

CURRICULUM VITAE

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Instructional Design & Technology
Department of Education, Health & Behavior Studies
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EDUCATION

University of Missouri-Columbia, Columbia, Missouri
2003 Ph.D.: Learning Technologies

Lehigh University, Bethlehem, Pennsylvania
2001 MS: Educational Technology

Immaculata College, Immaculata, Pennsylvania
1995 MA: Music Therapy

Fu-Jen University, Taiwan, R.O.C.
1987 BA: Chinese Literature

EMPLOYMENT

University of North Dakota, Grand Forks, North Dakota
2014-Present Professor, Instructional Design & Technology
2007-2014 Associate Professor, Instructional Design & Technology

University of Arizona South, Sierra Vista, Arizona
2003-2007 Assistant Professor, Educational Psychology/Educational
Technology

University of Missouri-Columbia, Columbia, Missouri
2002-2003 Teaching Assistant
2001-2002 Graduate Assistant (Coordinator of Globalization Initiatives
Program)

Lehigh University, Bethlehem, Pennsylvania
1999-2001 Research Assistant

Delaware County Intermediate Unit, Media, Pennsylvania
1995-1996 Music Therapist

RESEARCH INTERESTS

- Problem-based learning (PBL)
- Problem solving
- Instructional methods and strategies
- Systems thinking and modeling
- Creativity
- Concept formation and mapping
- Causal reasoning

TEACHING INTERESTS

- Learning Theory in Instructional Design
- Instructional Design Theory, Application, and Development
- Evaluation of Instruction
- Using Technologies as Cognitive Tools
- Designing Constructivist Learning Environments
- Systems Thinking and Modeling

PUBLICATIONS

Refereed Journal Articles

Tawfik, A. A., **Hung, W.**, & Giabbanelli, P. J. (2020). Comparing How Different Inquiry-based Approaches Impact Learning Outcomes. *Interdisciplinary Journal of Problem-based Learning*, 14(1). <https://doi.org/10.14434/ijpbl.v14i1.28624>

Hung, W., Dolmans, D., & van Merriënboer, J. (2019). A review to identify key perspectives in PBL meta-analyses and reviews: Trends, gaps and future research directions. *Advances in Health Sciences Education*, 24(5), 943-957. doi: 10.1007/s10459-019-09945-x

Hung, W., & Sitthiworachart, J. (2019). In-service teachers' conception of creativity and its relation with technology: A perspective from Thailand. *The Asia-Pacific Education Researcher*. <https://doi.org/10.1007/s40299-019-00460-6>

Ge, X., Turk, M., & **Hung, W.** (2019). Revisiting the Concept of Mindtools: Social and Motivational Perspectives. *Australasian Journal of Education Technology*, 35(2). doi: <https://doi.org/10.14742/aje>.

Pyle, E. K., & **Hung, W.** (2019). The role of subject presence type on student motivation in a PBL learning environment. *Advances in Health Sciences Education*, 24(4), 643-663. doi: 10.1007/s10459-019-09889-2

