

Andrew E. Walker

Department Head, Utah State University

start date August 1, 2005

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Education

- **PhD**, Utah State University, Instructional Technology, 2002.
- **MS**, Utah State University, Instructional Technology, 2000.
- **BA**, Washington State University, English, 1995.

Professional Memberships

- American Educational Research Association
- Association for Educational Communications and Technology
- Professors of Instructional Design and Technology

Prior Employment

10/16-now	Department Head, Utah State University, Instructional Technology and Learning Sciences Department
7/15-10/16	Interim Department Head, Utah State University, Instructional Technology and Learning Sciences Department
7/11-7/15	Associate Professor, Utah State University, Instructional Technology and Learning Sciences Department
8/05-7/11	Assistant Professor, Utah State University, Instructional Technology Department
8/02-8/05	Assistant Professor, Lehigh University, Educational Technology Program
8/00-8/02	Research Assistant, Utah State University, NSF Grant (Instructional Architect)
8/99-8/00	Research Assistant, Utah State University, Educational Technology Program
8/96-9/99	Coordinator of Extended Degree Program and Learning Technologies, Department of Human Development at Washington State University

Part A: Research

Publications

Refereed Journals

Jackson, D., Kaveh, H., Victoria, J., **Walker, A. E.**, Bursztyn, N. (under review). Challenge-based approach to integrating an augmented reality sandbox into a high-enrollment introductory geoscience course engages students but still produces no learning gains. *Journal of Geoscience Education*.

Leary, H., **Walker, A. E.** (in press). Meta-Analysis and Meta-Synthesis Methodologies: Rigorously Piecing Together Research. *TechTrends*.

Kim, N. J., Belland, B. R., **Walker, A. E.** (2018). Effectiveness of computer-based scaffolding among K-12 students engaged in problem-based learning in science: Bayesian meta-analysis. *Educational Psychology Review* 30(2) p. 397-429.

Belland, B. R., **Walker, A. E.**, Kim, N. J. (2017). A Bayesian network meta-analysis to synthesize the influence of contexts of scaffolding use on cognitive outcomes in STEM education. *Review of Educational Research* 48(6) p. 1042-1081.

George, B., Shelton, B., **Walker, A. E.** (2017). Barriers to the adoption of online design education within North American collegiate landscape architecture programs. *Landscape Review* 17(1) p. 15-29

Belland, B. R., **Walker, A. E.**, Kim, N., Lefler, M. (2017). Synthesizing results from empirical research on computer-based scaffolding in STEM education: A meta-analysis. *Review of Educational Research*, 87(2), 309-344.

Bursztyn, N., **Walker, A. E.**, Shelton, B. E., Pederson, J. L. (2017). Assessment of student learning using augmented reality Grand Canyon field trips for mobile smart-devices. *Geosphere*, 13(2), 260-268.

Bursztyn, N., **Walker, A. E.**, Shelton, B. E., Pederson, J. L. (2017). Increasing undergraduate interest to learn geoscience with GPS-based augmented reality field trips on students' own smartphones. *GSA Today*, 27(6), 4-10.

Lee, J. E., Recker, M. M., Choi, H., Hong, W. J., Kim, N. J., Lee, K., Lefler, M., Louviere, J., **Walker, A. E.** (2016). Applying Data Mining Methods to Understand User Interactions within Learning Management Systems: Approaches and

Lessons Learned. *Journal of Educational Technology Development & Exchange*, 8(2), 99-116.

Burstyzn, N., Pederson, J. L., Shelton, B. E., **Walker, A. E.**, Campbell, T. (2015). Utilizing Geo-referenced Mobile Game Technology for Universally Accessible Virtual Geology Field Trips. *International Journal of Education in Mathematics, Science, and Technology*, 3(2), 93-100.

Ye, L., Recker, M. M., **Walker, A. E.**, Leary, H., Min, Y. (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 & Society*, 18(1), 183-197.

Kuo, Y., Belland, B., Schroder, K. & **Walker, A.** (2014). K-12 teachers' perceptions of and their satisfaction with interaction type in blended learning environments. *Distance Education*, 35(3), 360-381.

Kuo, Y.-C., **Walker, A. E.**, Schroder, K., Belland, B. R., Kuo, Y. T. (2014). A case study of integrating Interwise: Interaction, Internet self-efficacy, and satisfaction in synchronous online learning environments. *The International Review of Research in Open and Distance Learning*, 15(1), 161-181.

