for the 2016 annual conference of the National Association for Research in Science Teaching, Baltimore, MD.

Leary, H., Severance, S., Penuel, W. R., Quigley, D., Sumner, T., & Devaul, H. (2016, April). Supporting the Design and Implementation of a Digital Science Curriculum. Paper presentation for the annual conference of the American Educational Research Association, Washington, D.C.

Severance, S., **Leary, H.**, Johnson, R., & Quigley, D. (2016, April). Developing Teacher Expertise in the Next Generation Science Standards through Curricular Co-Design. Structured poster session at the annual conference of the American Educational Research Association, Washington, D.C.

Leary, H. & Kopcha, T. J. (2015, November). A Case Study of the Nature and Role of Boundary Objects in teacher Professional Development. Presentation at the Association for Educational Communications and Technology international convention, Indianapolis, IN.

Banas, J., Aslan, S., Blatt, L., Hale, P., Kopcha T. J., **Leary, H.**, Mete, S., Miller, C., & Persichitte, K. (2015, November). Building Bridges: Cooperative Learning and Shared Research Between Academia and Our Schools. Presentation at the Association for Educational Communications and Technology international convention, Indianapolis, IN.

Leary, H., Sumner, T., Ringstaff, C., Brown, D., & Devaul, H. (2015, April). Cyber Professional Development in Inquiry Science: An Iterative Evaluation Strategy. Roundtable presentation at the American Educational Research Association annual conference, Chicago, IL.

Severance, S., Penuel, W. R., **Leary, H.**, Reiser, B. J., Kincaid, P., Miller, J., Yacoubian, J., Martin, C. (2015, April). Curriculum Co-Design as a Strategy for Supporting Equitable Implementation of Next Generation Science Standards. Symposium presentation at the American Educational Research Association annual conference, Chicago, IL.

Kincaid, P., Penuel, W. R., Severance, S., **Leary, H.**, & Miller, J. (2015, March). *iHub: A Research-practice partnership to design new NGSS curriculum* Workshop presented at the National Science Education Leadership Association Meeting, Chicago, IL.

Leary, H., Sumner, T., Penuel, W. R., Johnson, R., Severance, S., Devaul, H., & Dibie, O. (2014, November). Building Teachers' Design Capacity: Curriculum, Adaptations, Implementation. Presentation at the Association for Educational Communications and Technology international convention, Jacksonville, FL.

Leary, H., Devaul, H., & Sumner, T. (2014, November). Supporting Levels of Change and Understanding: Assessing a Cyber Professional Development Environment. Presentation at the Association for Educational Communications and Technology international convention, Jacksonville, FL.

Johnson, R., **Leary, H.**, Severance, S., Penuel, W.R., Sumner, T., Devaul, H., Dibie, O. (2014, September). Capacity for Customization: Algebra Teachers, Curriculum Design, and the Common Core. Poster presentation at 6th annual symposium on STEM education, Boulder, CO.

Zahm, B., Demery, R., Sumner, T., & **Leary, H.** (2014, August). Overcoming Obstacles of Affordability, Flexibility, and Effectiveness to Scaling-Up with a Cyberlearning Professional-Development Model. Presentation at the DRK-12 Annual PI Meeting, Washington, D.C.

Ristvey, J., Murphy, T., & **Leary, H.** (2014, June). UCAR Virtual Learning and Curriculum Customization: Fostering Knowledge of Earth System Science. Workshop at the 58th International Council on Education for Teaching World Assembly, Oshawa, Ontario, Canada.

Leary, H., Lee, V. R., & Recker, M. (2014, April). A "Use Diffusion" Perspective on Teachers' Adoption and Use of a Social Teaching Platform. Paper presentation at the *American Educational Research Association annual conference,* Philadelphia, PA.

Johnson, R., **Leary, H.**, Penuel, W. R. (2014, April). Supporting Common Core-Driven Curriculum Adaptations for High School Algebra. Poster presentation at the *American Educational Research Association annual conference*, Philadelphia, PA.

Severance, S., Penuel, W. R., & **Leary, H.** (2014, April). Negotiation of Joint Work in a Research-Practice Partnership. Roundtable presentation *American Educational Research Association annual conference*, Philadelphia, PA.

Ye, L., Walker, A., **Leary, H.**, Recker, M., Yuan, M. (2014, April). Expanding Approaches for Understanding Impact: Integrating Technology, Curriculum, and Online Resources in Science Education. Paper presentation at the *American Educational Research Association annual conference*, Philadelphia, PA.

Kincaid, P. & **Leary, H.** (2014, April). Collaborative Tools for Customizing STEM Instruction. Presentation at the National Science Teachers Association Conference on Science Education, Boston, MA.

Leary, H. & Kincaid, P. (2013, December). Customizing STEM Instruction. Presentation at the National Science Teachers Association Area Conference on Science Education, Denver, CO.

Leary, H., Sumner, T., & Devaul, H. (2013, November). A Model for Delivering Open Educational Resources to K12 Teachers: Integration and Use in Planning and Practice. Presentation at the annual Open Education Conference, Park City, UT.

Leary, H., Davis, L., & Sumner, T. (2013, October). Understanding Instructional Coaching: Exploring a Model for Online Coaching. Presentation at the Association for Educational Communications and Technology international convention, Anaheim, CA.