- Holen, J., **Hung, W.**, & Gourneau, B. (2017). Does one-to-one technology really work: An evaluation through the lens of activity theory. *Computers in the Schools*, 34, 1-2, 24-44, doi: 10.1080/07380569.2017.1281698.
- Hung, W.** (2016). All PBL starts here: The problems. *Interdisciplinary Journal of Problem-based Learning*, 10(2), doi.org:10.7771/1541-5015.1604.
- Hung, W.**, Flom, E., Manu, J., & Mahmoud, E. (2015). A review of the instructional practices for promoting online learning communities. *Journal of Interactive Learning Research*, 26(3), 229-252.
- Hung, W.** (2015). Cultivating creative problem solvers: The PBL style. *Asia Pacific Education Review*, 16(2), 237-246. doi 10.1007/s12564-015-9368-7.
- Hung, W.** (2014). Intrinsic and extrinsic intentional learning: The difference made by self-determination. *Australian Journal of Education*, 58(1), 50-58.
- Lee, C. B., & **Hung, W.** (2014). Fostering intentional learning with technologies. *Australian Journal of Education*, 58(1), 3-8.
- Hung, W.**, Mehl, K., & Holen, J. B. (2013). The relationships between problem design and learning process in problem-based learning environments: Two cases. *The Asia-Pacific Education Researcher*, 22(4), 635-645. DOI 10.1007/s40299-013-0066-0.
- Hung, W.** (2013). Team-based complex problem solving: A collective cognition perspective. *Educational Technology Research & Development*, 61(3), 365-384.
- Reeves, T. C., Lee, C. B., & **Hung, W.** (2013). Reflections on the scholarly contributions of Professor David H. Jonassen. *Computers & Education*, 64, 127-130.
- Hung, W.**, & Loyens, S. M. M. (2012). Global development of problem-based learning: Adoption, adaptation, and advancement. *Interdisciplinary Journal of Problem-based Learning*, 6(1), 4-9.
- Hung, W.** (2011). Theory to reality: A few issues in implementing problem-based learning. *Educational Technology Research & Development*, 59(4), 529-552.
- O'Neill, G., & **Hung, W.** (2010). Seeing the landscape and the forest floor: Changes made to improve the connectivity of concepts in a problem-based learning curriculum. *Teaching in Higher Education*, 15(1), 15-27.
- Goodnough, K., & **Hung, W.** (2009). Enhancing teacher pedagogical content knowledge in the context of elementary science. *Teaching Education*, 20(3), 229-242.
- Hung, W.** (2009). The 9-step process for designing PBL problems: Application of the 3C3R model. *Educational Research Review*, 4(2), 118-141.
- Hung, W.** (2008). Enhancing systems-thinking skills with modeling. *British Journal of Educational Technology*, 39(6), 1099-1120.
- Jonassen, D. H., & **Hung, W.** (2008). All problems are not equal: Implications for PBL. *Interdisciplinary Journal of Problem-Based Learning*, 2(2), 6-28.

- Goodnough, K., & **Hung, W.** (2008). Designing effective problems: Evaluation of 3C3R 9-step design process. *Interdisciplinary Journal of Problem-based Learning*, 2(2), 61-90.
- Hung, W.** & Jonassen, D. H. (2006). Conceptual understanding of causal reasoning in physics. *International Journal of Science Education*, 28(13), 1601-1621.
- Jonassen, D. H., & **Hung, W.** (2006). Learning to troubleshoot: A new theory based design architecture. *Educational Psychology Review*, 18(1), 77-114. (AERA Division I Outstanding Publication Award winning paper)
- Hung, W.** (2006). The 3C3R model: A conceptual framework for designing problems in PBL. *Interdisciplinary Journal of Problem-based Learning*, 1(1), 55-77. (Mentee Award winning paper)
- Cates, W. M., Bishop, M. J., & **Hung, W.** (2005). Characterization versus narration: Drama's role in multimedia instructional software. *Journal of Educational Technology Systems*, 33(4), 437-460.

Non-Refereed Journal

- Hung, W.** (2013). Problem-based learning: A learning environment for enhancing learning transfer. In L. Kaiser, K. Kaminski, & J. Foley (Eds.), *Learning Transfer in Adult Education. New Directions for Adult and Continuing Education*, 13, 27-38.
- Hung, W.**, & Holen, J. B. (2011). Problem-based learning: Preparing pre-service teachers for real world classroom challenges. *ERS Spectrum*, 29(3), 29-48.
- Hung, W.** (2004). Building learning communities by enhancing social presence: Implementing blended instructional delivery methods. In R. Klamma, M Rohde, & G. Stahl (Eds.), *Community-based learning: Explorations into theoretical grounds, empirical findings, and computer support*, pp. 81-86. Special issue in ACM SIG Group Bulletin.
- Hung, W.**, Baily, J., & Jonassen, D. H. (2003). Exploring the tensions of problem-based learning: Insights from research. *New directions in teaching and learning*, 95, 13-23.

Book Chapter

- Hung, W.**, & Amida, A. (2020). Problem-Based Learning in College Science. In J. J. Mintzes and E. M. Walter, Eds. *Active learning in college science: The case for evidence-based practice* (pp. 325-339). Berlin: Springer Nature.
- Hung, W.** (2019). Problem design in PBL. In M. Moallem, W. Hung, & N. Dabbagh, (Eds.), *The Wiley handbook of Problem-based learning* (pp. 249-272). Hoboken, NJ: Wiley-Blackwell.
- Hung, W.**, Moallem, M., & Dabbagh, N. (2019). Social foundations of Problem-based Learning. In M. Moallem, W. Hung, & N. Dabbagh (Eds.), *The Wiley handbook of Problem-based learning* (pp. 51-80). Hoboken, NJ: Wiley-Blackwell.
- Goodnough, K., & **Hung, W.** (2017). Designing effective problems: Evaluation of 3C3R 9-step design process. In T. Brush (Ed.), *Developing and supporting PBL practice:*

Research in K-12 and teacher education settings. West Lafayette, IN: Purdue University Press.