Kuo, Y.-C., **Walker, A. E.**, Schroeder, K. E., Belland, B. R. (2014). Interaction, Internet self-efficacy, and self-regulated learning as predictors of student satisfaction in online education courses. *The Internet and Higher Education*, 20, 35-50.

Leary, H., **Walker, A.**, Shelton, B., & 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.

Kuo, Y., **Walker, A.**, Belland, B., Schroder, K. (2012). A predictive study of student satisfaction in online education programs. *The International Review of Research in Open and Distance Learning*, 14(1) 16-39.

Walker, A., Recker, M., Ye, Lei, Robertshaw, 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, B., Olsen, J., Leary, H., & Ye, 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.

Can, G. & **Walker, A.** (2011) A model for doctoral students' perceptions and attitudes toward written feedback for academic writing. *Research in Higher Education*, 52(5), 508-536.

Gurell, S., Kuo, Y. **Walker, A.** (2010). The pedagogical enhancement of open education: An examination of problem-based learning. *The International Review of Research in Open and Distance Learning*, 11(3), 95-105

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), 12-43.

Walker, A. & Shelton, B. (2008). Problem-based educational games: Connections, prescriptions, and assessment. *Journal of Interactive Learning Research*, 19(4), 663-684.

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.

Kramer, B., **Walker, A.**, & Brill, J. (2007). The Underutilization of Internet and Communication Technology-assisted Collaborative Project-Based Learning Among International Educators: A Delphi Study. *Educational Technology Research and Development* 55(5), 527-543.

Brill, J., Bishop, M., & **Walker, A.** (2006) An investigation into the competencies required of an effective project manager: A Web-based Delphi study. *Educational Technology Research & Development* 54(2), 115-140.

Walker, A., Recker, M., Lawless, K., & Wiley, D. (2004). Collaborative information filtering: A review and an educational application. *International Journal of Artificial Intelligence in Education*, 14, 1-26.

Recker, M., **Walker, A.**, Lawless, K. (2003). What do you recommend? Implementation and analyses of collaborative filtering of Web resources for education. *Instructional Science*, 31(4/5), 299-316.

Recker, M., & **Walker, A.** (2003). Supporting “word of mouth” social networks through collaborative information filtering. *Journal of Interactive Learning Research* 14(1), 79-98.

Edwards, E., **Walker, A.**, Bergeson, K., Louviere, J., Robinson, K., Higgins, J., & Harris, C. (2001) Genetics in Practice: A Template for Interactive Case Studies, *Tech Trends* 45(1), 29-31.

Books

Walker, A. E., Leary, H., Hmelo-Silver, C., Ertmer, P. A. (2015). Essential Readings in Problem-Based Learning: Exploring and Extending the Legacy of Howard S. Barrows. (pp. 1-320). Lafayette, Indiana: Purdue University Press.

Book Chapters

Leary, H., Walker, A. E., Lefler, M., Kuo, Y. (in print). Self-directed learning in problem-based learning: A literature review. In Mahnaz, M., Hung, W. & Dabbagh, N (Eds.) *Handbook of problem-based learning*. Wiley.

George, B., **Walker, A. E.** (2017). Educational Media and Technology Yearbook, volume 40, in Orey, M. & Branch, R. M. (Ed.), *A. Social learning in a distributed environment: Lessons learned from online design education*. (vol. 40). Springer.

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 A. Walker, H. Leary, C. Hmelo-Silver, P. A. Ertmer (Eds.), *Essential Readings in Problem-Based Learning: Exploring and Extending the Legacy of Howard S. Barrows* (pp. 303-330). 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 A. Walker, H. Leary, C. Hmelo-Silver, P. A. Ertmer (Eds.), *Essential Readings in Problem-Based Learning: Exploring and Extending the Legacy of Howard S. Barrows* (pp. 331-354). Lafayette, IN: Purdue University Press.

Lee, V. R., Shelton, B. E., **Walker, A. E.**, Caswell, T., & Jensen, M. (2012). ReTweeting History: Exploring the intersection of microblogging and problem-based learning for historical reenactments. In K. Seo, D. Pellegrino & C. Engelhard (Eds.), *Designing Problem-Driven Instruction Using Online Social Media* (pp. 23-40). Charlotte, NC: Information Age Publishing.

Recker, M. M., **Walker, A. E.**, Leary, H., & Giersch, S. (2011). Developing and Using a Guide to Assess Learning Resource Quality in Educational Digital

Libraries. Digital Libraries - Methods and Applications (pp. 181-196). New York, NY: InTech.