Marlino, M. & **Leary, H.** (2013, October). It's All in the Mix: Customizing curricula and open educational resources for STEM education. Presentation at the Association for Educational Communications and Technology international convention, Anaheim, CA.

Leary, H., Lockee, B., Miller, T. W., Smaldino, S., Spector, J. M., & White, C. (2013, October). Leadership, History, and the Future: Voices of AECT Past-Presidents. Presentation at the Association for Educational Communications and Technology international convention, Anaheim, CA.

Leary, H., Parker, P., & Luetkehans, L. M. (2013, October). Educational Resources, K12 Teachers, and Copyright. Presentation at the Association for Educational Communications and Technology international convention, Anaheim, CA.

Sellers, L., **Leary, H.**, Recker, M., Lee, V., & Sumner, T. (2013, October). A Tale of Two Teachers: An exploratory study of internet resources use. Presentation at the Association for Educational Communications and Technology international convention, Anaheim, CA.

Parker, P., & **Leary, H**. (2013, October). Copyright Enlightenment for MOOCs and OERs. Presentation at the Association for Educational Communications and Technology international convention, Anaheim, CA.

Leary, H., Severance, S., Johnson, R., Penuel, W. R., Sumner, T., Devaul, H., Dibie, O., & Danesh, S. (2013, September). Customizing Curriculum and Digital Resources for STEM Educators. Poster presented at the 5th Annual Symposium on STEM Education, Boulder, CO.

Diekema, A., Haderlie, S., Holliday, W., Lundstrom, K., & **Leary, H**. (2013, May). The Next Information Literacy Challenge: Partnering to Promote Deeper Engagement with Information and Better Writing. Presentation at the Utah Library Association annual conference, Provo, Ut.

Lee, V. R., **Leary, H.**, Sellers, L., Recker, M., & Olsen, W. (April, 2013). Examining the Role of District Science Coordinators in the Implementation of a Web-based Lesson-planning Tool for Teachers. Paper presentation at the American Educational Research Association annual conference, San Francisco, CA.

Sellers, L., **Leary, H.**, Olsen, W., Lee, V. R., Recker, M., & Sumner, T. (2013, April). Understanding Teacher Use of an Online Curriculum Planning Tool. Poster presented at the American Educational Research Association annual conference, San Francisco, CA.

Ye, L., Walker, A., Recker, M., **Leary, H.,** Devaul, H., Butcher, K., & Sumner, T. (2013, April). Integrating

Technology, Curriculum, and Online Resources: A Multilevel Model Study of Impacts on Science Teachers and Students. Poster presented at the American Educational Research Association annual conference, San Francisco, CA.

Leary, H., Walker, A., & Shelton, B. E. (2012, November). A Meta-Analysis of Self-Directed Learning in Problem-Based Learning. Presentation at the Association for Educational Communications and Technology international convention, Louisville, KY.

Leary, H., Sellers, L., & Lee, V. R. (2012, November). Understanding Teacher Perspectives and Practices: Experiences from the Curriculum Customization Service. Presentation at the Association for Educational Communications and Technology international convention, Louisville, KY.

Parker, P. & **Leary, H.** (2012, November). LMS-less Open Educational Courses. Presentation at the Association for Educational Communications and Technology international convention, Louisville, KY.

Brush, T., Glazewski, K., Belland, B., Ottenbreit-Leftwich, A., & **Leary, H.** (2012, October). Problem-based Learning and Teacher Education. Panel presentation at Association for Educational Communications and Technology international convention, Louisville, KY.

Leary, H., Sumner, T., & Devaul, H. (2012, October). Inquiry Hub: Customizing Curriculum and Digital Resources for STEM Education. Poster presented at the 4th Annual Symposium on STEM Education, Boulder, CO.

Leary, H., Walker, A., Shelton, & B. E. (2012, April). Self-Directed Learning in Problem-Based Learning: A meta-analysis. Presentation at the American Educational Research Association, Vancouver, Canada.

Belland, B., Walker, A., Olsen, M. W., & **Leary, H.** (2012, April). Impact of Scaffolding Characteristics and Study Quality on Learner Outcomes in STEM Education: A meta-analysis. Presentation at the American Educational Research Association, Vancouver, Canada.

Walker, A., Recker, M., Ye, L., Sellers, L., **Leary, H.**, & Robertshaw, M. B. (2012, April). Comparing Technology-Related Teacher Professional Development Designs: A multilevel study of teacher and student impacts. Presentation at the American Educational Research Association, Vancouver, Canada.

Leary, H. & Parker, P. (2011, November). Fair Use, the TEACH Act and Open Educational Resources for Your Classroom. Presentation at the Association for Educational Communications and Technology international convention, Jacksonville, FL.

Sellers, L. & **Leary, H.** (2011, November). School Librarians and Technology: Integrating Online Resources for Teaching. Presentation at the Association for Educational Communications and Technology international convention, Jacksonville, FL.

Walker, A., Recker, M., Robertshaw, M. B., Olsen, J., Sellers, L., **Leary, H**., Kuo, Y., & Ye, L. (2011, April). Designing for Problem Based Learning: A Comparative Study of Technology Professional Development. Paper presentation at the American Educational Research Association, New Orleans, LA.

