# Susan Pedersen, Associate Professor

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# Professional Interests

Educational Games and Virtual Environments

The Design and Impact of Student-Centered Learning Environments

Inquiry-Based Learning in Science

# Education

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| **Ph.D.** | **The University of Texas at Austin**  Curriculum and Instruction with a concentration in Instructional Technology; Dissertation: *Cognitive Modeling During Problem-Based Learning: The Effects of a Hypermedia Expert Tool* |
| **Ed.M.** | **Harvard University**  Cambridge, Massachusetts  Concentration in Teaching, Curriculum, and Learning Environments |
|  | **Defense Language Institute**  Monterrey, California  Intensive five month course in Italian |
|  | **University of Rhode Island**  Kingston, Rhode Island  Teaching Certification Program, Grades K - 8 |
| **B.A.** | **Tulane University**  New Orleans, Louisiana  American Studies, graduated with honors |

# Professional Experience

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| **2000- present** | **Texas A&M University**  College Station, Texas  Assistant Professor, Educational Technology Program, Department of Educational Psychology (9/1/00 – 8/31/06)  Associate Professor, Educational Technology Program, Department of Educational Psychology (9/1/06 - present) |
| **1999 - 2000** | **Human Code**  Austin, Texas  Contractor for Springboard, EnterTech, and Learning Code projects |
| **1995 - 1999** | **The University of Texas at Austin**  Austin, Texas  Teaching Assistant, EDC 384P, 1997-1999  Substitute Instructor for Computer Assisted Instruction, EDC 384P, March-May, 1998  Student Teacher Supervisor, 1996-97 |
| **1997 - 1998** | **Institute for Technology and Learning**  Austin, Texas  Instructional Designer for *Alien Rescue*, a hypermedia problem-based learning environment |
| **1996 – 1997** | **Extension Instructional Materials Center at the University of Texas at Austin**  Austin, Texas  Instructional Designer and Developer for computer-assisted instructional materials |
| **1996** | **Cortex**  Austin, Texas  Instructional Design Intern |
| **1991 - 1995** | **Alexandria City Public Schools**  Alexandria, Virginia  Teacher, grades 4 and 6 |
| **1986 - 1990** | **Anglo Italian School**  Naples, Italy  Teacher, grades 5 - 7  Head teacher of middle school, 1989 – 90 |
| **1984 - 1986** | **Maris Stella School**  Koror, Palau, in Micronesia  Language arts and social studies teacher, grades 4, 7, 8, and 9 |
| **1981-82** | **St. Joseph Elementary School**  Gretna, Louisiana  Teacher, fifth grade |

# Honors and Awards

The International Society for Design and Development in Education, nominated and appointed as a fellow. May, 2015.

Association for Educational Communications and Technology Immersive Learning Award Runner Up for *Hurricane Hal.*  November, 2012.

Adobe Design Achievement Award. *Rigglefish* won first place in the Innovation in Interactive Media in Education category. October, 2011.

SeriousPlay Awards: Gold medal in Games for Learning for *Rigglefish.* August, 2011.

Serious Games Showcase and Challenge: Finalist for *Rigglefish,* a computer-based game for middle and high school science. The SGC&C is held annually at the Interservice/Industry Training, Simulation, and Education (I/ITSEC) Conference, which is draws over 19,000 attendees from industry, the military, and government. December, 2010. http://www.sgschallenge.com/contest2010.shtml

The Learning Software Design Competition: First Place Award for *Alien Rescue,* a software program for sixth grade science, for which I was the lead instructional designer. Awarded on April 25, 2001.

Macromedia eLearning Competition: *Alien Rescue* received an Honorable Mention for Ingenuity*.* This is a national competition held quarterly for products developed using Macromedia software. Awarded on May 16, 2001.

David Bruton Fellowship, University of Texas at Austin (1999-2000).

Virginia C. Patterson Endowed Graduate Scholarship, University of Texas at Austin (1999).

Texas Alumni Centennial Scholarship for Teachers, University of Texas at Austin (1998).

University Continuing Education Association Region III Innovative Program Award, for *Health on a Disk,* a computer-based tutorial which I designed and developed for the Migrant Student Program offered through the College of Continuing Education, University of Texas at Austin (1997).

Texas Association for Community Service and Continuing Education Award for Excellence in Programs, for *Health on a Disk* (1997).

University Fellowship, 1995-96.

Membership in Kappa Delta Pi, an international honor society in education.

# Editorial Positions

Editorial Board Member, *Educational Technology Research and Development.* 2005 - 2008.

Consulting Editor, *Educational Technology Research and Development.* 2001 - present.

Consulting Editor, *The Journal of Student-Centered Learning.*  2003 - 2008.

*Reviewer, International Journal of Science Education,* 2018 – present.

Reviewer, *Instructional Science.* 2010 – present.

Reviewer, *International Journal of Construction Management,* 2017 – present.

Reviewer, *International Journal of Faculty Development,* 2008 – 2014.

Reviewer, *International Journal of Problem-Based Learning.* 2006 – present.

Reviewer, *Tech Trends ID Portfolio,* 2008 – 2010.

# Publications

*Books*

\*Gazi, Y. & Pedersen, S. (2008). *Discourse indicators of culture in online courses: Designing learning environments for global success*. Germany: VGM Verlag Publishing.

*Refereed Journal Articles*

Oren, M., Pedersen, S., & Butler-Purry, K. (under review). *Teaching digital circuit design with a 3D video game: The impact of using in-game tools on students’ performance.* IEEE Transactions on Education.

Pedersen, S., Oren, M. & Butler-Purry, K. (under review). A comparison of video and text-with-images-based instructional guidance in an educational video game. *Journal of* *Interactive Learning Research.*

\*Pedersen, S. & Irby, T. (2014). The VELscience project: Middle schoolers’ engagement in student-directed inquiry within a virtual environment for learning. *Computers & Education, 71,* 33- 42.

Bulu, S. T. & Pedersen, S. (2012). Supporting problem-solving performance in a hypermedia learning environment: The role of students' prior knowledge and metacognitive skills.  *Computers in Human Behavior (28),* 1162-1169.

\*Chen, C. Y., Pedersen, S. (2012). Learners’ internal management of cognitive processing in online learning. *Innovations in Education and Teaching International, 49*(4), 363-373.

Kim, H., Miller, H. R., Herbert, B., Pedersen, S., & Loving, C. (2012). Using a wiki in a scientist-teacher professional learning community: Impact on teacher perception changes. *Journal of Science Education and Technology,* *21*(4), 440-452.

Kim, H., Pedersen, S. & Baldwin, M. (2012). Improving user satisfaction via a case-enhanced e-learning environment. *Education + Training 54*(2/3), 204 – 218.

\*Chen, C. Y., Pedersen, S. & Murphy, K. (2012). The influence of perceived information overload on student participation and knowledge construction in computer-mediated communication. *Instructional Science, 40*(2), 325 - 349*.*

\*Wu, H. L. & Pedersen, S. (2011). Integrating computer- and teacher-based scaffolds in science inquiry. *Computers & Education, 57*(4), 2352-2363.

\*Kim, H., & Pedersen, S. (2011). Advancing young adolescents’ hypothesis-development performance in a computer-supported and problem-based learning environment. *Computers & Education, 57*(2), 1780 - 1789.

\*Kim, H., & Pedersen, S. (2010). Young adolescents’ metacognition and domain knowledge as predictors of hypothesis-development performance in a computer-supported context. Educational Psychology, 30(5), 565 - 582.

\*Arslanyilmaz, A. & Pedersen, S. (2010) Enhancing negotiation of meaning through authentic subtitled videos. *Turkish Online Journal of Educational Technology (TOJET),* *9*(2), 64-77.

\*Arslanyilmaz, A. & Pedersen, S. (2010) Enhancing negotiation of meaning through authentic subtitled videos. *Turkish Online Journal of Educational Technology (TOJET),* *9*(2), 64-77.

\*Bulu, S. T. & Pedersen, S. (2010). Scaffolding middle school students’ content knowledge and ill-structured problem solving in a problem-based hypermedia learning environment. *Educational Technology Research and Development 58*(5), 507 – 530.

\*Chen, C. Y., Pedersen, S. & Murphy, K. (2011). Online learners’ perceived information overload in asynchronous computer-mediated communication. *Research in Learning Technology 19*(2), 101-116*.*

\*Arslanyilmaz, A. & Pedersen, S. (2010). Improving language production through similar subtitled task videos in an online TBLL environment. *Language Teaching Research, 14*(4)*.*

\*Pedersen, S., Arslanyilmaz, A., & Williams, D. (2009). Teachers’ assessment-related local adaptations of a problem-based learning environment. *Educational Technology Research and Development, 57*(2), 229-249.

Samsonov, P.*,* Pedersen, S., & Hill, C. (2006). Using problem-based learning software with at-risk students: A case study. *Computers in the Schools, 23*(1), 111-124*.*

Pedersen, S. (2005). Designing and researching enhancements for online learning: A commentary on Veal and Zulli. *Contemporary Issues in Technology and Teacher Education, 13*(3), 283-306.