Robertshaw, M.B., **Walker, A.**, Recker., M., & 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*. New York: Springer.

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 P. Gerbic & E. Stacey (Eds.), *Effective Blended Learning Practices: Evidence-Based Perspectives in ICT- Facilitated Education*. (pp. 280-297). Hershey, NY: Information Science Reference.

Brill, J. M., & **Walker, A.** (2006). From isolation to legitimate peripheral participation: Encouraging a community of practice among teacher education students through a web resource database. In Orey, M., McClendon, V.J. & Branch, R. M. (Eds.), *Educational media and technology yearbook* (31), 97-118. Englewood, CO: Libraries Unlimited.

Recker, M., **Walker, A.**, & Wiley, D. (2001). *Collaboratively filtering learning objects*. In D. Wiley (Ed.), *Designing Instruction with Learning Objects* (pp. 243-259). Bloomington, IN: AECT.

Refereed Proceedings

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, June, 15-19, 2009, 421.

Recker, M., **Walker, A.**, & Wiley, D. (2000). An interface for collaborative filtering of educational resources. In *Proceedings of the 2000 International Conference on Artificial Intelligence (IC-AI 2000): June 26-29, 2000*, 317-322.

Scholarly Presentations

Kim, N. J., Belland, B. R., **Walker, A. E.**, Piland, J., "Computer-based scaffolding in STEM education across countries and U.S. states: Meta-analysis and cluster analysis", 2017 Annual Meeting of the American Educational Research Association, San Antonio, TX, USA. April 2017. Peer-reviewed/refereed

Piland, J., Kim, N. J., Belland, B. R., **Walker, A. E.**, "Effects of computer-based scaffolding in problem-centered approaches for engineering education: A meta-analysis", 2017 Annual Meeting of the American Educational Research Association, San Antonio, TX, USA. April 2017. Peer-reviewed/refereed

Walker, A. E., Belland, B. R., Kim, N. J., Piland, J., "Examining computer based scaffolding research quality through a risk of bias lens. Paper presented at the .", 2017 Annual Meeting of the American Educational Research Association, San Antonio, TX, USA. April 2017.

Belland, B. R., **Walker, A. E.**, Kim, N. J., Piland, J., "New directions for development of and research on computer-based scaffolding emanating from meta-analyses of scaffolding", 2016 Asia History, Philosophy, and Science Teaching Group (HPST) Conference. December 2016.

Andreassen, L., Kim, N. J., Lefler, M., Belland, B. R., **Walker, A. E.**, "Meta-analysis comparison of effectiveness of computer-based scaffolding in complex problem solving: Individual vs. group delivery", 2016 Annual Meeting of the American Educational Research Association, American Educational Research Association, Washington, DC, USA. April 2016. Peer-reviewed/refereed

Walker, A. E., Belland, B. R., Kim, N. J., Lefler, M., Whitney, B., Andreassen, L., "Using Bayesian network meta-analysis to synthesize research on computer-based scaffolding in STEM education", 2016 Annual Meeting of the American Educational Research Association, American Educational Research Association, Washington, DC, USA. April 2016. Peer-reviewed/refereed

Bursztyn, N., **Walker, A. E.**, Shelton, B. E., Pederson, J. L., "Assessment of Student Learning in the Geosciences through Virtual Field Trip Games for Mobile Devices", Annual Meeting, American Educational Research Association, Washington DC. April 2016. Contributed (refereed)

Bursztyn, N., **Walker, A. E.**, Shelton, B. E., Pederson, J. L., "Stimulating Student Interest with Smartphones: Increasing Undergraduate Motivation to Learn Geoscience with Virtual Field Trips", Stimulating Student Interest with Smartphones: Increasing Undergraduate Motivation to Learn Geoscience with Virtual Field Trips, Washington DC. April 2016. Contributed (refereed)

Kim, N. J., Belland, B. R., **Walker, A. E.**, "Effectiveness of computer-based scaffolding in problem-centered instructional models for STEM education: Bayesian meta-analysis", Association for Educational Communications and Technology, Indianapolis, IN. November 2015. Peer-reviewed/refereed

Belland, B. R., Kim, N. J., Lefler, M. R., **Walker, A. E.**, (2015, April). Synthesizing results from empirical research on computer-based scaffolding in STEM education: A meta-analysis, Paper presented at American Educational Research Association Annual Meeting, Chicago, IL. 2015.