- Hung, W.** (2015). Problem-based learning: Conception, practice, and future. In Y. H. Cho, I. S. Caleon, & M. Kapur (Eds.), *Authentic problem solving and learning in the 21st Century: Perspectives from Singapore and beyond*. New York: Springer.
- Jonassen, D. H. & **Hung, W.** (2015). All problems are not equal: Implications of problem type, complexity, and structuredness. 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*. West Lafayette, IN: Purdue University Press.
- Hung, W.** (2013). Conceptualizing problems in problem-based learning: Its role and cognitive tools. In J. M. Spector, B. B. Lockee, S. E. Smaldino, & M. Herring (Eds.), *Learning, Problem Solving, and Mind Tools: Essays in Honor of David H. Jonassen* (pp. 174-194). New York: Routledge.
- O'Neill, G., & **Hung, W.** (2010). Making strong learning connections: Students involvement in improving the interconnections of concepts in a PBL module. In T. Barrett & S. Moore (Eds.), *New approaches to problem-based learning: Revitalising your PBL practice in higher education* (pp. 110-131). New York: Routledge.
- Hung, W.**, & Van Eck, R. (2010). Aligning problem solving and gameplay: A model for future research and design. In Richard Van Eck (Ed.), *Interdisciplinary Models and Tools for Serious Games: Emerging Concepts and Future Directions* (pp. 227-263). Hershey, PA: IGI Global.
- Hung, W.** (2009). Utilizing system modeling to enhance students' construction of problem representations in problem solving. In Blumschein, P., Hung, W., Jonassen, D. H., & Strobel, J. (Eds.), *Model-Based Approaches to Learning: Using Systems Models and Simulations to Improve Understanding and Problem Solving in Complex Domains* (pp. 41-57). Rotterdam, the Netherlands: Sense Publishers.
- Hung, W.**, & Blumschein, P. (2009). Afterword: Where do we go from here. In Blumschein, P., Hung, W., Jonassen, D. H., & Strobel, J. (Eds.), *Model-Based Approaches to Learning: Using Systems Models and Simulations to Improve Understanding and Problem Solving in Complex Domains* (pp. 319-329). Rotterdam, the Netherlands: Sense Publishers.
- Hung, W.**, Jonassen, D. H., & Liu, R. (2008). Problem-based learning. In M. Spector, D. Merrill, J. van Merriënboer, & M. Driscoll (Eds.) *Handbook of research on educational communications and technology*, (pp. 485-506, 3rd ed.). New York: Erlbaum.

Edited Book

- Moallem, M., **Hung, W.**, & Dabbagh, N. (2019, Eds.). *The Wiley Handbook of problem-based learning*. Hoboken, NJ: Wiley-Blackwell.
- Blumschein, P., **Hung, W.**, Jonassen, D. H., & Strobel, J. (2009, Eds.). *Model-Based Approaches to Learning: Using Systems Models and Simulations to Improve*

Understanding and Problem Solving in Complex Domains. (Modeling and Simulations for Learning and Instruction Series, Volume 4). Rotterdam, the Netherlands: Sense Publishers.

Edited Special Issues of Journals

Lee, C. –B., & **Hung, W.** (2014, Eds.). Technologies for Intentional Learning: Bridging Research and Practice. *Australian Journal of Education*, 58(1).

Lee, C. –B., **Hung, W.**, & Reeves, T. (2013, Eds.). Towards innovation in learning technologies research: Essays in honour of David Jonassen. *Computers and Education*, 64.

Hung, W., & Loyens, S. (2012, Eds.). International perspectives in Problem-based Learning. *Interdisciplinary Journal of Problem-based Learning*, 6(1).

Refereed Proceedings

Hung, W. (2010). Problem design, implementation, and student learning in PBL: Two case studies. Global Learn Asia Pacific 2010 Conference.

Stroble, J., Wigley, E., Evans, N., & **Hung, W.** (2009, July). BUZZ-acoustical engineering methodologies to measure student engagement. Paper presented at the Research in Engineering Education Symposium 2009, Palm Cove, Queensland, Australia, July 20-23.