Recker, M., **Leary, H.**, Walker, A., Diekema, A. R., Wetzler, P., Sumner, & T., Martin, J. (2011, April). Modeling Teacher Ratings of Online Resources: A Human-Machine Approach to Quality. Paper presentation at the American Educational Research Association, New Orleans, LA.

Leary, H. (2010, November). A Sustainability Model for Populating DigitalCommons@USU. Innovation Fair presentation at SPARC Digital Repositories, Baltimore, MD.

Correia, A., Kim, Y., Lockee, B., Miller, P., Smaldino, S., & Young, P.[1] (2010, October). Empowering Women Leadership in the Field of Educational Technology. Presidential presentation at the Association for Educational Communications and Technology international convention, Anaheim, CA.

---

[1] Organized and facilitated by 2009 ECT Interns: Evrim Baran, Abigail Hawkins, Nari Kim, **Heather Leary**, Eunjung Oh

Diekema, A. R., Holliday, W., & **Leary, H.** (2010, October). Scaffolding Information Literacy with Problem-Based Learning in an Asynchronous Online Environment. Paper presentation at the Association for Educational Communications and Technology international convention, Anaheim, CA.

Leary, H., Shelton, B. E., & Walker, A. (2010, May). Rich Visual Media Meta-Analyses for Learning: An Approach at Meta-Synthesis. Roundtable presentation at the American Educational Research Association annual meeting, Denver, CO.

Belland, B., Walker, A., **Leary, H.**, Kuo, Y. & Can, G. (2010, May). A Meta-Analysis of Problem-Based Learning Corrected for Attenuation, and Accounting for Internal Threats. Paper presentation at the American Educational Research Association annual meeting, Denver, CO.

Walker, A., Recker, M., **Leary, H.**, & Robertshaw, M. B. (2010, May). Incorporating Technology and Problem-Based Learning: Professional Development for K-12 Teachers. Paper presentation at the American Educational Research Association annual meeting, Denver, CO.

Diekema, A. R., Haderlie, S., **Leary, H.**, & Walters, C. (2010, May). Tools for Using and Organizing Online Resources to Enhance Reference and Instruction. Presentation at the Utah Library Association annual conference, St. George, UT.

Leary, H., Williams, R., Dunshee, P., Elinky, M., Rollins, K., & Clement, S. (2010, May). Conferences, Exhibits, Open Houses, Oh My! Panel presentation at the Utah Library Association annual conference, St. George, UT.

Leary, H., Walker, A., Shelton, B. E., & Fitt, M. H. (2009, October). Expert Versus Novice Tutors: Impacts on Student Outcomes in Problem Based Learning. Paper presentation at the Association for Educational Communications and Technology international convention, Louisville, KY.

Leary, H., Fitt, M. H., & Wiley, D. (2009, October). Web 2.0 and the Open Education Movement: Transforming Learning in Higher Education. Paper presentation at the Association for Educational Communications and Technology international convention, Louisville, KY.

Robertshaw, M. B., Walker, A., & **Leary, H.** (2009, October). Putting the School Librarian Back in the Digital Library. Presentation at the Library & Information Technology Association National Forum, Salt Lake City, UT.

Leary, H., Shelton, B., & Jensen, M. (2009, October). Beyond Research: OpenCourseWare in the Institutional Repository. Presentation at the Library & Information Technology Association National Forum, Salt Lake City, UT.

Walters, C., **Leary, H.**, Diekema, A., & Haderlie, S. (2009, October). Using Digital Primary Sources for Teaching K-12. Presentation at the Utah Educational Association conference, Murray, UT.

Leary, H. & Shelton, B. (2009, August). Integrating an OpenCourseWare and Institutional Repository. Presentation at the annual Open Education Conference, Vancouver, BC.

Leary, H., Walker, A., Fitt, M. H., & Shelton, B.E. (2009, April). Expert Versus Novice Tutors: Impacts on Students Outcomes in Problem Based Learning. Roundtable presentation at the American Educational Research Association annual meeting, San Diego, CA.

Fitt, M. H., Walker, A., & **Leary, H.** (2009, April). Assessing the Quality of Doctoral Dissertation Literature Reviews in Instructional Technology. Paper presentation at the American Educational Research Association annual meeting, San Diego, CA.

Leary, H., Holliday, W., & Diekema, A. (2009, April). Teaching Information Literacy with Authentic Problems: Creating and Using an Online Module. Presentation at the Utah Library Association annual conference, Sandy, UT.

Alvord, T., **Leary, H.**, & Williams, R. (2009, April). FolkBistro: USU's Folklore Podcasts. Presentation at the Utah Library Association annual conference, Sandy, UT.

Haderlie, S., Walters, C., **Leary, H.**, & Diekema, A. (2009, March). Using Digital Primary Sources to Enhance Teaching and Learning. Presentation at the Utah Educational Library Media Association conference, Ogden, Utah.

Robertshaw, M. B., **Leary, H**., & Bloxham, K. (2008, November). Reciprocal Mentoring and Technological Pedagogical Content Knowledge: An Emerging Model of Technology Professional Development for K-12 Teachers. Presentation at the Association for Educational Communication and Technology international convention, Orlando, FL.

Leary, H. & Wiley, D. (2008, September). What Web 2.0 can Teach the Open Education Movement. Presentation at the annual Open Education Conference, Logan, Utah.