George, B., Shelton, B. E., **Walker, A. E.**, (2015, April). Critical barriers to the adoption of on-line design education by university landscape architecture faculty.

Paper presented at American Educational Research Association Annual Meeting, Chicago, IL. 2015.

Walker, A. E., Shelton, B. E., Clarke-Midura, J. E., Lefler, M. (2014, April). Predicting Student Inquiry Processes and Products: A Hierarchical Linear Modeling Approach. Paper presented at American Educational Research Association, Philadelphia. 2014.

Shelton, B. E., **Walker, A. E.**, Clarke-Midura, J. E. (2014, April). Student Affects in Virtual Environments as Predictors and Outcomes: A Hierarchical Linear Modeling Approach. Paper presented at American Educational Research Association Annual Meeting, Philadelphia. 2014.

Ye, L., **Walker, A. E.**, Recker, M. M., Leary, H., Devaul, H., Butcher, K. R., Sumner, T. (2013, April). Integrating Technology, Curriculum, and Online Resources: A Multilevel Model Study of Impacts on Science Teachers and Students. Poster at American Educational Research Association, San Francisco, April 27-May 1.

Shelton, B. E., **Walker, A. E.**, Parlin, M. A., Scoresby, J., & Duncan, S. M. (2012, April). Addressing disparities of motivation and gender in middle-school literacy education within game design. Roundtable session at American Educational Research Association, Vancouver, BC.

Walker, A. E., Recker, M. M., Ye, L., Sellers, L., Leary, H., & Robertshaw, B. (2012, April). Comparing Technology-Related Teacher Professional Development Designs: A Multilevel Study of Teacher and Student Impacts. Paper presented at Annual Meeting of the American Education Research Association, Vancouver, Canada.

Belland, B. R., **Walker, A. E.**, Olsen, M. W., & Leary, H. (2012, April). Impact of scaffolding characteristics and study quality on learner outcomes in STEM education: A meta-analysis. Paper presented at the Annual Meeting of the American Educational Research Association Annual Meeting, Vancouver, Canada.

Sellers, L., Lei, Y., Robertshaw, B., Recker, M. M., & **Walker, A. E.** (2011, November). Technology Integrated Professional Development: A Case Study of Junior High Science and Mathematics Teachers. Paper presented at the Association for Educational Communications Technology, Jacksonville, FL.

Leary, H., Recker, M. M., **Walker, A. E.**, & Sumner, T. (2011, October). Automating Quality Assessments for Open Educational Resources. Paper presented at the Open Education Conference, Park City, UT.

Walker, A., Recker, M., Robertshaw, B., Olsen, J., Sellers, L., Leary, H., Kuo, Y. (2011). Integrating technology and problem-based learning: A mixed methods study of two teacher professional development approaches. Paper presented at the Annual Meeting of the American Education Research Association, New Orleans, April 8-12, 2011.

Kuo, Y., **Walker, A.** (2011). Interaction, internet self-efficacy, and self-regulated learning as predictors of student satisfaction in distance education courses. Paper presented at the Annual Meeting of the American Education Research Association, New Orleans, April 8-12, 2011.

Recker, M., , Leary, H., **Walker, A.**, Diekema, A., Wetzler, P., Sumner, T., Martin, J. (2011). Modeling teacher ratings of online resources: A human-machine approach to quality. Paper presented at the Annual Meeting of the American Education Research Association, New Orleans, April 8-12, 2011.

Robertshaw, M.B., Olsen, J. **Walker, A.** (2010) Teacher professional development models: Inquiry into concurrent versus separate technology and pedagogical knowledge and use. Paper presented at the Association for Educational Communications and Technology Conference, Anaheim, CA.

Walker, A., Robertshaw, B., & Recker, M. (2010). Problem-Based Design: A Technology-Oriented Teacher Professional Development. Paper presented at the presented at the Annual Meeting of the American Education Research Association, Denver, April 30-May 4, 2010.

Walker, A., Recker, M., Leary, H., & Robertshaw, M. B. (2010) Incorporating Technology and Problem-Based Learning: Professional Development for K-12 Teachers. Paper accepted for presentation at the Annual Meeting of the American Educational Research Association, Denver, April 30-May 4, 2010.

Shelton, B. Jeon, J., & **Walker, A.** (2010). The impact of context when interpreting graphical elements across cultures. Paper accepted for presentation at the Annual Meeting of the American Educational Research Association, Denver, April 30-May 4, 2010.