Jonassen, D. H., **Hung, W.**, Strobel, J., Schmidt, M., & Cho, M. –H. (2004). Scaffolding causal reasoning. In Y. B. Kafai, W. A. Sandoval, N. Enyedy, A. S. Nixon, & F. Herrera (Eds.), *Proceedings of the Sixth International Conference of the Learning Sciences* (pp. 610). Mahwah, NJ: Erlbaum.

Encyclopedia Entries

Hung, W. (2014). Problem-based learning. In D. C. Phillips (Ed.), *Encyclopedia of Educational Theory and Philosophy*. Thousand Oaks, CA: Sage.

Jonassen, D.H. & **Hung, W.** (2012). Problem solving. In N. Seel (Ed.), *Encyclopedia of the Sciences of Learning* (pp. 2680-2683). New York: Springer-Verlag.

Jonassen, D.H. & **Hung, W.** (2012). Problem-based learning. In N. Seel (Ed.), *Encyclopedia of the Sciences of Learning* (pp. 2687-2690). New York: Springer-Verlag.

Manuscript under review/revision

Hung, W., Fu, H., & Gourneau, B. (under review). Conception of creativity: Perspectives from rural in-service teachers. *Teaching Education*.

Dolmans, D., **Hung, W.**, & Frambach, J. (under review). Problem-Based Learning: From Theoretical Principles to Different Shapes in Practice. In J. Dent, R. Harden, & D. Hunt (Eds.), *A practical guide for medical teachers* (6th ed.).

Manuscript in preparation

- Hung, W.** (in preparation). Enhancing students' knowledge acquisition in PBL by design.
- Ak, S., **Hung, W.**, & Holen, J. B. (in preparation). A cross-cultural study of problems and motivation in PBL: American and Turkish pre-service teachers.
- Ak, S., **Hung, W.**, & Holen, J. B. (in preparation). The effects of authenticity, complexity, and structuredness of problem design on students' motivation in problem-based learning: A case study.

PRESENTATIONS

- Hung, W.**, Moallem, M., & Dabbagh, N. (Accepted). Socio-cultural Constructivist Learning Components in PBL. Paper to be presented at the PBL 2020 International Conference, Aalborg, Denmark, Postponed to August 17-19, 2021 due to COVID 19 pandemic.
- Hung, W.**, Dolmans, D., & van Merriënboer, J. (Accepted). *Trends, gaps and future research directions of PBL research*. Paper to be presented at the PBL 2020 International Conference, Aalborg, Denmark, Postponed to August 17-19, 2021 due to COVID 19 pandemic.
- Hung, W.** (Accepted, 2020). Social-Cultural foundations of problem-based learning and implications for practices of PBL. Presentation in part of a Panel "*Invigorating Problem-based Learning (PBL) with Social and Cultural Considerations in Its Design and Research*" at Association for Educational Communication & Technology 2020 Convention, Jacksonville, FL, November, 3-7, 2020.
- Chua, B. L. & **Hung, W.** (2020). Designing problems for problem-based learning: Perceptions for Singapore. Paper to be presented at the AERA 2020 annual meeting, April 17-21, 2020, San Francisco.
- Hung, W.**, Dolmans, D., & van Merriënboer, J. (2020). A review to identify key perspectives in PBL meta-analyses and reviews: Trends, gaps and future research directions. Paper to be presented in part of Symposium "Celebrating 50 Years of Problem-Based Learning: Past, Present and Future" at the AERA 2020 annual meeting, April 17-21, 2020, San Francisco.
- Amida, A., Algarni, S., & **Hung, W.** (2019, October). *Exploring the engineering freshman motivation using Pershing Performance Improvement Model: A case study*. Poster presented at Association for Educational Communication & Technology 2019 Convention, Las Vegas, October 21-25, 2019.
- Hung, W.** (2019, May). *Transforming PBL with Technology for 21st Century Learning*. Keynote presented at FACiLiTATE 2019 PBL symposium: The Irish Enquiry/Problem Based Learning Network, Limerick, Ireland, May 17, 2019.
- Hung, W.** (2019, May). Doctoral Seminar at University College of Dublin, Dublin, Ireland, May 16, 2019.