Pedersen, S. & Williams, D. (2004). A comparison of assessment practices and their effects on learning and motivation in a student-centered learning environment. *Journal of Educational Multimedia and Hypermedia, 13*(3), 283-306*.*

Knight, S. L., Pedersen, S. & Peters, W. (2004). Connecting the university with a professional development school: Pre-service teachers' attitudes toward the use of compressed video. *Journal of Technology and Teacher Education, 12*(1), 139-154.

Pedersen, S. (2003). Effect sizes and "what if" analyses as supplements to statistical significance tests. *Journal of Early Intervention, 25*(4), 310-319.

Pedersen, S. & Liu, M. (2003). Teachers' beliefs about issues in the implementation of a student-centered learning environment. *Educational Technology Research and Development. 51*(2), 57-76.

Pedersen, S. (2003). Motivational orientation in a problem-based learning environment. *Journal of Interactive Learning Research*, *14*(1), 51-77.

Pedersen, S., & Liu, M. (2002). The transfer of problem-solving skills from a problem-based learning environment: The effect of modeling an expert's cognitive processes*. The Journal of Research on Technology in Education, 35*(2), 303-320.

Pedersen, S., & Liu, M. (2002). The effects of modeling expert cognitive strategies during problem-based learning. *Journal of Educational Computing Research, 26*(4), 353-380.

Liu, M, Williams, D., & Pedersen, S. (2002). Alien Rescue: A problem-based hypermedia learning environment for middle school science*.* *Journal of Educational Technology Systems*, 30(3), 255-270.

Liu, M. & Pedersen, S. (1998). The effect of being hypermedia designers on elementary school students’ motivation and learning of design knowledge. *Journal of Interactive Learning Research, 9*(2), 155-182.

Williams, D., Pedersen, S., & Liu, M. (1998). An evaluation of the use of problem-based learning software by middle school students. *Journal of Universal Computer Science, 4*(4), http://www.iicm.edu/jucs\_4\_4/an\_evaluation\_of\_the.

Liu, M., Jones, C., & Pedersen [Hemstreet], S. (1998). Interactive multimedia design and production processes. *Journal of Research on Computing in Education, 30*(3), 254-280.

*Invited Journal Articles*

Pedersen, S., Liu, M., & Williams, D. (2002). *Alien Rescue:* Designing for student-centered learning. *Educational Technology, 42*(5), 11-14.

*Book Chapters*

Pedersen, S. (accepted). Case 2. P. A. Ertmer & J. Quinn (Eds.) In *Instructor’s Manual for the ID casebook* (5th edition)*.* Pearson: Upper Saddle River, New Jersey.

Pedersen, S. (accepted). Michael Bishop: Implementing gaming technologies in traditional contexts. In P. A. Ertmer & J. Quinn (Eds.) *The ID casebook: Case studies in instructional design* (5th edition)*.* Routledge.

Pedersen, S. (2013). Case 2. P. A. Ertmer & J. Quinn (Eds.) In *Instructor’s Manual for the ID casebook.* Pearson: Upper Saddle River, New Jersey.

Pedersen, S. (2013). Michael Bishop: Implementing gaming technologies in traditional contexts. In P. A. Ertmer & J. Quinn (Eds.) *The ID casebook: Case studies in instructional design (4th edition).* Pearson: Upper Saddle River, New Jersey.

Pedersen, S. (2012). The effects of modeling expert cognitive strategies during problem-based learning. In N. M. Seel (Ed.) *Encyclopedia of the Sciences of Learning.*

Srinivasan, V., Butler-Purry, K. & Pedersen, S. (2011). Developing educational games for electrical engineering education: A case study. In P. Felicia (Ed.) *Handbook of research on improving learning and motivation through educational games: Multidisciplinary approaches.*

Herbert, B., Pedersen, S. & Schielack, J. F. (2012). Creating synergy through a focus on technology-based inquiry. In J. Schielack & S. L. Knight (Eds.) *An information technology-based learning ecology model to promote science education leadership.*

##### Proceedings

\*Pedersen, S., Oren, M. & Butler-Purry, K. (2019). A comparison of text-with-images and video-based instructional guidance in an educational video game. *Proceedings of EdMedia + Innovate Learning,* Amsterdam, Netherlands.

\*Kailini, S., Newton, R. & Pedersen, S. (2019). Game-based learning and problem-solving skills: A systematic review of the literature. *Proceedings of EdMedia + Innovate Learning,* Amsterdam, Netherlands.

\*Kim, H., Miller, H. R., Herbert, B. E., Loving, C., & Pedersen, S. (2009). Exploring teacher knowledge and technology use in creating the inquiry classroom: Implications for novice science teacher professional development. *Proceedings of the Annual Meeting of the Society for Information Technology and Teacher Education (SITE),* Charleston, SC.

\*Loving, C. C., Kang, R., Arslanyilmaz, A., Shimek, C., Herbert, B. & Pedersen, S. (2007). Novice ACP science and mathematics teachers' levels of success with inquiry: A multi-case study of the effects of professional development. *Proceedings of the National Association for Research in Science Teaching 2007 Annual Meeting, New Orleans, LA, USA.*

\*Chen, W., Pedersen, S., Eslami, Z., & Chen, I. J. (2007). Pen-pals as Language Tutors: A Telecollaborative Project for Individualized Instruction in Large EFL Class. *Proceeding of SITE 2007 (The Society for Information Technology and Teacher Education) Conference*, 18, 2790-2795.

\*Pedersen, S. & Arslanyilmaz, A. (2006). *Supporting teachers assessment goals in constructivist educational materials: Lessons from Alien Rescue.* *29th Annual Proceedings of the Association for Educational Communications and Technology, 29.*

Williams, D., Pedersen, S., & Benton, D. (2005). Tablet PC initiative: Impact on 9th grade students and learning. *28th Annual Proceedings of the Association for Educational Communications and Technology, 28.*

\*Pedersen, S., Williams, D., & Bulu, S. (2004). Teachers’ beliefs underlying their assessment practices in a problem-based learning activity. *Proceedings of the World Conference on Educational Multimedia, Hypermedia and Telecommunications.*

Pedersen, S., & Williams, D. (2003). A comparison of assessment practices and their effects on learning in a student-centered learning environment. *Proceedings of the World Conference on Educational Multimedia, Hypermedia and Telecommunications.*

Pedersen, S. & Liu, M. (2002). Teachers' beliefs about student centered learning: Identifying key issues. *25th Annual Proceedings of the Association for Educational Communications and Technology, 25.*

Cifuentes, L., Pedersen, S., & Williams, D. (2002) VizIt: A visualization tool to scaffold learning. *25th Annual Proceedings of the Association for Educational Communications and Technology, 25.*

Pedersen, S. & Williams, D. (2002). The design of Alien Rescue, problem-based learning software for middle school science. *24th Annual Proceedings of the Association for Educational Communications and Technology, 24.*

Pedersen, S. (2001). Sixth graders' motivation during problem-based learning. *23rd Annual Proceedings of the Association for Educational Communications and Technology, 23,* 340 – 349.

Liu, M., Williams, D., Pedersen, S. (1999). The design and development of a hypermedia-supported problem-based learning environment. *Proceedings of the World Conference on Educational Multimedia, Hypermedia and Telecommunications, 1999* (1), 576-580.

Pedersen, S., Liu, M., Williams, D. (1999) The effect of hypermedia delivered modeling on learners’ self-directed study during problem-based learning. *Proceedings of the World Conference on Educational Multimedia, Hypermedia and Telecommunications, 1999*(1), 1212-1213.

*Magazines*

\*Joshi, S. & Pedersen, S. (2016). There’s an app for that: Simulations for energized learning. *Teacher, 10*(4), 14-16.

\* indicates work co-authored with student

# Presentations

### International: Refereed

\*Pedersen, S., Oren, M. & Butler-Purry, K. (2019, June). *A comparison of video and text-with-images-based instructional guidance in an educational video game.* Paper presented at the Ed-Media World Conference on Educational Multimedia and Hypermedia, Amsterdam, The Netherlands.

\*Kailini, S., Newton, R. & Pedersen, S. (2019). *Game-based learning and problem-solving skills: A systematic review of the literature.* Paper presented at the Ed-Media World Conference on Educational Multimedia and Hypermedia, Amsterdam, The Netherlands.

Williams, D., Pedersen, S., Griffin, C., Guinea-Montalvo, J., Simpson, J. Crochet, S. (2011, October). *Rigglefish: Engaging Middle and High School Students in Scientific Inquiry and Genetics.* Adobe Design Achievement Awards Conference. Taipei, Taiwan.

Pedersen, S., & Williams, D. (2011, August). *Rigglefish: A game on genetics.* SeriousPlay Conference, Seattle, Washington.