Recker, M. & **Walker, A.** (2009, November). Digital Libraries go to School. Poster presented at the National Science Foundation DRK-12 Annual Meeting, Washington, D.C.

Recker, M. & **Walker, A.** (2009, November). Integrating NSDL Resources and Inquiry Learning: A Professional Development Model for Teachers. Poster presented at the National Science Foundation National STEM Digital Library Annual Meeting, Washington, D.C.

Leary, H., **Walker, A.**, Fitt, M., Shelton, B. (2009). Expert versus novice tutors: Impacts on student outcomes in problem-based learning. Paper presented at the

Association for Educational Communications and Technology, Louisville, KY, October 27-31.

Kuo, Yu-Chun., **Walker, A.**, Kuo, Yu-Tung. (2009). A conceptual framework for the application of interactive or immersive environments. Paper presented at the Association for Educational Communications and Technology, Louisville, KY, October 27-31.

Kuo, Yu-Chun., **Walker, A.**, Kuo, Yu-Tung (2009). Students' course interaction experiences in a distance course through the use of Wimba Pronto technology. Paper presented at the Association for Educational Communications and Technology, Louisville, KY, October 27-31.

Robertshaw, M. B., **Walker, A.**, & Leary, H. (2009). Putting the School Librarian Back in the Digital Library. Presentation at the Library and Information Technology Association National Conference, Salt Lake City, UT. October 1-4.

Leary, H., **Walker, A.**, Fitt, M., Shelton, B. (2009). Expert versus novice tutors: Impacts on student outcomes in problem-based learning. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego. April 13-17, 2009.

Fitt, M., **Walker, A.**, Leary, H., Bloxham, K., Barton, R., Gurell, S. (2009). Assessing the quality of doctoral dissertation literature reviews in instructional technology: A replication study. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego. April 13-17, 2009.

Walker, A., & Leary, H. (2008). *A Problem Based Learning Meta Analysis: Differences Across Problem Types, Implementation Types, Disciplines, and Assessment Levels*. Paper presented at the American Educational Research Association, New York, NY.

Walker, A., Leary, H. (2007). *Problem Based Learning: A Meta Analytic Review of Problem and Implementation Types Across Disciplines and Educational Levels*. Association for Educational Communications and Technology Annual Conference, Anaheim, CA.

Recker, M., Giersch, S., **Walker, A.**, Halioris, S., Mao, X., Palmer, B. (2007). *A study of how online learning resources are used*. In Proceedings of the 2007 ACM IEEE Joint Conference on Digital Libraries, Vancouver, British Columbia, June 18-23.

Shelton, B., Olson, N., Jeon, T., & **Walker, A.** (2006). *A sign for all times: Revisiting how culture and context impact the interpretation of graphical elements*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco. April 7-11, 2006.

Giersch, S., **Walker, A.**, Recker, M., & Janke, R. (2006). Hitting the trifecta: A professional development model for creating, using and disseminating open education resources. *2006 Open Education Conference*. Logan, UT.

Shelton, B., Olson, N., Jeon, T., & **Walker, A.** (2006). A sign for all times: Revisiting how culture and context impact the interpretation of graphical elements. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco. April 7-11, 2006.

Walker, A. & Brill, J. (2005). If you build it they will not come: Usage data from a recommender system based on web annotations and their implications. *2005 Open Education Conference*. Logan, UT.

DiPietro, K. & **Walker, A.** (2005). Authentic learning tasks for pre-service teachers. Steel-life stories: Pre-service teachers mastering digital storytelling through problem-based learning. *National Educational Computing Conference*, Philadelphia, PA.

Walker, A. & Brill, J. (2004). From isolation to legitimate peripheral participation: The development of a web resource database to encourage a community of practice among teacher education students. *Association for Educational Communications and Technology Annual Conference*, Chicago, IL.

Walker, A., Brill, J., & Bishop, M. (2004). Delphi surveys: An alternative approach to needs assessment. *International Society for Performance Improvement Annual Conference*, Tampa Bay, FL.

Brill, J., Bishop, MJ, & **Walker, A.** (2003). An investigation into the competencies required of an effective project manager. *Association for Educational Communications and Technology Annual Conference*, Anaheim, CA.

Recker, M., **Walker, A.**, & Lawless, K. (2003). Show me the way: A recommender system for educational web resources. *American Educational Research Association Annual Meeting*, Chicago, IL.