- Hung, W.** (2019, May). All learning starts here: The problem. Lecture presented at the Maastricht University, Maastricht, the Netherlands, May 7, 2019.
- Hung, W.** (2019, March). *Problem solvers, explorers, and team players: How collaborative inquiry-based learning can help cultivate future-ready learners*. Seminar presented at National Institute of Education at the Nanyang Technological University, Singapore, March 26, 2019.
- Amida, A., Yearwood, D., Chang, I., **Hung, W.**, Algarni, S., & Lazar, V. (2018, October). *The Impact of Laboratory and Instructional Format on Student's Learning Outcome in an Electronic Circuit Course*. Paper presented at Association for Educational Communication & Technology 2018 Convention, Kansas City, MO, October 23-27, 2018.
- Lazar, V., **Hung, W.**, Amida, A., & Algarni, S. (October, 2018). *The Use of Internet in the Academic Preparation of International Students*. Paper presented at Association for Educational Communication & Technology 2018 Convention. Kansas City, MO, October 23-27, 2018.
- Mayaleeke, S., Amida, A., & **Hung, W.** (2018, October). *The Effects of CAI on Mathematics Performance of Students with Attention Deficit Hyperactivity Disorder (ADHD) in Nigeria*. Paper presented at Association for Educational Communication & Technology 2018 Convention, Kansa City, MO, October 23-27, 2018.
- Algarni, S., **Hung, W.**, Amida, A., & Lazar, V. (2018, October). *Perceptions of High School Teachers of the Use of Mobile Phone Technologies in Saudi Arabia*. Paper presented at Association for Educational Communication & Technology 2018 Convention, Kansa City, MO, October 23-27, 2018.
- Pyle, E., & **Hung, W.** (2018, April). *The effects of subject presentation types in problem-based learning (PBL) problems on student motivation: A PBL implementation in speech language pathology*. Paper presented at AERA 2018 annual meeting, New York City, April 13 –17, 2018.
- Puhl, J., & **Hung, W.**, & Sitthiworachart, J. (2018, February). *Exploring active learning strategies for procedural knowledge acquisition*. Paper presentation at PBL2018 International Conference in Santa Clara, CA, February 16-19, 2018.
- Pyle, E., & **Hung, W.** (2018, February). *The Effects of subject presentation type on student motivation: A PBL implementation in speech-language pathology*. Paper presentation at PBL2018 International Conference in Santa Clara, CA, February 16-19, 2018.
- Tawfik, A., **Hung, W.**, Giabbanelli, P. J. (2018, February). *Comparing how different inquiry-based approaches impact learning outcomes*. Paper presentation at PBL2018 International Conference in Santa Clara, CA, February 16-19, 2018.
- Hung, W.** (2017, April). *Multi-dimensional problem difficulty scale: Evaluating problem difficulty*. Paper presented (Roundtable) at AERA 2017 annual meeting, San Antonio, April 27 – May 1, 2017.