Robertshaw, M.B., Bloxham, K., Walker, A., **Leary, H**., & Recker, M. (2008, September). Teacher as Designers of Online and Open Educational Resources: An empirical examination of professional development for re-use. Presentation at the annual Open Education Conference, Logan, Utah.

Giersch, S., **Leary, H.,** Palmer, B., & Recker, M. (2008, September). Supporting Meaningful Learning with Online Resources: Developing a Review Process. Presentation at the annual Open Education Conference, Logan, Utah.

Leary, H., Robertshaw, M.B., Walker, A., & Bloxham, K. (2008, April/May). Crossing Paths to Connect Educators and Learners with Online Resources. Presentation at the Utah Library Association/Mountain Plains Library Association conference, Salt Lake City, UT.

Williams, R., Walters, C., & **Leary, H.** (2008, April/May). Sound Collaboration: Creating an Oral History Digital Collection from Scratch. Presentation at the Utah Library Association/Mountain Plains Library Association conference, Salt Lake City, UT.

Leary, H., Robertshaw, M.B., & Bloxham, K. (2008, Feb/March). The Instructional Architect: A Blueprint for Connecting Teachers and Students to Online Resources. Presentation at the Utah Coalition for Educational Technology annual conference, Salt Lake City, UT.

Walker, A. & **Leary, H**. (2008, March). A Problem-based Learning Meta-analysis: Differences Across Problem Types, Implementation Types, Disciplines, and Educational Levels. Paper presentation at the American Educational and Research Association annual conference, New York, NY.

Robertshaw, M. B., **Leary, H**., Gardner, J., & Bentley, J. (2007, November). Listening to the Librarians: Lessons from a 5-year Program Evaluation. Presentation at the American Evaluation Association conference, Baltimore, MD.

Walker, A. & **Leary, H.** (2007, October). Problem-based learning: A meta-analytic review of problem and implementation types across disciplines and educational levels. Paper presentation at the Association for Educational Communications and Technology international convention, Anaheim, CA.

Johnson, D., Walker, A., **Leary, H.**, & Robertshaw, B. (2007, March). Connecting teachers and learners with online resources. Presentation at the Utah Coalition for Educational Technology annual conference, Murray, UT.

Leary, H. (2007, April). Lessons Learned: Coding a meta-analytic review of problem-based learning literature. Annual Graduate Research Symposium, Utah State University, Logan, UT.

Presentations Under Review

West, R., & **Leary, H.** How we got to now: Leading scholars, institutions, and articles in the first 30 years of the Learning Sciences. ISLS.

Sansom, R., **Leary, H.**, Stowers, J., Poulsen, T., Ramsey, J., Pokhrel, J., Whiting, E., & Longhurst, M. Developing three-dimensional science teachers in rural schools using technology-mediated lesson study. ISLS.

Call, H., Arts, A., Measom, E., West, L., Tuiloma, S., Rogers, A., & **Leary, H.** Immediacy and student needs: Embedding learning resources in online courses. ISLS.

Measom, E., **Leary, H.**, Call, H., Tuiloma, S., West, L., Arts, A., Rogers, A., Brooksby, D., & Nielsen, G. Designing learning supports for online teaching assistants. ISLS.

West, L., Measom, E., **Leary, H.**, Call, H., Tuiloma, S., Arts, A., Rogers, A., Brooksby, D., & Nielsen, G. Thrive online: Preparing marginalized learners for success in online learning. ISLS.

McCulloch, T., & **Leary, H.** Yes, a picture is worth 1,000 words: How to improve your students critical

thinking and develop better SEEd phenomena observations with Visual Thinking Strategies. Arts Express.

Grants

Funded Contracts/Grants

Presenting at the Northern Rocky Mountain Educational Research Association Conference: New Graduate Students and Mentoring Faculty, McKay School of Education Mini-Grant, **Heather Leary (PI)**, $2,260, 2021.

Developing Three-Dimensional Science Teachers in Underserved Rural Settings, National Science Foundation, Rebecca Sansom (PI), **Heather Leary (co-PI)**, Joshua Stowers (co-PI), $2,998,817, 2021-2025.

Increasing Teacher Capacity to Make Curricular Adaptations for Arts Supporting STEM, BYU President's Innovation Fund Research-Practice Partnership Grants, **Heather Leary (PI)**, $14,950, 2021-2022.

Building Research-Practice Partnership Skills: Managing Teams for Learner Readiness, Instructor Capacity, and Data Collection in the Online Learning Environment, McKay School of Education Experiential Learning Grant, ***Heather Leary (PI),*** $18,000, 2020-2021.

Building Teacher Capacity with STEM and Arts, McKay School of Education Research Grant, **Heather Leary (PI)**, $32,980, 2019-2020.

Graduate Student and Faculty Presenting and Networking at CSCL: Spanish for Lunch Engaging Interpreters in Teacher Professional Development, McKay School of Education Mini-Grant for Research, **Heather Leary (PI)**, $4,947, 2019.

The STEM Faculty Institute (STEMFI) to Promote Faculty Change, National Science Foundation, Jamie Jensen (PI), Jennifer Nelson (co-PI), Geoff Wright (co-PI), Rebecca Sansom (co-PI), Richard West (co-PI), **Heather Leary (external evaluator, beginning fall 2018)**, $324,945, 2017-2020.