Walker, A. & Recker, M. (2003). Applications of collaborative filtering to support student learning: Results from an empirical study. *American Educational Research Association Annual Meeting*, Chicago, IL.

Walker, A., Edwards, E., Allen, S., & Wiley, D. (2002). Mediate this!: Tales of resource negotiation. *Association for Educational Communications and Technology Annual Conference*, Dallas, TX.

Walker, A., Recker, M., & Wiley, D. (2001). Beyond Amazon.com: Collaborative filtering applications in education. *Association for Educational Communications and Technology Annual Conference*, Atlanta, GA.

Recker, M., Wiley, D., & **Walker, A.** (2001). The Instructional Architect: Accessing and combining learning objects for instruction. *Association for Educational Communications and Technology Annual Conference*, Atlanta, GA.

Walker, A. & Reinke, D. (2001). The Instructional Architect: An on-line system for discovering, recommending, and combining learning objects. *Northern Rocky Mountain Educational Research Association Annual Conference*. Jackson, WY.

Wiley, D., Recker, M., & **Walker, A.** (2001). The Instructional Architect: Accessing and combining learning objects for instruction. *Thirteenth Annual Instructional Technology Institute*. Logan, UT.

Recker, M. & **Walker, A.** (2001). Show me the way: A recommender system for educational web resources. *American Educational Research Association Annual Meeting*, Seattle, WA.

Walker, A. (2001). Altered vista: An educational collaborative filtering system. *Intermountain Paper & Poster Symposium*, Logan, UT.

Recker, M., **Walker, A.**, & Wiley, D. (2000). An interface for collaborative filtering of educational resources. In *Proceedings of the 2000 International Conference on Artificial Intelligence (IC-AI'2000)*: June 26-29, 2000, 317-322.

Walker, A. & Recker, M. (2000). Altered vista: An educational recommender system. *Technology Expo 2000*, Logan, UT.

Invited Presentations

Walker, A. (2010) A Problem-based learning bouillabaisse: One part meta-analysis, one part teacher professional development, and a dash of goo. Invited talk, Department of Instructional Psychology and Technology. Provo, UT: Brigham Young University.

Walker, A. (2006) Processing the PBL literature: A meta-analytic review. Invited talk, Department of Instructional Psychology and Technology. Provo, UT: Brigham Young University.

Multimedia Materials

- *Interactive Multimedia Programming/Flash* (2009). Open Education classroom materials available through USU ITLS department website.
- *Interactive Multimedia Programming/Flash* (2008). Open Education classroom materials available through USU OCW/COSL website.
- *Flash* (2006). Open Education classroom materials available through USU OCW/COSL website.

Non-refereed Articles

USU ITLS Faculty (2009). An identify shift at Utah State University: What's in a name? *Educational Technology*, 49(4), 38-41.

Funded Contracts/Grants

- **Canvalytics: Understanding interaction data from the Canvas Learning Management System, SPARC**, \$35,000. Lee, K. Co-PI, Walker, A. E. PI, Recker, M. M. Co-PI, Louviere, J. (Co-PI). Utah State University, 2016.
- **Impact of scaffolding characteristics and study quality on learner outcomes in STEM education: A meta-analysis**, National Science Foundation, REESE \$297,434. Andrew Walker Co-PI, Brian Belland PI, 2013-2015.
- **Development of spatially-referenced, mobile-device software applications for geoscience education using the Colorado Plateau as a virtual classroom**, National Science Foundation, EHR \$240,737. Andrew Walker Co-PI, Joel Pederson PI, Brett Shelton, Co-PI, 2013-2015.
- **Laying the Foundation for a Scaffolding Meta-analysis**, Research Catalyst, Utah State University \$20,000. Andrew Walker Co-PI, Brian Belland, PI, 2010-2011.
- **Understanding Impact: A Scaling and Replication Study of the Curriculum Customization Service**, \$125,000, National Science Foundation, National Science Digital Library **Andrew Walker** Co-PI, Victor Lee Co-PI, Mimi Recker PI, 2011-2013.
- **The Last Mile: Linking K-12 Educators with Cyber-enabled Learning Environments**, \$149,980 National Science Foundation, National Science Digital Library, **Andrew Walker** Co-PI, Mimi Recker, PI, 2009-2011.
- **A Follow-Up Study of Professional Development in Integration of Online Resources**, \$1,400, Consortium of College and University Media Centers. **Andrew Walker** PI, 2007-2008.
- **A Set of Tools for Finding, Reusing, and Iteratively Improving Open Content**, \$440,000, Mellon Foundation. Senior Researcher, 2007-2008.
- **Digital Libraries Go To School**, \$491,200 National Science Foundation Teacher Professional Continuum. **Andrew Walker** Senior Researcher, **Mimi Recker** PI, 2006-2009.