Srinivasan, V., Butler-Purry, K., & Pedersen, S. (2008, November). *Using video games to enhance learning in digital systems.* Paper presented at Future Play International Conference. Toronto, Canada.

\*Arslanyilmaz, A. & Pedersen, S. (2007, September). *Increasing syntactic complexity of language in an online TBLL environment.* Paper presented at the Second International Conference on Task-Based Language Teaching (TBLT) Conference. Honolulu, Hawaii.

\*Pedersen, S., Williams, D., & Bulu, S. (2007, June). *Virtual environments for learning: The design model.*  Paper presented at the Ed-Media World Conference on Educational Multimedia and Hypermedia, Vancouver, Canada.

\*Pedersen, S., Williams, D., & Bulu, S. (2004, June). *Teachers’ beliefs underlying their assessment practices in a problem-based learning activity.* Paper presented at the Ed-Media World Conference on Educational Multimedia and Hypermedia, Lugano, Switzerland.

Pedersen, S., & Williams, D. (2003, June). *A comparison of assessment practices and their effects on learning in a student-centered learning environment.* Paper presented at the Ed-Media World Conference on Educational Multimedia and Hypermedia, Honolulu, Hawaii.

Pedersen, S. (2003, June). *Computer-based scaffolds for a problem-based learning program.* Roundtable accepted for presentation at the Ed-Media World Conference on Educational Multimedia and Hypermedia, Honolulu, Hawaii.

Liu, M., Williams, D., & Pedersen, S. (1999, June). *The design and development of a hypermedia-supported problem-based learning environment.*  Paper presented at the Ed-Media World Conference on Educational Multimedia and Hypermedia, Seattle, Washington.

Pedersen, S., & Liu, M. (1999, June). *The effects of modeling expert cognitive strategies during problem-based learning.* Paper presented at the Ed-Media World Conference on Educational Multimedia and Hypermedia, Seattle, Washington. (ERIC Document Reproduction Service No. ED453264)

Williams, D., Pedersen, S., Liu, M., & Dunley-Smith, V. (1998, June). *Examining how middle school Students use problem-based learning loftware.* Paper presented at the Ed-Media World Conference on Educational Multimedia and Hypermedia, Freiberg, Germany. (ERIC Document Reproduction Service No. ED428738)

Liu, M. & Pedersen, S. (1998, June). *The effect of being hypermedia designers on elementary school students’ motivation and learning of design knowledge.* Paper presented at the Ed-Media World Conference on Educational Multimedia and Hypermedia, Freiberg, Germany. (ERIC Document Reproduction Service No. ED428689)

Liu, M. & Pedersen, S. (1997, November). *Students as multimedia designers? Perspectives from students, teachers, and researchers.* Paper presented at the International Society for Technology in Education TelEd Conference, Austin, Texas.

Liu, M., Jones, C., & Hemstreet, S. (1997, June). *A study of the multimedia design and production process by the practitioners.* Paper presented at the Ed-Media World Conference on Educational Multimedia and Hypermedia, Calgary, Canada.

\* indicates work co-authored with student

### National: Refereed

\*Oren, M., Pedersen, S. & Butler-Purry, K. (2019, October). *The impact of in-game tools on students’ learning outcomes in a game-based learning environment.* Paper presented at the Association for Educational Communications and Technology annual conference, Las Vegas, Nevada.

\*Oren, M., Pedersen, S. & Butler-Purry, K. (2019, April). *The factors influencing students’ perceptions towards the use of a game-based assessment.* Paper accepted for presentation at the American Educational Research Association annual meeting, Toronto, Canada.

\*Butler-Purry, K., Oren, M. & Pedersen, S. (2016, June). *Improving learning of digital systems concepts using a video game.* Paper presented at the ASEE Annual Conference & Exposition, New Orleans, La.

\*Oren, M., Pedersen, S. & Butler-Purry, K. (2016, April). *Assessing students’ performances in 3D educational video games: An implementation of embedded assessment design.* Paper presented at the American Educational Research Association annual meeting, Washington, D.C.

\*Oren, M., Pedersen, S. & Butler-Purry, K. (2015, November). *Designing an embedded assessment to test students’ learning on digital systems design.* Paper presented at the Association for Educational Communications and Technology annual conference, Indianapolis, Indiana.

Pedersen, S. & Butler-Purry, K. (2014, November). *Planet K: Supporting Game-Based Learning on Digital Circuit Design.*  Round table presented at the Association for Educational Communications and Technology annual conference, Jacksonville, Florida.

Pedersen, S., Williams, D., & Ozturk, E. (2012, November). *Hurricane Hal: Learning about ecosystems through inquiry within a virtual environment.* Exhibit in the Design and Development Showcase at the Association for Educational Communications and Technology annual conference, Louisville, Kentucky.

Williams. D., Pedersen, S., Ma, Y., & Crochet, S. (2011, March). *The design of a game management system.* Paper presented at the annual meeting of the Society for Information Technology and Teacher Education (SITE), Nashville, Tennessee.

Pedersen, S., Williams, D., Griffin, C., Simpson, J., Guinea-Montalvo, J., Richard, S., &Myers, J. (2010, December). *Rigglefish.* Exhibit at the Interservice/Industry Training, Simulation, and Education (I/ITSEC) Conference, Orlando, Florida.

Myers, J., Pedersen, S. & Williams, D. (2010, June). *Virtual environments for learning: Tracking student behavior within an inquiry-based science environment.* Poster presented at Games, Learning, and Society, Madison, Wisconsin.

Kim, H. J., Herbert, B. E., Pedersen, S., & Loving, C. (2010, March). *Using wikis to foster distributed expertise in a science teacher professional development community.* Paper presented at the annual meeting of the Society for Information Technology and Teacher Education (SITE), San Diego, California.

Kim, H. J., Herbert, B. E., Singleton, J., Johnston, J., Pedersen, S., & Loving, C. (2010, March). *Bridging scientific inquiry and high-stakes testing via webinars.* Poster presented at the annual meeting of the Society for Information Technology and Teacher Education (SITE), San Diego, California.

Pedersen, S. & Williams, D. (2009, November). *The VELscience project: Engaging middle school students in student-directed inquiry in virtual environments for learning*. Poster presented at the National Science Foundation DR-K12 PI Meeting, Washington, D.C.

\*Pedersen, S., Shimek, C. & Williams, D. (2009, October). *The VELscience project : Designing virtual environments to support student-directed inquiry.* Paper presented at the Association for Educational Communications and Technology annual conference, Louisville, Kentucky.

Williams, D., Pedersen, S., Ma, Y. & (2009, October). *Design of a web-based system to support assessment in virtual environments for learning (VEL).*Round table presentation at the Association for Educational Communications and Technology annual conference, Louisville, Kentucky.

Bulu, S. T. & Pedersen, S. (2009, October). *Design of use of scaffolds: Review, issues, future directions.* Paper presented at the Association for Educational Communications and Technology annual conference, Louisville, Kentucky.

Kim, H., Herbert, B., Miller, H., Pedersen, S. Loving, C., Johnston, J. (2009, October). *Advancing novice science teacher professionalism: Learning progressions for integrating technology into the classroom.* Paper presented at the Association for Educational Communications and Technology annual conference, Louisville, Kentucky.

\*Bulu, S. T. & Pedersen, S. (2009, April). *The role of students’ prior knowledge and metacognitive skills in a problem-based hypermedia learning environment.* Paper presented at the American Educational Research Association Annual Meeting, San Diego, CA.

\*Kim, H., Loving, C., Herbert, B. E., Pedersen, S., Reiss, V. A., Singleton, J., & Miller, H. R. (2009, April). *The challenge of mentoring novice science teachers: Promoting inquiry and preparing for high stakes testing*. Paper presented at the Annual Meeting of the National Association of Research in Science Teaching, Garden Grove, CA.

\*Kim, H., Miller, H. R., Herbert, B. E., Loving, C., & Pedersen, S. (2009, February). *The challenges of interactive community partnerships between scientists and teachers in a technology-enhanced professional development program.* Paper presented at the National Conference on "What Works in Education Partnerships," Phoenix, Arizona.

\*Bulu, S. T. & Pedersen, S. (2008, November). *Supporting ill-structured problem solving in hypermedia learning environment.* Paper presented at the Association for Educational Communications and Technology, Orlando, FL.

\*Bulu, S. T., Pedersen, S., & Bulu, S. (2008, November). *Design and development of prompt scaffolds.* Paper presented at the Association for Educational Communications and Technology, Orlando, FL.

Srinivasan, V., Butler-Purry, K., & Pedersen, S. (2008, July). *Developing an educational game for a digital design course.*  Abstract submitted for presentation at the Games, Learning, Society Conference, Madison, Wisconsin.

\*Bulu, S. T. & Pedersen, S. (2008, March). *Scaffolding middle school students’ content knowledge and ill-structured problem solving in a problem-based hypermedia learning environment*. Paper accepted for presentation at the American Educational Research Association Annual Meeting, New York, NY.