- Alotaibi, A., Caldwell, K. D. I., & **Hung, W.** (2016, October). Utilizing math game apps in the classroom. Poster presented at Association for Educational Communications & Technology 2016 Convention, Las Vegas, NV, October 17-21.
- Caldwell, K. D. I., **Hung, W.**, & Alotaibi, A. (2016, October). What does it mean to be creative in teacher education programs in Western Canada? A phenomenological study. Paper presented at Association for Educational Communications & Technology 2016 Convention, Las Vegas, NV, October 17-21.
- Hung, W.** (2016, September). 3C3R PBL problem design model: 2nd generation. In Symposium: *The design and representation of ill-structured problems in PBL*. PBL 2016 International Conference, Sao Paulo, Brazil, September 8-10, 2016.
- Hung, W.**, Holen, J. B., & Gourneau (2016, April). *Does 1:1 technology really work: An evaluation through the lens of activity theory*. Paper presented at AERA 2016 annual meeting, Washington DC, April 8-12, 2016.
- Manu, J., & **Hung, W.** (2016, April). *Do in-service teachers teach in ways that they believe? A Ghanaian perspective*. Paper presented (Roundtable) at AERA 2016 annual meeting, Washington DC, April 8-12, 2016.
- Caldwell, K., & **Hung, W.** (2016, April). *The Meaning of Creativity: A phenomenological study of secondary school teachers' perspectives in western Canada*. Paper presented at AERA 2016 annual meeting, Washington DC, April 8-12, 2016.
- Hung, W.** & Mahmoud, E. (2015, April). *Using concept mapping to enhance ELL students' reading comprehension*. Paper presented at AERA 2015 annual meeting, Chicago, IL, April 16-20, 2015.
- Hung, W.** (2014, October). *Cultivating creative problem solvers: The PBL style*. Paper presented at the 15th International Conference of Education Research, The Seoul National University, Seoul, South Korea, October 15-17, 2014.
- Hung, W.** (2014, April). Knowledge Acquisition, Application, and Transfer in PBL by Design. In part of Symposium: *Arming Achilles' Heel: Instructional strategies and approaches for promoting knowledge acquisition in PBL*, organized by W. Hung & S. M. M. Loyens. Paper presented at AERA 2014 annual meeting, Philadelphia, PA, April 3-7.
- Loyens, S. M.M., Schaap, L., **Hung, W.**, & Pronk, S. (2013, April). *The concept map as a pedagogical alternative for problem-based tutorial meetings in fostering students' elaboration of knowledge*. Paper presented at AERA 2013 annual meeting, San Francisco, CA, April 26-May 1.
- Hung, W.**, Ak, S., & Holen, J. (2013, April). *A Cross-Cultural Study of Problems Elements and Motivation in PBL: A Comparison of US and Turkish Pre-service Teachers*. Paper presented at AERA 2013 annual meeting, San Francisco, CA, April 26-May 1.
- Hung, W.**, Ak, S., & Holen, J. (2013, April). *A Cross-Cultural Study of Problems and Motivation in PBL: US and Turkish Pre-service Teachers*. Paper presented at College

- of Education & Human Development 2013 Research Fair at University of North Dakota, Grand Forks, ND.
- Hung, W.**, Flom, E., Manu, J., & Mahmoud, E. (2012, October). *Promoting Online Learning Communities: A Systematic Review of the Instructional Strategies and Tools*. Paper presented at AECT 2012 International Convention, Louisville, Kentucky, October 30-November 3, 2012.
- Manu, J., & **Hung, W.** (2012, November). *International students and technology proficiency: Lessons from UND*. Roundtable presentation at AECT 2012 International Convention, Louisville, Kentucky, October 30-November 3, 2012.
- Hung, W.**, & Syverson, S. (2012, April). *Scaffolding diagnostic reasoning skills of Emergency Medical Technicians (EMT): Cognitive apprenticeship emphasized simulation-based instruction*. Paper presented at 2012 AERA annual Meeting, Vancouver, Canada, April 13-17.
- Ak, S., **Hung, W.**, & Holen, J. B. (2012, April). *Problems and motivation in Problem-based Learning: A case study*. Paper presented at 2012 AERA annual Meeting, Vancouver, Canada, April 13-17.
- Hung, W.**, Love, S., & Fu, H. (2012, April). *Enhancing Learning Effectiveness in Problem-based Learning: Can Problem Design Help?* Paper presented at 2012 AERA annual Meeting, Vancouver, Canada, April 13-17.
- Ak, S., **Hung, W.**, & Holen, J. B. (2011, December). *A cross-cultural study of problems and motivation in PBL: American and Turkish pre-service teachers*. Paper presented at 2011 World Education Research Association WERA Focal Meeting, Kaohsiung, Taiwan, December 16-18, 2011.
- Hung, W.** (2011, November). *The role of collective cognition in team-based complex problem solving*. Paper presented in Presidential Panel session: Complex Problem Solving: Status of the Field and Future Directions at AECT 2011 International Convention, Jacksonville, November 8-12.
- Jackson, J., **Hung, W.**, & Jensen, M. (2011, September). *"Knowing more, or knowing better (or not?): Assessing learning in guided inquiry classes."* Presented at Reflecting On Teaching: An All-Campus Colloquium On The Scholarship Of Teaching & Learning (Sotl) Held In Conjunction With The ND General Education Council's Statewide Summit, Grand Forks, ND, September 30-October 1, 2011.
- Syverson, S., & **Hung, W.** (2011, September). *An investigation on the effects of cognitive apprenticeship within a simulation-based learning environment on Emergency Medical Technician (EMT) students' development of diagnostic reasoning skills*. Poster to be presented at the National Association of EMS Educators annual conference (NAEMSE) (selected by Prehospital Care Research Forum at UCLA), Reno, NV September 13- 18, 2011.
- Hung, W.**, & Strobel, J. (2011, June). *Definition, conceptualization, and utilization: A review of research on concept mapping as a pedagogical mindtool*. Paper presented at ED-MEDIA