- **New Faculty Research Grant**, \$14,940, Utah State University. Principal Investigator, 2006-2007.
- **Faculty Research Grant**, \$3,090, Lehigh University. Principal Investigator, 2005.
- **Teacher Quality Enhancement Grant**, \$1,000, Pennsylvania Department of Education. Principal Investigator, 2004.
- **Teacher Quality Enhancement Grant**, \$1,000, Pennsylvania Department of Education. Principal Investigator, 2003.

Total generated overhead to date at USU (realized and encumbered): **\$311,936**

Proposed Contracts/Grants

- **Success by Design: Using Analytics and Dashboards to Drive Innovation For Developmental and Quantitative Literacy Mathematics**, \$1,422,143, National Science Foundation, Improving Undergraduate STEM Education. **Andrew Walker PI**, Daniel Coster, Co-I, Richard Cutler, Co-I, Kyumin Lee, Co-I. 2017-2022.
- **Impact of Scaffolding Characteristics and Study Quality on Learner Outcomes in STEM Education: A Meta-analysis**, \$285,410, National Science Foundation, Research and Evaluation on Education in Science and Engineering. **Andrew Walker Co-PI**, Brian Belland, PI 2013-2015.
- **Development and assessment of mobile geo-referenced games for geoscience education using Grand Canyon as a virtual laboratory**, \$240,737, National Science Foundation, Transforming Undergraduate Education in Science, Technology, Engineering and Mathematics. **Andrew Walker Co-PI**, Brett Shelton Co-PI, Joel Pederson PI 2013-2014.
- **Determining Support for Scaffolding Strategies: A Meta-Analysis**, \$249,928, National Science Foundation, Research and Evaluation on Education in Science and Engineering. **Andrew Walker Co-PI**, Brian Belland, PI 2009-2011.
- **Technology Applications for Beginning Reading: Enhancing Reading Comprehension and Vocabulary Acquisition of First Grade Children**, \$1,200,000, Department of Education, Institute of Education Sciences. **Andrew Walker Co-PI**, MJ Bishop PI, Launa Edwards Sontoro Co-PI, 2009-2013.
- **Problem-Based Learning in Gaming Environments: Extending the STEM Paradigm**, \$1,173,530, Department of Education, Institute of Education Sciences. **Andrew Walker Co-PI**, Brett Shelton PI 2009-2013.
- **Problem-Based Learning in Gaming Environments: Literacy Instruction**, \$1,200,000, Department of Education. **Andrew Walker Co-PI**, Brett Shelton, PI, 2008-2011.
- **The Last Mile – Helping K-12 Educators Become Co-creators of Cyber-enabled Learning Environments**, \$149,752, National Science Foundation, **Andrew Walker**, PI, Mimi Recker Co-PI, 2008-2010.
- **Technology Applications for Beginning Reading: Enhancing Reading Comprehension and Vocabulary Acquisition of First Grade**

Children, \$270,590 (USU portion), Department of Education. **Andrew Walker, Co-PI**, MJ Bishop, PI, Launa Edwards Sontoro, Co-PI, 2008-2011.

- **Improving STEM Teaching and Learning Through Innovative Research and Education via Tools Synthesis**, \$2,500,000, National Science Foundation, Partnerships for International Research and Education. **Andrew Walker Co-PI**, MJ Bishop PI, Launa Edwards Sontoro Co-PI, 2007-2012.

Part B: Teaching

Courses Taught

Date	Course Title	Level	Credits
Fall 2005	Planning and Implementation	Graduate	3
Fall 2005	Problem Based Learning	Graduate	3
Fall 2005	PhD Professional Seminar	Graduate	.5
Spring 2006	Flash	Graduate	3
Spring 2006	Problem Based Learning	Graduate	3
Fall 2006	Planning and Implementation	Graduate	3
Fall 2006	Flash	Graduate	3
Fall 2006	PhD Professional Seminar	Graduate	.5
Spring 2007	Flash	Graduate	3
Summer 2007	Flash	Graduate	3
Fall 2007	Flash	Graduate	3
Fall 2007	Planning and Implementation	Graduate	3
Fall 2007	PhD Professional Seminar	Graduate	.5
Spring 2008	Flash	Graduate	3
Spring 2008	Problem Based Learning	Graduate	3
Summer 2008	Interactive MM Programming (Flash)	Graduate	3
Fall 2008	Interactive MM Programming (Flash)	Graduate	3
Fall 2008	Planning and Implementation	Graduate	3
Fall 2008	PhD Professional Seminar	Graduate	.5
Spring 2009	Interactive MM Programming (Flash)	Graduate	3
Summer 2009	Interactive MM Programming (Flash)	Graduate	3
Fall 2009	Interactive MM Programming (Flash)	Graduate	3
Fall 2009	Planning and Implementation	Graduate	3
Fall 2009	PhD Professional Seminar	Graduate	.5