\*Loving, C., Arslanyilmaz, A., Kang, R. Pedersen, S. & Herbert, B. (2008, March). *Promoting inquiry among science and mathematics teachers: Measuring success in a five-level professional learning community.* Paper accepted for presentation at the annual meeting of the American Educational Research Association (AERA), New York.

Williams, D., Ma, Y., Pedersen, S. (2008, March). *The design of a game management system to facilitate formative assessment in a game-based learning environment*. Paper presented at the 2008 American Educational Research Association annual meeting.

Arslanyilmaz, A. & Pedersen, S. (2007, May). *Similar tasks integrated in an online task-based language learning environment.* Paper presented at CALICO (The Computer Assisted Language Instruction Consortium) Conference (May 22-26). Texas State University, Texas.

\*Chen, W., Pedersen, S., Eslami, Z., & Chen, I. J. (2007, March). *Pen-pals as language tutors: A telecollaborative project for individualized instruction in large EFL classes.* Paper presented at the Annual Meeting of The Society for Information Technology and Teacher Education (SITE), San Antonio, Texas.

\*Arslanyilmaz, A., & Pedersen, S., (2007, March). *A case-based language learning environment for second language acquisition.*Paper presented at the Annual Meeting of The Society for Information Technology and Teacher Education (SITE), San Antonio, Texas.

\*Arslanyilmaz, A., Pedersen, S., & Eslami, Z. (2007, March). *Increasing students’ language production in online environments.* Paper presented at the Annual Teachers of English to Speakers of Other Languages (TESOL) Convention, Seattle, Washinton.

\*Arslanyilmaz, A., Pedersen, S., & Eslami, Z. (2007, March). *Increasing syntactic complexity of language.* Paper presented at the Annual Teachers of English to Speakers of Other Languages (TESOL) Convention, Seattle, Washinton.

\*Herbert, B.E., H.R. Miller, C.L. Loving, and S. Pedersen. (2006, December). *Bridging communities: Culturing a professional learning community that supports novice teachers and transfers authentic science and mathematics to the classroom.* Paper presented at the AGU Fall Meeting, Section ED-17, American Geophysical Union, San Francisco, CA.

\*Pedersen, S. & Arslanyilmaz, A. (2006, October). *Supporting teachers assessment goals in constructivist educational materials: Lessons from Alien Rescue.* Paper presented at the Annual Convention of the Association for Educational Communications and Technology (AECT), Dallas, TX.

\*Gazi, Y., Pedersen, S., & Murphy, K. (2006, October). Discourse indicators of emergence of a third culture in online courses. Paper presented at the Annual Convention of the Association for Educational Communications and Technology (AECT), Dallas, TX.

\*Kim, H. J., Pedersen, S., & Kwon, Y. J. (2006, October). *Animal Investigator: Problem-based learning environment design for scientific knowledge generation.* Paper presented at the Annual Convention of the Association for Educational Communications and Technology (AECT), Dallas, TX.

Knight, S. L., Pedersen, S., & Morales, A. (2006, April). *The contribution of the summer II education team experience to the transportable model.* Paper presented at the annual meeting of the American Educational Research Association (AERA), San Francisco, CA.

\*Kim, H. J., & Pedersen, S. (2005, October).  *The constraints and possibilities of working memory in the design of learner-centered web-delivered learning environments.* Roundtable presented at the annual meeting of the Association for Educational Communications and Technology, Orlando, Florida.

Williams, D., Pedersen, S., & Benton, D. (2005, October). *Tablet PC initiative: Impact on 9th grade students and learning.* Paper presented at the annual meeting of the Association for Educational Communications and Technology, Orlando, Florida.

Williams, D., Fulwiler, J., Pedersen, S, & Benton, D. (2005, October).  *PASS-PORT: A web-based professional accountability support system for teacher education.* Paper presented at the annual meeting of the Association for Educational Communications and Technology, Orlando, Florida.

\*Pedersen, S., Arslanyilmaz, A*. &* Williams, D. (2005, April). *Teachers’ assessment-related local adaptations of a problem-based learning environment.* Paper presented at the annual meeting of the American Educational Research Association. Montreal, Canada.

Knight, S., Pedersen, S., Vannest, K., & Ormiston, C. (2005, April). *Examining the impact of participation in building communities of learners on teachers’ perceptions and performance.* Paper presented at the annual meeting of the American Educational Research Association. Montreal, Canada.

Ritchie, D., Verhagen, P., Eastmond, N., Gross, B., Pedersen, S., & Steeples, C. (2004, October). *Transatlantic cooperation for exchange of student interns, faculty, and knowledge in instructional technology.* Paper presented at the annual meeting of Association for Educational Communications and Technology, Chicago, Illinois.

Samsonov, P. & Pedersen, S.. (2004, March). *Using problem-based learning software with students at-risk.*  Paper presented at the annual meeting of the Society of Information Technology and Teacher Education, Atlanta, Georgia.

\*Chen, C. Y., Murphy, K. L., & Pedersen, S. (2003, November). *Learning strategies to engage in quality learning in computer conferencing.* Paper presented at the annual meeting of the Association for Educational Communications and Technology, Anaheim, California.

\*Chen, C. Y., Murphy, K. L., & Pedersen, S. (2002, November). *Information overload in online learning environments using computer-mediated communication*. Paper presented at the annual meeting of the Association for Educational Communications and Technology, Dallas, Texas.

Cifuentes, L., Pedersen, S., & Williams, D. (2002, November). *Viz Wizard: A visualization tool to support constructivist learning.* Paper presented at the annual meeting of the Association for Educational Communications and Technology, Dallas, Texas.

Pedersen, S. & Liu, M. (2002, November). *Teachers' beliefs about student centered learning: Identifying key issues*. Paper presented at the annual meeting of the Association for Educational Communications and Technology, Dallas, Texas.

Pedersen, S. & Williams, D. (2001, November). *The design of* Alien Rescue, *problem-based learning software for middle school science.* Paper presented at the annual meeting of the Association for Educational Communications and Technology, Atlanta, Georgia.

Pedersen, S. & Liu, M. (2001, April). *The Effects of Hypermedia-Delivered Expert Modeling During Problem-Based Learning.* Paper presented at the meeting of the American Educational Research Association, Seattle, Washington.

Pedersen, S. (2000, October). *Sixth Graders’ Motivation During Problem-Based Learning*. Paper presented at the meeting of the Association for Educational Communications and Technology, Denver, Colorado.

Williams, D., Pedersen, S., & Liu, M. (1999, January*). A Hypermedia Supported Problem-based Learning Environment: Alien Rescue.* Poster Session presented at theInternational Conference on Mathematics/Science Education and Technology, San Antonio, Texas.

\* indicates work co-authored with students

### Regional: Refereed

Pedersen, S. (2012, November). *Rigglefish: An inquiry based game on genetics.* Presentation at the Conference for the Advancement of Science Teaching, Corpus Christi, Texas.

Pedersen, S. (2011, November). *Hurricane Hal: A Virtual Environment on Ecology for Middle School.* Presentation at the Conference for the Advancement of Science Teaching, Dallas, Texas.

Pedersen, S. (2011, February). *Rigglefish: An Online Game on Genetics.* Paper presented at the Texas Computer Education Association Convention, Austin, Texas.

Pedersen, S. (2010, November). *Explosion on Mars: A Virtual Environment on Energy Transformation for Sixth Grade.* Paper presented at the Conference for the Advancement of Science Teaching, Houston, Texas

\*Arslanyilmaz, A. & Pedersen, S. (2007, May). Similar tasks integrated in an online task-based language learning environment. Paper presented at CALICO (The Computer Assisted Language Instruction Consortium) Conference (May 22-26). Texas State University, San Marcos, Texas.

\*Arslanyilmaz, A. & Pedersen, S. (2007, February). *A constructivist instructional design for language learning: Increasing second language acquisition through cased-based reasoning.* Paper presented at the Texas Computer Educator Association Research Symposium, Austin, Texas.

\*Arslanyilmaz, A. & Pedersen, S. (2005, February). *Assessment tools to have in computer oriented problem-based learning environments*. Paper presented at the annual meeting of the Southwest Educational Research Association. New Orleans, LA.

Pedersen, S. & Liu, M. (2004, February). *Alien Rescue: Teachers experiences with problem-based learning software for middle school science*. Presentation at the Texas Computer Educator Association Convention and Exposition, Austin, Texas.

Pedersen, S. (2003, February). Analytic choices within exploratory factor analysis. In M. M. Capraro (Chair), *Symposium demonstrating multivariate applications using teacher education data.*  Symposium conducted at the annual meeting of the Southwest Educational Research Association, San Antonio, Texas.

Pedersen, S. (2002, February). *Effect Sizes and "What If" Analyses as Alternatives to Statistical Significance Tests.*Paper presented at the annual meeting of the Southwest Educational Research Association, Austin, Texas.

Pedersen, S. (1998, February). *Using Hypermedia to Support Problem-Based Learning*. Paper presented at the Southeast Educational Research Association Annual Meeting, Houston, Texas.