- 2011-World Conference on Educational Multimedia, Hypermedia & Telecommunications, Lisbon, Portugal, June 27-July 1.
- Hung, W.** (2011, April). *Assessing problem solving performance: From a collective cognition perspective*. Paper presented in symposium "Assessing Complex Problem Solving – Theories, Methods, and Tools" submitted to AERA 2011 Annual Meeting.
- Hung, W.** (2010, May). *Problem design, implementation, and student learning in PBL: Two case studies*. Paper presented at the Global Learn Asia Pacific 2010 Conference, Penang, Malaysia, May 17-20.
- Hung, W.** (2010, May). *PBL in action: Exploring the interrelationships between problem design, implementation, and student learning*. Roundtable presentation presented at AERA 2010 annual meeting, Denver, April 30-May 4.
- Hung, W.** (2010, February). *Problem-based learning (PBL): Cultivating problem solvers and lifelong learners*. Keynote speech presented at North Dakota Science Teachers Association (NDSTA) 2010 conference, Bismarck, February 26.
- Stroble, J., Wigley, E., Evans, N., & **Hung, W.** (2009, July). *BUZZ-Acoustical engineering methodologies to measure student engagement*. Paper presented at the Research in Engineering Education Symposium 2009, Palm Cove, Queensland, Australia, July 20-23.
- Holen, J., Gourneau, B., & **Hung, W.** (2009, May). *Supporting purpose-driven teaching at the University of North Dakota: A Teacher Education for the Future project report*. Paper presented at the 33rd Pacific Circle Consortium Conference, Taipei, Taiwan, May 25-29, 2009.
- Hung, W.** (2009, April). Theory and reality: A few issues in problem-based learning implementation and evaluation research. Paper presented at Symposium, AERA 2009 annual meeting, *Developing a shared global research agenda for problem-based learning: North American and European perspectives on the future of PBL research*, San Diego, April 13-17.
- Goodnough, K., & **Hung, W.** (2008, March). *Enhancing science pedagogical content knowledge through designing PBL modules utilizing 3C3R Nine-Step design model*. Paper presented at the AERA 2007 annual meeting, March 24-28, 2008, New York.
- Hung, W.**, Strobel, J., & Shaikh, K. (2007, October). *A critical review of research on concept mapping*. 6th Annual Beyond Boundaries Conference: Integrating Technology into Teaching & Learning, October 4 & 5, 2007, Grand Forks, ND.
- Goodnough, K., & **Hung, W.** (2007, April). *Designing Effective Problems in Problem-Based Learning: Evaluating a Nine-Step Design Model*. Paper presented at AERA 2007 annual meeting, April, 9-13, Chicago.
- Strobel, J., **Hung, W.**, Shaikh, K. (2007, April). *A concept map is not a concept map: conceptualizations of concept mapping and its utilization*. Paper presented at AERA 2007 annual meeting, April, 9-13, Chicago.