Fostering Arrangements for Research-Practice Partnership Project in the BYU-Public School Partnership, McKay School of Education BYU Center for the Improvement of Teacher Education and Schooling (CITES) Fellowship, **Heather Leary (PI)**, Bryant Jensen (co-PI), $20,000, 2018-2019.

Improving Professional Development for Instructional Design Graduate Students, McKay School of Education Experiential Learning Grant, Jason McDonald (PI), Charles Graham (co-PI), **Heather Leary (co-PI)**, Rick West (co-PI), $9,750, 2018.

Teaching Instructional Design Students About Developing in-Person, Interactive Learning Experiences, McKay School of Education Experiential Learning Grant, Jason McDonald (PI), Charles Graham (co-PI), **Heather Leary (co-PI)**, Rick West (co-PI), $1,700, 2018.

Graduate Student Travel to ICLS to Present a Design-Based Research Project Focused on Teacher Professional Development Using Micro-Credentials, McKay School of Education Mini-Grant for Research, **Heather Leary (PI)**, $4,798, 2018.

Student Travel to AECT to Present a Portion of a Collaborative Project on Recommendations for Professional Development in Online Teaching, McKay School of Education Mini-Grant for Research, **Heather Leary (PI)**, $3,920, 2017.

Strategies: Collaborative Research: Engineering Experiences: Pathways for Underserved Youth, Innovative Technology Experiences for Students and Teachers (ITEST), National Science Foundation, Tamara Sumner (PI), **Heather Leary (co-PI)**, with collaborators John Ristvey, Holly Devaul, Randy Russell, Catherine Williamson, $286,117 (CU portion), 2015-2018.

Inquiry Hub: Supporting Common Core and Next Generation Science Standards Curriculum Adaptations and Development, Undergraduate Research Opportunity Grant (UROP), University of Colorado Boulder, **Heather Leary (PI)**, $3,000, 2015.

Teaching with Primary Sources, Regional Teaching with Primary Sources, Library of Congress, $10,000, Cheryl Walters (PI), **Heather Leary (co-PI)**, Anne Diekema (co-PI), Sheri Haderlie (co-PI), 2009.

Map Printing for Patrons, Technology, Library Services and Technology Act, John Walters (PI), **Heather Leary (co-PI)**, $7,500, 2004.

Proposed Contracts/Grants (Not Funded)

Developing Stakeholders' Readiness to Thrive: The BYU eLearning Higher Education Research Practice Partnership, BYU Interdisciplinary Research Origination Award, Ramona Cutri (PI), **Heather Leary (co-PI)**, Janet Losser (co-PI), Carolyn Andrews (co-PI), $38,770, 2021-2022.

Developing Rural Teachers' Capacity for Culturally Competent 3D Science Teaching, BYU Interdisciplinary Research Origination Award, **Heather Leary (PI)**, Rebecca Sansom (co-PI), Erin Whiting (co-PI), $114,320, 2021-2022.

The STEMF Faculty Institute (STEMFI) to Facilitate Institutional Change, National Science Foundation, Jamie Jensen (PI), Vincent Wilding (co-PI), Nielson (co-PI), Rebecca Sansom (co-PI), Richard West (co-PI), **Heather Leary (external evaluator)**, $1,835,376, 2020-2025.

Developing Three-Dimensional Science Teachers for Underserved Rural Settings, National Science Foundation, Rebecca Sansom (PI), **Heather Leary (co-PI)**, Joshua Stowers (co-PI), $4,182,800, 2020-2025.

Increasing English Learners' (Els) Science Based Academic Literacy through Improving and Sustaining the Quality of their Teachers, U.S. Department of Education, Stefinee Pinnegar (PI), Kendra Hall-Kenyon (co-PI), Leigh Smith (co-PI), Ryan Nixon (co-PI), **Heather Leary (co-PI)**, Randy Davies (evaluator), Ross Larsen (evaluator), $8,157,390, 2018-2022.

Assimilation of Equity by Instructional Design: Research, Planning, Development, and Reflection on OER Curriculum and Learning Objects for Teaching and Learning About Equity in Education, Spencer Foundation, Feng-Ru Sheu (PI), Jenny Wakefield (co-PI), **Heather Leary (co-PI)**, $49,972, 2018-2020.

Fostering Improvements in Implementation Practices for K-12 Mathematics Teachers Using Co-Design and Micro-Credentials, National Science Foundation, **Heather Leary (PI)**, Rick West (co-PI), $449,488, 2018-2021.

The Difference Arts Can Make: Building Teacher Capacity with STEAM and Increasing Students' Critical Thinking and Creativity, Brigham Young University Interdisciplinary Research Origination Awards, **Heather Leary (PI)**, Geoff Wright (co-PI), Daniel Barney (co-PI), Mark Graham (co-PI), $119,832, 2018-2020.

Improving K-12 Problem-Based Learning: The Intersection of Research and Practice, Research Conference, American Educational Research Association, **Heather Leary (PI/organizer)**, with collaborators Peg Ertmer, Mary English, Jill Bradley-Levine, $34,934, 2015.