\*Samsonov, P. & Pedersen, S. (2001, November).  *A Computer-Based Problem-Solving Activity with At-Risk Students.*  Paper presented at Louisiana Association of Computer Using Educators Conference, Alexandria, Louisiana.

\* indicates work co-authored with students

### Local: Refereed

\*Pedersen, S. & Myers, J. (2010, May). *Rigglefish: A virtual environment on genetics for middle school students.* Presentation at the Texas Games & Virtual Environments Symposium, College Station, Texas.

Pedersen, S. (2003, February). *Analytic choices within exploratory factor analysis*. In M. M. Capraro (Chair), Symposium demonstrating multivariate applications using teacher education data. Symposium conducted at the 9th Annual Educational Research Exchange, College Station, Texas.

Pedersen, S. (2002, February). *Effect Sizes and "What If" Analyses as Alternatives to Statistical Significance Tests.*Paper presented at the 8th Annual Educational Research Exchange, College Station, Texas.

### Local: Invited

MacLaughlin, T., Thomas, A., & Pedersen, S. (2015, March). The LIVE Lab: Partners for the development of innovative learning experiences. Keynote Address at the Teaching with Technology Conference, College Station, TX.

MacLaughlin, T., Thomas, A., & Pedersen, S. (2015, March). Collaborating with the LIVE Lab. Special session at the Teaching with Technology Conference, College Station, TX.

Pedersen, S. (2000, November). *Alien Rescue.* Paper presented at the meeting of the Ninth Annual Technology Conference for Region VI. College Station, TX.

# Workshops

Developed and taught Instructional Design course for the Condensed Computer Science Teacher Certification Program, funded by the Texas Engineering and Technical Consortium TETC and the Texas Higher Education Coordinating Board, July 14 - August 1, 2003.

Led a workshop for 15 inservice teachers on *Alien Rescue* as part of the Verizon Technology Implementation Project (VTIP), July 9-12, 2001.

Developed and led a workshop for 30 inservice teachers on *Alien Rescue,* a software program for middle school science, as part of the Initiative to Develop Education through Astronomy and Space Science (IDEAS) Grant, September 16, 2000; October 7, 2000, May 19, 2001, October 14, 2001, and May 11, 2002.

Co-Instructor for Creating Course Materials for the World Wide Web. Chautauqua Course # 79, May, 1998.

# Software Development

*Planet K.* This is an educational game in which players learn how to design digital circuits. The target audiences for the game are electrical engineering and computer science undergraduate students and high school students enrolled in advanced computer science classes. A prototype of the game (worlds 0 and 1) was completed in 2012. Development of four worlds in the game was completed in 2014. Development of the fifth and final world was completed in 2018. Development of *Planet K* was funded by the National Science Foundation.

*Explosion on Mars*. This is the first of five modules in the VELscience series, which was developed as part of the NSF-funded project, “Engaging Middle School Students in Student-Directed Inquiry through Virtual Environments for Learning.”

*Supervolcano.* This is the second of five modules in the VELscience series.

*Forgery Detective.* This is the third of five modules in the VELscience series.

*Rigglefish.* This is the fourth of five modules in the VELscience series. *Rigglefish* was a finalist in the Serious Games Showcase and Challenge, 2010, and winner of the Adobe Innovation in Education Award for Interactive Media in 2011.

*Hurricane Hal.* This is the fifth of five modules in the VELscience series. It received second place in the Association for Educational Communications and Technology Immersive Learning Competition in 2012.

*Alien Rescue* (Version 2.1 released March, 2003). This problem-based learning program for sixth grade science focuses on our solar system and the instruments scientists use to investigate it. I was the lead instructional designer on the project. This educational software program received the first place prize in the 2001 Learning Software Design Competition and an honorable mention for ingenuity in Macromedia's eLearning Competition in 2001. Work on Version 2.5 is ongoing.

*American Government On A Disk* (December, 1997). This was an existing paper-based correspondence course that I redesigned for computer-based delivery. This program was developed for the College of Continuing Education at the University of Texas as part of their Migrant Students Program. I rewrote sections of the course, developed feedback for student activities, and programmed the entire 10-lesson course.

*Health On A Disk* (August, 1996). This was the first course in the *On A Disk* series developed for the Migrant Students Program in the College of Continuing Education at the University of Texas. I revised an existing paper-based correspondence course and programmed the entire 10-lesson course. This program won two awards in 1997: the University Continuing Education Association Region III Innovative Program Award and the Texas Association for Community Service and Continuing Education Award for Excellence in Programs.

# Curriculum Materials

The *Alien Rescue* Teacher's Manual. This 153-page manual includes information for teachers on their role as a facilitator in a student-centered environment, advice on preparing for the use of this software program with their classes, daily lesson plans, program content in an easy to access format, information on science concepts relevant to *Alien Rescue,* and assessment tools and techniques. The first edition was completed in July, 2001, and a revised edition will be completed in September, 2002.

# Funded Projects

Butler-Purry, K. & Pedersen, S. (2016). *Transforming Undergraduate Learning in Digital Systems in Texas (TX DS).* Transforming Undergraduate Education in Science Technology, Engineering and Math (TUES), Supplemental funding. National Science Foundation ($100,000.00). Award # 1225716

Woltering, S., Gutierriz-Osuna, R., & Pedersen, S. (2015). *Building a bio-behavioral lab for research and education in human development and learning.* Program to Enhance Scholarly and Creative Activities, Texas A&M University. ($25,000).

Thomas, A., Pedersen, S., Lima-Filho, P. & Schaefer, S. (2014). *TOP Proposal for Math Learning Tools.* Tier One Program, Texas A&M University ($99,600).

Butler-Purry, K., Katangur, A., Obiomon, P. & Pedersen, S. (2012) *Transforming Undergraduate Learning in Digital Systems in Texas (TX DS).* Transforming Undergraduate Education in Science Technology, Engineering and Math (TUES). National Science Foundation ($600,000).

Total Immersion Software, Binatix, University of Denver, Texas A&M University, & Digital Steamworks (2011). *Alternative Reality Teaching: OurSpace.* DARPA ENGAGE, Educational Videogame Development.

Butler-Purry, K., Pedersen, S., & Srinivasan, V. (2009). *CCLI: Enhancing Learning in Digital Systems using Video Games.* Course, Curriculum, and Laboratory Improvement, National Science Foundation ($150,000).

Butler-Purry, K., Pedersen, S., & Srinivasan, V. (2006). *Enhancing learning in digital systems courses with video games.*  Course, Curriculum, and Laboratory Improvement, National Science Foundation ($150,000).

Pedersen, S., Schielack, J., Slough, S. & Williams, D. (2006). *Engaging middle school students in student-directed inquiry through virtual environments for learning.* Instructional Materials Development, National Science Foundation ($1,685,499).

Simanek, E., Schielack, J., Pedersen, S., Stuessy, C., & Ford, D. (2005). *Building understanding through research partnerships and IT.* Graduate Teaching Fellows in K-12 Education, National Science Foundation. ($1,904,916)

Hemenway, M. K. (P.I.), Pedersen, S., Liu, M. (Co-Investigators), (2000). *Problem-based learning software for astronomy.* Initiative to Develop Education through Astronomy and Space Science (IDEAS) Program, National Aeronautics and Space Administration (NASA). ($26,203).

# Proposals Under Review

Thomas, A., Cvitanic, J., Pedersen, S., Ramadan, H. (under review). Design and development study to enhance the learning of statistical and probabilistic concepts. National Science Foundation ($425,239.00)

# Unfunded Proposals

Dixit, M., Song, D., Pedersen, S., & Yan, W. (2019) *BIMcraft: BIM-game integration to enhance undergraduate students' building information modeling (BIM) Learning in STEM Disciplines.* National Science Foundation ($299,812.00).

Butler-Purry, K. & Pedersen, S. (2019). *Engaging ECE and ESET undergraduates in digital systems with video game based cyberlearning (ENGAGE-DS).* Improving Undergraduate STEM Education: Education and Human Resources (IUSE-EHR). National Science Foundation ($2,000,000).

Hsieh, S. J. & Pedersen, S. (2017). *Strategies: Automation Moves You - Automated System Integration Experiences for Career and Technical Education Students.* Innovative Technology Experiences for Students and Teachers (ITEST), National Science Foundation ($1,200,000).

Dixit, M., Pedersen, S., Yan, W., & Song, D. (2017). *Integrating Computer Games in Building Information Modeling (BIM) Curriculum to Enhance Graduate Students' Learning Performance.* National Science Foundation Research Traineeship Program: Innovations in Graduate Education (NRT: IGE). National Science Foundation. ($499,059).

Butler-Purry, K. & Pedersen, S. (2017). *Engaging ECE and ESET Undergraduates in Digital Systems with Video Game based Cyberlearning (ENGAGE-DS).* Improving Undergraduate STEM Education: Education and Human Resources (IUSE: EHR), National Science Foundation. ($600,000).