Spring 2009	Interactive MM Programming (Flash)	Graduate	3
Summer 2009	Interactive MM Programming (Flash)	Graduate	3
Fall 2009	Problem Based Learning	Graduate	3
Fall 2009	PhD Professional Seminar	Graduate	.5
Spring 2010	Interactive MM Programming (Flash)	Graduate	3
Spring 2010	Planning and Implementation	Graduate	3
Summer 2010	Interactive MM Programming (Flash)	Graduate	3
Fall 2010	Interactive MM Programming (Flash)	Graduate	3
Fall 2010	PhD Professional Seminar	Graduate	.5
Spring 2011	Planning and Implementation	Graduate	3
Spring 2011	Interactive MM Programming (Flash)	Graduate	3
Fall 2011	Interactive MM Programming (Flash)	Graduate	3
Fall 2011	Problem Based Learning	Graduate	3
Fall 2011	PhD Professional Seminar	Graduate	.5
Spring 2012	Planning and Implementation	Graduate	3
Spring 2012	Interactive MM Programming (Flash)	Graduate	3
Summer 2012	Interactive MM Programming (Flash)	Graduate	3
Fall 2012	Multi-media Production for Instruction...	Graduate	3
Fall 2012	Creative Project	Graduate	3
Fall 2012	PhD Professional Seminar	Graduate	.5
Spring 2013	Planning and Implementation	Graduate	3
Spring 2013	Interactive MM Programming (Flash)	Graduate	3
Fall 2013	Multi-media Production for Instruction...	Graduate	3
Fall 2013	Interactive MM Programming (Flash)	Graduate	3
Fall 2013	PhD Professional Seminar	Graduate	.5
Spring 2014	Creative Project	Graduate	3
Spring 2014	Interactive MM Programming (Flash)	Graduate	3
Summer 2014	Creative Project	Graduate	3
Fall 2014	Interactive MM Programming (Flash)	Graduate	3
Fall 2014	PhD Professional Seminar	Graduate	.5
Spring 2015	Creative Project	Graduate	3
Spring 2015	Interactive MM Programming (Flash)	Graduate	3
Fall 2016	Pro-seminar	Graduate	3
Fall 2017	Pro-seminar	Graduate	3

Part C: Service

National

- **Board Member**, Interdisciplinary Journal of Problem Based Learning, 2011-2014.
- **Reviewer**, Educational Technology Research and Development, 2003-present.

- **Reviewer**, Interdisciplinary Journal of Problem Based Learning, 2008-present.
- **Ad Hoc Reviewer**, Journal of Learning Sciences.
- **Ad Hoc Reviewer**, Journal of Research in Higher Education.
- **Reviewer**, International Conference of the Learning Sciences, 2005.
- **Reviewer**, Association for Educational Communications and Technology Conference, 2003-present.

University/College

- **Member**, College Research Council, 2008-present.
- **Senator**, Faculty Senate (College of Education and Human Services), 2012-2015.
- **Alternate**, Faculty Senate (College of Education and Human Services), 2006-2012.

Departmental

- **Member**, Department Curriculum Committee, 2009-present.
- **Chair**, Faculty Search Committee (One Open Rank and one Assistant Professor position), 2011-2012.
- **Chair**, M.S. Curriculum Committee, 2005-2009.
- **Chair**, Faculty Search Committee (One Open Rank and two Assistant Professor positions), 2008-2009.
- **Member**, Faculty Search Committee (Department Chair), 2007.
- **Member**, Faculty Search Committee (Department Chair), 2006.
- **Member**, Faculty Search Committee (Assistant Professor), 2006.
- **Member**, M.S. Admissions Committee, 2005-present.
- **Member**, Ph.D. Admissions Committee, 2005-present.