ALL for One: The Science Adaptable Learning Lab, STEM-C Partnerships: MSP, National Science Foundation, Tamara Sumner (PI), Erin Furtak (co-PI), Patricia Kincaid (co-PI), Kathy Perkins (co-PI), Josh Allen (co-PI), Rajul Pandya (Senior Personnel), **Heather Leary (Senior Personnel)**, Emily Moore (Senior Personnel), Donna Caccamise (Senior Personnel), William Penuel (Senior Personnel), John Weatherley (Senior Personnel), Michael Klymkowsky (Senior Personnel), with collaborators: Mimi Recker, Victor Lee, Andrew Walker, $7,498,990, 2014-2018.

DIP: Collaborative Research: Opera: Open Educational Resource Assessments, Cyberlearning, National Science Foundation, Tamara Sumner (PI), **Heather Leary (co-PI)**, Jordan Boyd-Graber (co-PI), with collaborators: Kirsten Butcher, Mimi Recker, Holly Devaul, $699,438 (CU portion), 2015-2018.

Informed Learning: Using Authentic STEM Problems to Learn Science Practices and Information Synthesis, American Honda Foundation, **Heather Leary (PI)**, with collaborators: Anne Diekema and Robert Payo, $74,973, 2014-2015.

Collaborative Research: Theorizing Big Data: From Teachers' Technology Use to Student Learning, EHR Core (ECR), National Science Foundation, Tamara Sumner (PI), **Heather Leary (co-PI)**, Tomasz Miaskiewicz (co-PI), with collaborators: Mimi Recker, Victor Lee, Keith Maull, Mike Wright, $606,982 (CU portion), 2014-2016.

Creating 21st Century Learners: An online module to stimulate active learning, critical thinking, and knowledge building, National Leadership Grant, Institute of Museum and Library Services, Anne Diekema (PI) and **Heather Leary (co-PI)**, $48,321 (CU portion), 2012-2014.

Contracts/Grants Under Review
The Impact of Institutional Support on Research-Practice Partnership Projects, BYU CITES Fellowship, **Heather Leary (PI)**, Jaynie Mitchell (co-PI), $30,00, 2022-2024.

Teaching
Courses Taught
Undergraduate
- IP&T 371: Integrating K-12 Educational Technology I
- IP&T 372: Integrating K-12 Educational Technology II

Graduate
- EIME 720: Design-Based Research
- IP&T 515R: Problem-Based Learning
- IP&T 520: Foundations of Instructional Design
- IP&T 653: Qualitative Research I
- IP&T 661: Introduction to Evaluation

- IP&T 677R/687R/699R/799R: Writing support for thesis, dissertation, and PhD projects

Educator Professional Development Workshops

STEM+Arts with the Utah SEEd standards: Making adaptations for implementation. Workshop in partnership with Provo City School District on alignment of the Utah SEEd standards incorporating arts. Workshop designed collaboratively with district leaders. 2021.

McKay School of Education Professional Development Workshops – Spring 2020. Workshop for BYU faculty related to assessment in blended and online learning. Workshop designed and delivered by **H. Leary** and S. Ockler. 2020.

Inspiring Learning Through Research-Practice Partnerships. Workshop for BYU faculty and partnership district educators to learn about and discuss research-practice partnerships. Workshop designed by **H. Leary**. 2017.

Badges and Professional Development. Engaging K-12 teachers in co-design to create badges, or micro-credentials, for professional development in their school district. Teachers gained an understanding of badges and the value in co-design. Workshops designed by S. Powell and **H. Leary**. 2017, 2018.

Inquiry Hub. Blended learning teacher professional development to support understanding of the Common Core State Standards for Mathematics (CCSS-M) and the Next Generation Science Standards (NGSS). High school Algebra teachers gained a better understanding of high quality mathematical tasks and the CCSS-M through task ratings on cognitive demand, language, and technology as well as authoring adaptations to math tasks and implementing them in their classrooms. High school Biology teachers gained a better understanding of the NGSS and how to implement them through a co-design process writing new biology units and implementing them in their classrooms. 2012-2015

The Curriculum Customization Service. Teacher professional development face-to-face and online workshops focused on the Curriculum Customization Service, an online tool to assist middle and high school Earth and Physical science teachers and high school Algebra teachers to customize their curriculum using publisher resources, online resources, and shared resources from other teachers. For six school districts: Denver Public Schools (CO), St. Vrain Valley School District (CO), Mapleton Public Schools (CO), Douglas County School District (CO), Davis County School District (UT), and Clark County School District (NV). Workshops were designed and delivered by H. Devaul and **H. Leary** in fall 2011, 2012, 2013, and 2014.

Introduction to the Instructional Architect. Teacher professional development workshop focusing on the Instructional Architect, inquiry-based learning, and the evaluation of online educational resources for the integration of online resources in the classroom. Davis County School District, Farmington, UT. Workshops were designed and delivered by M. Recker, A. Walker, **H. Leary**, L. Sellers, B. Robertshaw, and D. Johnson in fall 2010 (Davis County School District), spring 2010 (Cache County School District), fall 2009 (Cache County School District), spring 2009 (Cache County School District), fall 2008 (Cache County School District), spring 2007 (Edith Bowen Laboratory School).