Hsieh, S. J. & Pedersen, S. (2016). *Strategies: Automation Moves You - Automated System Integration Experiences for Career and Technical Education Students.* Innovative Technology Experiences for Students and Teachers (ITEST), National Science Foundation ($1,200,000).

Pedersen, S. (2016). *Augmented Reality Education Mobile App for the Harmful Effects from Uranium Mining.*  Subcontract with Lynntech, Inc. ($40,000).

Dixit, M., Pedersen, S., Yan, W., & Song, D. (2016). *Integrating Computer Games in Building Information Modeling Curriculum to Enhance Graduate Students, Spatial Intelligence, Collaboration and Coordination Skills.* NSF Research Traineeship (NRT). National Science Foundation ($331,989.00).

Shipman, F. Herbert, B. & Pedersen, S. (2014). *Predicting Real-World Outcomes as Motivation for Learning Data Interpretation Skills.* Cyberlearning, National Science Foundation ($

McLaughlin, T., Pedersen, S., Smith, D., & Castro, L. (2011). *Visual Style Development for Video Games for Education.* Human-Centered Computing, National Science Foundation ($1,870,752).

Butler-Purry, K., Pedersen, S., Katungar, A., Obiomun, P., Srinivasan, V. & Williams, D. (2011). *Transforming Undergraduate Learning in Digital Logic Courses.* Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics, National Science Foundation ($599,856).

Ma, Y., Williams, D., Prejean, L., Kalish, M., Etheredge, M. Richard, C., Choi, Y., Pedersen, S. (2007). *Conquest of Coastlands: An Electronic Game-based Learning Curriculum for Middle School Life Science.* Submitted to U.S. Department of Education, National Center for Education Research ($1,380,480).

Herbert, B., Schielack, J., Knight, S., Pedersen, S. (2006). *Science education partnership to improve representation, argumentation, and learning (SPIRAL).* Math and Science Partnership, National Science Foundation ($1,158,021).

Williams, D., Ma, Y., Prejean, L., Pedersen, S., Richard, C.E., Dobyns, S., Kalish, M., Feist, M. (2005, November). *An enhanced problem-based learning curriculum for middle school science.* United States Department of Education, Cognition and Student Learning Program. Requested amount: $1,401,46

Ma, Y., Williams, D., Richard, C.E., Prejean, L., Pedersen, S., Liu, M., Dobyns, S., Roden, T., Etheredge, J. (2005, November). *Conquest of the coastlands: A problem-based, online multi-user educational game for middle school science.* United States Department of Education, Math and Science Learning Program. Requested amount: $ 1,470,759

Williams, G. A., Gilman, D., Shipman, F., & Pedersen, S. (2005). *Individuated skillobject-driven scenario-based simulation – networked AI-managed simulated wargaming.* Office of Naval Research, Department of the Navy.

Knight, S., Pedersen, S., Carter, N., Schielack, J., & Griffing, L. (2005). *The inquiry(2) professional development model: Using inquiry and mentoring to prepare teachers to facilitate information technology-based inquiry in diverse K-12 STEM classrooms.* Teaching Professional Continuum, National Science Foundation. ($2,374,754).

Pedersen, S. (2005) *CAREER: Assessment in virtual environments for learning: The design and impact of an assessment management system.* Faculty Early Career Development Program. ($518,699).

Butler-Purry, K. & Pedersen, S. (2005). *Video games for enhancement of EE digital design course.* Course, Curriculum, and Laboratory Improvement, National Science Foundation. ($149,998)

Williams, D., Pedersen, S., & Schielack (2004). *Collaborative research: Internet-accessible problem-based learning modules for sixth grade science.* Instructional Materials Development, National Science Foundation. ($440,791).

Pedersen, S. (2004). *CAREER: A model for the collaboration of scientists, educators, and instructional designers for the research-based design of virtual environments to support student inquiry.* Faculty Early Career Development (CAREER) Program, National Science Foundation. ($653,876).

Pedersen, S. (2004). *Determining effective scaffolds for students’ generation of questions during problem-based learning.* Proposal submitted to the Program to Enhance Scholarly and Creative Activities, Office of the Vice President for Research, Texas A&M University. ($9,950)

Zellner, R. (PI), and Murphy, K., Cifuentes, L., Pedersen, S., Stricker, A., Jessup, G. (2001). *Expansion and enhancement of the distance delivery components of the Educational Technology Program: Resource design, development, delivery and evaluation.* Proposal submitted to the Telecommunications and Informatics Task Force, Texas A&M University. ($249,576).

Waltar, A. (P.I.), Moore, S., Peddicord, K., Best, F., Braby, L., Pedersen, S., & Vedlitz, A. (Co-Investigators). (2000). *SPACE\_SIM: Mars Expedition - A Prototype Simulation Game*. Proposal submitted to the National Space Biomedical Research Institute Education and Public Outreach Program. ($487,364).

# Funded Subcontracts

Pedersen, (2003-2005). Subcontract between San Diego State University and Texas A&M University. Consortium for Higher Education Exchange (CHEXIT). Funded under the The Fund for the Improvement of Postsecondary Education, U.S. Department of Education. ($18,811.31).

Pedersen, S. (2002). Subcontract between the University of Louisiana at Lafayette and Texas A&M University. Funded under the Louisiana Governor’s Office Information Technology Initiative, *Assessment Systems and Learning Environments*. ($22,981).

# Project Management

Project Producer (2012 – present). *Transforming Undergraduate Learning in Digital Systems in Texas (TX DS).* Transforming Undergraduate Education in Science Technology, Engineering and Math (TUES). National Science Foundation ($600,000).

Head of Management Team (2006 – 2011). *Engaging middle school students in student-directed inquiry through virtual environments for learning.* Instructional Materials Development, National Science Foundation, funded 9/1/2006 through 8/31/2011. $1,685,499.00.

Member of Management Team (2004-2006). *Center for the Application of Information Technology in the Teaching and Learning of Science.* National Science Foundation (Federal, ESI-0083339), funded 9/1/2000 through 8/31/2007, $10,889,192.

Member of Management Team (2005-present). *The Professional Learning Community Model for Entry into Teaching Science and Math (PCL-METS).* National Science Foundation, funded 2004 – 2011. $2,800,000.

# Advising

***Dissertations Completed, Chair or Co-chair***

Abdurrahman Arslanyilmaz. Graduated August, 2007. Dissertation: *Using Similar Tasks to Increase Negotiation of Meaning and Language Production in an Online Second Language Learning Environment.*

Saniye Tugba Bulu, EPSY. Graduated May, 2008. Dissertation: *Scaffolding Middle School Students’ Content Knowledge and Ill-Structured Problem Solving in a Problem-Based Hypermedia Learning Environment.*

Chun-Ying Chen, Co-chair with Dr. Karen Murphy. Graduated December, 2003. Dissertation: *Learners' Strategies to Deal with Information Overload in Text-based Computer-mediated Communication.*

Robbie Fitzpatrick, EPSY. Graduated August, 2010. Dissertation: *The Impact of Integrated Humor on Memory Retention and Recall Aspects of Adult Learning.*

Yakut Gazi, EPSY. Graduated May, 2007. Dissertation: *Discourse Indicators of Culture in Online Courses.*

Martha Green, EPSY. Graduated May, 2011. Dissertation: *Teaching the Writing Process through Digital Storytelling in Pre-service Education.*

Hye-Jeong Kim, EPSY. Graduated May, 2008. Dissertation:  *Promoting Young Adolescents’ Hypothesis Development Performance in a Computer-Supported and Problem-Based Learning Environment.*

Kathryn Seifert, TLAC, co-chair with Dr. Cathleen Loving. Graduated August, 2008. *The Impact of a Metacognitive Reflection Component in a Problem-Based Learning Unit.*

David Sweeney, EPSY. Graduated August, 2018. Dissertation: *The Effect of Enhanced Navigational Affordances on College Students’ Comprehension of Informational Auditory Text, and the Role of Metacognitive and Motivational Factors.*

Shemesha Thomas, EPSY. Graduated May, 2016. Dissertation: *An Examination of the Factors that Influence Arigcan American Females to Pursue Postsecondary and Secondary Information Communications Technology Education.*

Hui-Ling Wu, EPSY. Graduated May, 2010. Dissertation: *Scaffolding in Technology-Enhanced Science Education.*

#### Dissertations Completed, Member

Yi-chuan Hsieh, EPSY

Cathy Ezrailson, TLAC

Marybeth Green, EPSY

Jie Lin, EDAD

Heather Miller, Geology

Suzanne Morales-Vale, EHRD

Nancy Wood, EPSY, EPSY

#### Doctoral Students, Committee Chair or Co-Chair

Shweta Kailani

Rhonda Newton

Mehmet Oren, EPSY

Mike Rice

Armanto Sutedjo

#### Doctoral Students, Committee Member

Gabriel Dzodom, Computer Science

Russell Evans, TLAC

Shiny Imberman, EHRD

Arghode Vishal, TLAC

Wendy Turner, EHRD

Cynthia Vetter, TLAC

***Doctoral Students, Temporary Advisor***

Hulya Avci

Rebecca Burgner

Jay Palkar

***Masters Completed, Chair or Co-chair***

Zaineb Abdulla, EDTC, Spring, 2013

Xi Chen, EDTC, Spring, 2006

Denise De Gennaro, EDTC, Summer, 2012

Yanliang Ding, EDTC, Spring, 2012

Noreen Dooley, EDTC, Spring, 2005

Christopher Dunlap, EDTC, Spring, 2006

Deyanira Garcia Zea, Co-Chair, EDTC, Summer, 2011

Carolina Giraldo, EDTC (Co-chair with Karen Murphy), Spring, 2002

Martha Green, EDTC, Spring, 2004

Margaret Guillory, EDTC, Spring, 2011

Joo Won Huh, EDTC, Spring, 2005

Suzanne Junek, EDTC (Co-chair with Lauren Cifuentes), Spring, 2003

Shaila Khan, EDTC, Fall, 2011

Annamarie Rebecca Kamas, EDTC, Spring, 2011

Rohita Kandula, EDTC. Fall, 2004

Denise Kersten, EDTC, Spring, 2008

Kari Kirby, EDTC, Fall, 2005

Murat Kurucay, EDTC, Summer, 2011

Yun Li, EDTC, Summer, 2012

Jessica Longoria, EDTC, Summer, 2005

Laura Oehler, EDTC, Summer, 2005

Mehmet Oren, EDTC, Summer, 2011

Zachary Peters, EDTC, Fall, 2012

Joe Randall Reed, Co-Chair, EDTC, Spring, 2012

Shelby Reeves, EDTC, Summer, 2012

Denise Robledo, EDTC, Summer, 2006

Marianita Rosales, EDTC, Fall, 2011

Cathy Russell, EDTC, Spring, 2006

Margaret Rynn, EDTC, Fall, 2005

Miaomiao Shi, EDTC, Spring, 2008

Mary Smith, EDTC. Fall, 2004

Mandy Staff, EDTC, Summer, 2011

Tweaka Temple, EDTC, Fall, 2010

Natalie Hubert Thompson, EDTC, Spring, 2011

Vanessa Vazquez, EDTC (co-chair), Spring, 2010

Huidi Wang, EDTC, Summer, 2010

Litao Wang, EDTC. Fall, 2004

Liying Wang, EDTC, Summer, 2011

Jerrod Ward, EDTC, Spring, 2005

Vanessa Watts, EDTC, (Co-chair with Lauren Cifuentes), Summer, 2004

Michelle Wiederhold, EDTC, Fall, 2011

Mingya Xu, EDTC, Summer, 2007

Walter Zapata, EDTC, Summer, 2012

Rong Zhu, EDTC, Spring, 2005

Jing Zuo, EDTC, Spring, 2009

***Masters Completed, Member***

Lisa Brown, EDTC, Spring, 2006

Hui Cao, EDTC, Summer, 2007

Allison Cargol, EDTC

Uma Chidambaram, Math, Fall, 2009

Heejun Choi, EDTC

Elizabeth Cubage, EDTC, Fall, 2003

Thomas Davis, Math, Spring, 2006

Aaron Dutle, Math, Spring, 2006

Rhianna Elder-Smith, EDTC, Summer, 2010

Gayle Fisher, EDTC, Spring, 2012

Scott Ford, EDTC, Summer, 2008

Steven Funke, EDTC, Summer, 2008

Natasha Goggin, EDTC, Fall, 2005

Adrian Hernandez, Health and Kinesiology, Fall, 2014

Heather Hiser, EDTC

Yi Huang, EDTC, Summer, 2011

Sally Hughes, EDTC, Summer, 2009

Karyn Huskisson, EDTC, , Spring, 2006

Ashley Johnson, EDTC, Spring, 2011

Lorraine Kasmala, EDTC, Fall, 2012

Stephanie Keske, VIZ, Fall, 2013

Constance Kocher, EDTC, Spring, 2006

Tracey Larson, EDTC, Fall, 2005

Jiajun Lu, Computer Science, Spring, 2005

Jacqueline McDowell, HLKN, Summer, 2005

J. C. Odom, EDTC, Spring, 2005

Corey Oliver, EDTC, Spring, 2005

Kyle Palmer, EDTC, Spring, 2011

Avery Pavliska, EDTC. Fall, 2004

Christina Pechacek, EDTC

Bryan Peters, EDTC

David Scott Powers, EDTC

Jason Prince, Math, Spring, 2014

Laura Quiroga, EDTC, Fall, 2012

Tammy Ramos, EDTC, Spring, 2010

Meghanath Reddy Junnutula, Computer Science, Spring, 2015

Shawn Richard, TLAC, Fall, 2009

Melanie Rosebrook, EDTC

Laura Ruebush, Chemistry, Summer, 2006

Barry Sieber, EDTC, Summer, 2004

Harold Skidmore, EDCI, Summer, 2007

Jay Sonnenburg, EDTC

Kerri Sparkman, EDTC, Spring, 2010

Kelly Spencer, EDTC

Michelle Sulikowski, EDCI

Yan Sun, EDTC, Spring, 2004

Jenica Tolleson, TLAC, Fall, 2011

Clayton Vader, EDTC

Glen Vigus, EDTC, Fall, 2005

Arghode Vishal, TLAC, Summer, 2010

Ta Chun Wang, EDTC, Spring, 2007

David Wilson, EDTC, Summer, 2007

Suzanne Zick, EDTC, Spring, 2008

***Masters in Progress, Chair***

Lisa McCoy, EDTC

Kui Zhang

***Masters in Progress, Member***

Michael Davis, Visualization

Jessica Sullivan, EPSY

# Courses

Graduate Courses at Texas A&M University

EDTC 602: Educational Technology: Field, Theory, and Profession.

EDTC 621: Graphic Communication and Interface Design.

EDTC 631: Educational Video.

EDTC 641: Educational Game Design.

EDTC 645: Classroom Applications of Microcomputers.

EDTC 651: Tutorials and Simulations.

EDTC 689: Review of Research in Educational Technology.