Teaching with Primary Sources. Teacher and school library media specialist professional development workshop focusing on primary sources in the Library of Congress, Mountain West Digital Library and Utah State University Digital Library; tool for archiving and presenting primary sources in the classroom. Utah State University, Logan, UT. Workshop was designed and delivered by C. Walkers, **H. Leary**, A. Diekema, and S. Haderlie in summer 2009.

A Review of the Instructional Architect. School library media specialists review and introduction to advanced features of the Instructional Architect. Utah State University, Logan, UT. Workshop was designed and delivered by K. Bloxham and **H. Leary** in summer 2008.

Introduction to software programs. Series of workshops for academic librarians on the basics of Photoshop Elements, Word, Excel, and PowerPoint. The intent was to prepare them for helping patrons use the programs in a newly created Information Commons. Utah State University, Logan, UT. Workshops were designed and delivered by **H. Leary** in spring 2005.

Invited Lectures

Leary, H. (Fall 2018). Collaborative Research and Practice: Improving the Pipeline from Professional Development to Implementation. Presented on my current research activities to students and faculty in the department of Instructional Technology and Learning Sciences at Utah State University in their weekly Brown Bag.

Leary, H. (Spring 2017). Supporting Teachers' Design Capacity: Curriculum, Technology, Planning, Implementation. Presentation on my current research activities to students and faculty in the Educational Inquiry, Measurement, and Evaluation program at Brigham Young University in their weekly lunch seminar.

Leary, H. (Spring 2017). Supporting Teachers' Design Capacity: Curriculum, Technology, Planning, Implementation. Presentation on my current research activities to students and faculty in the department of Instructional Technology and Learning Sciences at Utah State University in their weekly Brown Bag.

Leary, H. (Fall 2010). National & Local Digital Libraries and an Online Technology Tool for Teaching. Presented a lecture to graduate students in INST 5000/6060 at Utah State University on various digital libraries, copyright considerations, and the Instructional Architect.

Leary, H. & Walters, C. (Spring 2009). *National & Local Digital Libraries and an Online Technology Tool for Teaching*. Presented a lecture to graduate students in INST 5030/6030 at Utah State University on the Library of Congress, Mountain West, and Utah State digital libraries along with an introduction to the Instructional Architect.

Leary, H. (Fall 2008). *National & Local Digital Libraries and an Online Technology Tool for Teaching*. Presented a lecture to graduate students in INST 5000/6060 at Utah State University on the Library of Congress, Mountain West, and Utah State digital libraries along with an introduction to the Instructional Architect.

Leary, H. (Fall 2007). *The Instructional Architect*. Presented a lecture to graduate students in INST 5000/6060 at Utah State University on the Instructional Architect.

Instructional Materials Developed

Recker, M., Walker, A., **Leary, H.**, Sellers, L., Ye, Lei, & Robertshaw, M. B. (2011). Redesign of the Instructional Architect online course module: Connecting People with Online Resources, PBL and Technology only. The course was created as html pages for easy importing into Blackboard and reuse of the material.

Leary, H., Holliday, W., & Diekema, A. (2009). *Information Literacy.* Design and development of an information literacy course module for students at Utah State University. The course was created as html pages for easy importing into Blackboard and reuse of the material.

Leary, H., Bloxham, K., & Recker, M. (2009). *Instructional Architect online course module*. Redesign of the Instructional Architect online course module. The course was created as html pages for easy importing into Blackboard and reuse of the material.

Leary, H., Giersch, S., & Recker, M. (2008). *The Instructional Architect review rubric.* Design and development of an evaluation rubric for online educational resources, specifically Instructional

Architect projects. It was created for classroom teachers to use to inform their designing and evaluation of IA projects.

Recker, M., Walker, A., Johnson, D., Robertshaw, M. B., **Leary, H.**, Bloxham, K., & Sellers, L. (2007-2010). *The Instructional Architect.* Design and development of progressive professional development workshop materials for teaching the Instructional Architect.

Leary, H. (2005). *Introduction to software programs*. Designed and developed materials for a series of workshops for academic librarians on Photoshop Elements, Word, Excel, and PowerPoint. Courses were delivered face-to-face with supplemental Camtasia videos.

Mentoring
Brigham Young University
Master's students (chair): Elizabeth Robinson, Kevin Johnstun, Nick Gubler, Melissa Cavan
Doctoral students (chair): Carolyn Andrews, Sandy Powell, Bohdana Allman, Jennifer Price

Service
Journal Column Editor
- 2018-Present, History Corner (co-editor with Barbara Lockee), *TechTrends*

Journal Advisory Board Member
- 2021-Present*, Instructional Science*
- 2015-2018, *Interdisciplinary Journal of Problem-Based Learning*

Journal Editor, Special Issue
- 2021, *Case Study Section Editor with Dr. Stephanie Moore, for Learning, design, and technology: An international compendium of theory, research, practice and policy.*
- 2013, *Special issue: Interdisciplinary Journal of Problem-Based Learning*