# Variable Credit Instructional Activities

|  |  |  |
| --- | --- | --- |
| **Course** | **Students** | **Semester** |
| EDTC 683: Practicum | David Smith | Summer, 2002 |
| EDTC 684: Internship | Suzanne Junek | Summer, 2002 |
|  | Martha Green | Summer, 2003 |
|  | Rohita Kandula | Summer, 2004 |
|  | Vanessa Watts | Summer, 2004 |
|  | Laura Oehler | Fall, 2004 |
|  | Mary Smith | Fall, 2004 |
|  | Litao Wang | Fall, 2004 |
|  | Noreen Dooley | Spring, 2005 |
|  | Yakut Gazi | Spring, 2005 |
|  | Joowon Huh | Spring, 2005 |
|  | Jerrod Ward | Spring, 2005 |
|  | Rong Zhu | Spring, 2005 |
|  | Chris Dunlap | Summer, 2005 |
|  | Kari Kirby | Summer, 2005 |
|  | Margaret Rynn | Summer, 2005 |
|  | Jessica Longoria | Summer, 2005 |
|  | Ana Villalba Perez | Summer, 2005 |
|  | Xi Chen | Spring, 2006 |
|  | Cathy Russell | Spring, 2006 |
|  | Denise Robledo | Summer, 2006 |
|  | Mingya Xu | Spring, 2007 |
|  | Suzanne Zick | Spring, 2007 |
|  | Miaomiao Shi  Vanessa Vazquez  Huidi Wang  Edith Margaret Guillory  Tweaka Temple | Fall, 2007  Spring, 2010  Spring, 2010  Fall, 2010  Fall, 2010 |
| EDTC 685: Directed Studies | Li Wang | Spring, 2003 |
|  | Carolina Giraldo | Spring, 2002 |
|  | Lisa Chen | Spring, 2002 |
|  | Jessica Longoria | Spring, 2004 |
|  | Abdurrahman Arslanyilmaz | Fall, 2003 |
|  | Abdurrahman Arslanyilmaz | Summer, 2004 |
|  | Li Wang | Summer, 2004 |
|  | Hui-Ling Wu | Summer, 2004 |
|  | Martha Green | Summer, 2005 |
|  | Yuan-Hsuan (Karen) Lee | Summer, 2005 |
|  | Tugba Bulu | Fall, 2005 |
|  | Kathryn Sawyer  Yi Huang  Huidi Wang | Spring, 2006  Fall, 2010  Fall, 2010 |
| EDTC 691: Research | Lisa Chen | Fall, 2002 |
|  | Lisa Chen | Spring, 2003 |
|  | Lisa Chen | Fall, 2003 |
|  | Abdurrahman Arslanyilmaz | Fall, 2004 |
|  | Robbie Fitzpatrick | Fall, 2004 |
|  | Abdurrahman Arslanyilmaz | Fall, 2005 |
|  | Robbie Fitzpatrick | Fall, 2005 |
|  | Kathryn Seifert | Fall, 2005 |
|  | Abdurrahman Arslanyilmaz | Spring, 2005 |
|  | Robbie Fitzpatrick | Spring, 2005 |
|  | Kathryn Seifert | Spring, 2005 |
|  | Abdurrahman Arslanyilmaz | Spring, 2006 |
|  | Tugba Bulu | Spring, 2006 |
|  | Robbie Fitzpatrick | Spring, 2006 |
|  | Yakut Gazi | Spring, 2006 |
|  | Martha Green | Spring, 2006 |
|  | Hye Jeong Kim | Spring, 2006 |
|  | Kathryn Seifert | Spring, 2006 |
|  | Christine Shimek | Spring, 2006 |
|  | Hui-Ling Wu | Spring, 2006 |
|  | Abdurrahman Arslanyilmaz | Summer, 2006 |
|  | Tugba Bulu | Summer, 2006 |
|  | Martha Green | Summer, 2006 |
|  | Christine Shimek | Summer, 2006 |
|  | Abdurrahman Arslanyilmaz | Fall, 2006 |
|  | Wen-Chun (Gina) Chen | Fall, 2006 |
|  | Robbie Fitzpatrick | Fall, 2006 |
|  | Yakut Gazi | Fall, 2006 |
|  | Martha Green | Fall, 2006 |
|  | Hye-Jeong Kim | Fall, 2006 |
|  | Kathryn Seifert | Fall, 2006 |
|  | Christine Shimek | Fall, 2006 |
|  | Saniye Tugba Bulu | Fall, 2006 |
|  | Hui-Ling Wu | Fall, 2006 |
|  | Abdurrahman Arslanyilmaz | Spring, 2007 |
|  | Wen-Chun (Gina) Chen | Spring, 2007 |
|  | Robbie Fitzpatrick | Spring, 2007 |
|  | Yakut Gazi | Spring, 2007 |
|  | Martha Green | Spring, 2007 |
|  | Hye-Jeong Kim | Spring, 2007 |
|  | Christine Shimek | Spring, 2007 |
|  | Saniye Tugba Bulu | Spring, 2007 |
|  | Hui-Ling Wu | Spring, 2007 |
|  | Abdurrahman Arslanyilmaz | Summer, 2007 |
|  | Hye-Jeong Kim | Summer, 2007 |
|  | Saniye Tugba Bulu | Fall, 2007 |
|  | Robbie Fitzpatrick | Fall, 2007 |
|  | Martha Green | Fall, 2007 |
|  | Hye-Jeong Kim | Fall, 2007 |
|  | Christine Shimek | Fall, 2007 |
|  | Hui-Ling Wu  Robbie Fitzpatrick  Martha Green  Christina Shimek  Hui-Ling Wu  Martha Green  Christina Shimek  Martha Green | Fall, 2007  Spring, 2010  Spring, 2010  Spring, 2010  Spring, 2010  Spring, 2010  Spring, 2010  Fall, 2010 |

# Professional Organizations

American Educational Research Association: Member (1998 - present).

Association for the Advancement of Computers in Education: Member (1998-present).

Association for Educational Communications and Technology: Member (1999-present)

International Society for Technology in Education: Member (1999-present).

Phi Beta Delta Honor Society for International Scholars (2002 - 2005)

# Professional Activities / Service to Community

Reviewer for Aggies Celebrate Teaching! Awards, 2019.

Center for Teaching Excellence Faculty Student Advisory Board, member, 2016 - 2019

CEHD Faculty Advisory Committee, Chair, 2017 – 2018.

External Reviewer of Faculty Member’s scholarly activity for Promotion to Full Professor, University of Texas Rio Grande Valley, 2017.

CEHD Faculty Advisory Committee, member, 2015 – present.

Chair, Post Tenure Review Committee for the Department of Educational Psychology, 2012 – 15.

Faculty Development Leave Review Committee, 2014.

Search Committee Chair, Educational Technology position for clinical assistant professor, 2013 – 2014.

MOOC Advisory Committee, Provost’s Office, Texas A&M University, 2013.

External Reviewer for Tenure and Promotion, Educational Psychology, Oklahoma State University, December, 2012.

College Tenure and Promotion Committee, At-Large Position, 2012 – 2014.

External Reviewer for Tenure and Promotion, Educational Leadership and Policy Studies, The University of Kansas, August, 2012.

Advisory Board, Simulations and Modeling in Technology Education (SMTE); project funded by the National Science Foundation (Grant # 0821965); P.I. Michael Hacker.

Guest Speaker, Texas State Teachers Association- Student Program, Februare 20, 2012.

CEHD Review Committee for Core Curriculum Technology Enhancement Grants, 2012.

CEHD Technology Committee, 2011 – current.

Cyberlearning Position Committee Member, 2011.

Cyberlearning Conference Planning Committee Member, College of Education and Human Development, March, 2011.

National Science Foundation Chair of Review Panel for Development Research K-12 program, February, 2010.

National Science Foundation Pre-Proposal Reviewer for Development Research K-12 program, October, 2009.

Outstanding Alumni Selection Committee, member, spring, 2008.

Council of Principal Investigations, College of Education and Human Development at Texas A&M University, chair: September, 2007 – August, 2008; member June, 2004 – present.

Educational Psychology Foundations subcommittee for curriculum review and development plan, spring, 2007.

Department Committee for the Review of Promotion to Associate Professor with Tenure, 2006.

Steering Committee for the Continuing Education College of Education program, member, 2006.

Reviewer for Young Researcher’s Award, sponsored by the Association for Educational Communications and Technology, Fall, 2004 and 2006.

Search Committee Member, *Department of* *Teaching, Learning, and Culture, associate professor of science education*. Fall, 2004 – Spring, 2006.

Panelist for the Faculty Seminar series, *Research Funding Advice & Strategies for New Faculty,* sponsored by the Office of the Vice President for Research, Office of Proposal Development, February, 2005.

National Science Foundation Proposal Reviewer for Advanced Technological Education program, December, 2004.

Ad Hoc Reviewer, American Educational Research Journal; 2004 – 2006.

Search Committee Member, *Education and Human Resource Development assistant professor position*. Summer 2004.

Conference Proposal Reviewer, Association for Educational Communications and Technology, February, 2004.

Reviewer for Awards Program, Educational Research Exchange, College of Education and Human Development at Texas A&M University, February, 2004.

National Science Foundation Proposal Reviewer for Instructional Materials Development program, October, 2003.

Conference Proposal Reviewer, Southwest Educational Research Association, Fall, 2003.

Search Committee Member, *Educational Psychology department head,* Fall, 2002 - Spring, 2003.

Assistant Professor Representative, *Department of Educational Psychology Executive Committee,* Fall, 2002 - Summer, 2003.

Faculty Retreat Planning Committee Member, Fall, 2002.

Invited Speaker. *Technology's Impact on Curriculum.* EDCI 644: Curriculum Development, Oct. 30, 2002.

Invited Speaker. *Designing Web-Based Courses.* Graduate Teaching Academy Fall Seminar Series, Oct. 8, 2002.

Group Facilitator for Participatory Campus Leadership Conference. Jointly sponsored by The Principal's Center and the Center for Collaborative Learning Communities. September 17, 2001. College Station Conference Center and Memorial Student Center, Texas A&M.

Group Facilitator for Participatory Campus Leadership Conference, "What Does Effective Campus Leadership Look Like?" Jointly sponsored by The Principal's Center and the Center for Collaborative Learning Communities. November 1-3, 2000. College Station Conference Center and Memorial Student Center, Texas A&M.

Judge for students' poster presentations for *INST 301: Educational Psychology*. November 27, 2000.

Panelist for “Technology in Science Education” panel discussion, University of Texas Science Education Program, 1999 and 2000.

Conference Proposal Reviewer, annual EdMedia conference, 1998 and 1999.

Grant Application Reviewer, Technology in Education (T.I.E.), Texas Education Agency, 1997.

Volunteer at the Texas Association for Educational Technology Annual Conference, 1996.

Instructor for the GED class at the Alexandria Community Center, Alexandria, Virginia, 1992-1994.

Member of faculty committee to develop a differentiated social studies curriculum, Alexandria, Virginia, 1994-1995.

Faculty liaison to *Parent Committee on Heterogeneous Grouping*, Alexandria, Virginia, 1993-1994.

Curriculum developer and instructor, *OFFMAP* program to raise standardized test scores of minority students, 1992-1993.

Student Council faculty sponsor, 1992-95.

Coordinator between English and Italian middle school curricula, 1988-1990.

Instructor for the adult English as a Second Language class for adult women, Turkish Community Center in Naples, Italy, 1988-1989.

Tutor for English as a Second Language, Mathematics, and Scholastic Aptitude Test (SAT), 1988-1990.

Big Sister in Big Sisters of Greater New Orleans, 1979-1982.