Journal Reviewing
- 2017-Present, *Instructional Science*
- 2012-Present, *Educational Technology Research & Development*
- 2011-Present, *Interdisciplinary Journal of Problem-Based Learning*
- 2018, Ad Hoc reviewer, *Journal of Research on Technology in Education*
- 2018 Ad Hoc reviewer, *British Journal of Educational Technology*
- 2018 Ad Hoc reviewer, *AERA Open*
- 2018 Ad Hoc reviewer, *Sage Open*
- 2018 Ad Hoc reviewer, *TechTrends*
- 2015, 2018 Ad Hoc reviewer, *Computers and Education*
- 2010, 2018 Ad Hoc reviewer, *American Educational Research Journal*
- 2013 Ad Hoc reviewer, *Journal of Educational Psychology*
- 2013 Ad Hoc reviewer, *Journal of Online Learning and Teaching*
- 2012 Ad Hoc reviewer, *Educational Researcher*
- 2009 Ad Hoc reviewer, *Journal of the Learning Sciences*

Grant Proposal Reviewing
- 2015, National Science Foundation: Science, Technology, Engineering, Mathematics + Computing Partnerships (STEM+C)

Conference Proposal Reviewing

- 2009, 2013-Present, American Educational Research Association Conference (AERA)
- 2012-Present, Association for Educational Communications and Technology Convention (AECT)
- 2021-Present, International Society of the Learning Sciences Conference (ICLS and CSCL combined into one conference in 2021)
- 2012, 2014, 2016, 2018, 2020, International Conference of the Learning Sciences (ICLS)
- 2017, 2019, Computer Supported Collaborative Learning Conference (CSCL)

Conference Awards Reviewing
- 2014, Association for Educational Communications and Technology, Early Career Symposium
- 2012, Association for Educational Communications and Technology, Division of Distance Learning Crystal Award
- 2012, Association for Educational Communications and Technology, ECT Internship

Brigham Young University
Committee Memberships
- **Member and Chair**, Faculty Advisory Council, McKay School of Education, 2021-Present
- **Faculty Advisor**, IPT Student Organization, 2019-Present
- **Member**, Research-Practice Partnership Committee, McKay School of Education, 2017-Present
- **Member**, Web Committee, Instructional Psychology & Technology department, 2016-2019
- **Planner**, Paper and Poster Party, Instructional Psychology & Technology department, 2018
- **Planning Committee Member**, Professors of Instructional Design Technology annual conference, Instructional Psychology & Technology department, 2017

Other Service
- **Presenter**, Research-Practice Partnership Grant Workshop, McKay School of Education, December 2020
- **Presenter**, Faculty Remote Teaching Professional Development Workshops, McKay School of Education, May/June 2020
- **Panel member**, Grant writing workshop, Research Development, December 2017
- **Presenter**, Research Network Event, Research Development, August 2017
- **Three-Minute Thesis judge**, McKay School of Education, February 2017
- **Reader for undergraduate names**, McKay School of Education Convocation, August 2016

Utah State University
Graduate Student Associations
- **Communications Officer**, Instructional Technology Student Association, 2009-2010
- **Department Representative**, Instructional Technology and Learning Sciences to the Graduate Student Senate, 2007-2010
- **Secretary**, Instructional Technology Student Association, 2007-2008

Committee Memberships
- **Copyright Committee**, Merrill-Cazier Library, 2009-2011
- **Institutional Repository Advisory Committee,** Chair, Merrill-Cazier Library, 2008-2011
- **Staff Development Committee,** Merrill-Cazier Library, 2004-2009
- **Digital Library Advisory Committee**, Merrill-Cazier Library, 2004-2009
- **Student representative faculty search committee**, Instructional Technology and Learning Sciences, 2008
- **Graphic designer search committee**, Faculty Assistance Center for Teaching, 2005

Conferences
- **Facilitator**, Association for Educational Communications and Technology Conference, Anaheim, CA, 2010
- **Volunteer**, Utah Library Association Conference, St. George, Utah, 2010
- **Organizer**, Institutional Repositories: Disseminating, Promoting, and Preserving Scholarship conference, September 20, 2009, Utah State University, Logan, Utah, 2009
- **Volunteer**, Open Education Conference, Logan, Utah, 2006-2008

External Leadership Positions
- **Chair**, History and Archives Committee, Association for Educational Communications and Technology, 2015-Present
- **Program Chair**, Problem-Based and Project-Based Learning SIG, American Educational Research Association, 2021-2023
- **President-Elect/President/Past-President**, Research & Theory Division, Association for Educational Communications and Technology, 2020-2023
- **Chair**, Leadership Development Committee, Association for Educational Communications and Technology, 2018-2021
- **Professional Development Coordinator**, Research & Theory Division, Association for Educational Communications and Technology, 2017-2020
- **Member**, Leadership Development Committee, Association for Educational Communications and Technology, 2012-2018
- **Member**, History and Archives Committee, Association for Educational Communications and Technology, 2009-2015
- **Member**, Intellectual Property Committee, Association for Educational Communications and Technology, 2009-2014
- **Liaison**, Utah State University Institutional Repository liaison with the Utah Academic Library Consortium, 2009-2011

Community Service
- **Member**, School Land Trust Committee, Mountain Heights Academy, 2021-2022

Professional Memberships
- American Educational Research Association (AERA), 2007-Present
- Association for Educational Communications and Technology (AECT), 2007-Present
- International Society of the Learning Sciences (ISLS), 2012-Present
- National Science Teachers Association (NSTA), 2012-2015

Honor Society Memberships
- Golden Key National Honor Society, 2008-Present
- Phi Kappa Phi, 2005-Present

Other Memberships
- BYU Faculty Women's Association, 2016-Present