- Hung, W.** (2006, April). *Application of 3C3R PBL Problem Design Model: A 9-step Design Process*. Paper presented at the AERA annual meeting, San Francisco.
- Hung, W.** (2005, October). *Drawing the big picture – essential skills: systems thinking and modeling*. Paper presented in the Learning by modeling Panel at the AECT annual conference, October 18-22, Orlando, FL.
- Hung, W.**, & Alexander, D. (2005, October). *Learning to Troubleshoot – A Learning Environment for Troubleshooting Computer Networking Problems*. Paper presented at the AECT annual conference, October 18-22, Orlando, FL.
- Hung, W.** (2005, April). *Designing problems in PBL: A proposed model*. Paper presented at the AERA annual meeting, Montreal, Canada.
- Jonassen, D., **Hung, W.**, Strobel, J., Schmidt, M., & Cho, M. -H. (2004, June). *Scaffolding causal reasoning*. Poster session at the Sixth International Conference of the Learning Sciences, 2004, Santa Monica, CA.
- Hung, W.** (2004, April). *The role of causal reasoning methods in facilitating conceptual understanding of college students in physics*. Poster session at 2004 AERA Annual Meeting, April 12-16, San Diego.
- Hung, W.** (2004, April). *Teaching and learning problem solving: Utilizing system modeling as a cognitive tool for enhancing students' construction of problem representations in problem solving*. Paper presented at 2004 AERA Annual Meeting, April 12-16, San Diego.
- Jonassen, D. H., Strobel, J., Hong, R. -Y., Oh, S., & **Hung, W.** (2002, November). *Building cognitive simulations with systems modeling tools*. Paper presented at the AECT annual conference, Dallas, TX.
- Strobel, J., & **Hung, W.** (2002, November). *Applying cognitive flexibility theory in designing constructivist learning environments*. Paper presented at the AECT annual conference, Dallas, TX.
- Strobel, J., & **Hung, W.** (2002, October). *Constructivist Learning Environments in Religion Studies*. Paper presented at the Annual Meeting of the American Academy of Religion, Toronto, Canada.
- Cates, W. M., Bishop, M. J., & **Hung, W.** (2000, February). *Characterization versus narration: Empirical investigations of drama's role in multimedia instructional software*. Paper presented at the AECT annual conference, Long Beach, CA.
- Tuscher, L. J., Liu, L. -P., & **Hung, W.** (1999, October). *Integration of narrowband (internet) and broadband (TV) satellite technologies for teaching and learning*. Paper presented at the AACE annual conference, Honolulu, HI.

AWARDS & HONORS

- 2019 – School of Health Science Education (SHE) Research Visits Scholarship, Maastricht University, the Netherlands
- 2018 – Fulbright U.S. Scholar (Kyrgyz Republic)

- 2017 – Visiting Researcher under the Melting Pot Grant from King Mongkut’s Institute of Technology Ladkrabang, Bangkok, Thailand
- 2010 -- The Reviewer of the Year Award from Interdisciplinary Journal of Problem-based Learning.
- 2009 – Selected to participate in US delegation for International Workshop and Symposium of Enhancing Project Based Learning in Engineering Education, Loughborough University, Leicestershire, UK.
- 2007 -- Outstanding Publication Award from AERA Division I -- Education in the Professions (Learning to troubleshoot: A new theory based design architecture. *Educational Psychology Review*, 18(1), 77-114.)
- 2006 -- Junior Faculty Mentee Award from the Interdisciplinary Journal of Problem-based Learning (The 3C3R model: A conceptual framework for designing problems in PBL. *Interdisciplinary Journal of Problem-based Learning*, 1(1), 55-77.)
- 2006 -- Wakonse Fellow (fellowship from University of Arizona)

GRANTS

- 2019--PI for “Community-based PBL using Unmanned Aircraft Systems (UAS) to Cultivate STEM Career Interest in North Dakota Middle School Students” (ND EPSCoR K-12 STEM Outreach grant, \$5,999.99, October 2019-May 2020, awarded)
- 2019--PI for “Central Asia Educational Research Consortium” (Central Asia University Partnerships Program (UNICEN) Grants (\$22,500, January 2020-June 2021, not funded)
- 2018--PI for “iTEST: Community-based PBL using Unmanned Aircraft Systems (UAS) to Cultivate STEM Career Interest in Middle School Students in Rural Areas” (National Science Foundation, \$399,806, for 2019-2021, Not Funded)
- 2017--PI for “Practicing to Learn, Learning to Practice: An investigation of teachers’ motivations and metacognition in adopting evidence-based best practices of communication facilitation skills in classrooms” (James S McDonnell Foundation, \$1,510,567, Not Funded).
- 2015--Co-PI for “Engaged Student Learning: Design and Development, Level I: Project based Experience in Electrical and Chemical Engineering” (National Science Foundation, \$599,998, Not Funded).
- 2015--UND EHD Research& Travel Mini-Grant (support trip to AERA 2015 annual meeting, Chicago, April 16 - 20, 2015, \$500, awarded).
- 2014--Co-PI for “Bridging the Gap: Linking Undergraduate Chemical Engineering Students’ Conceptual and Computational Understanding of Domain Knowledge with Case-based Learning and Systems Modeling” (National Science Foundation, \$258,690, Not Funded).

- 2013--UND EHD Summer Professorship Grant “Promoting Online Learning Communities: A Systematic Review of the Instructional Strategies and Tools” (College of Education & Human Development, University of North Dakota, \$3,500, 2013, awarded).
- 2013--UND EHD Research& Travel Mini-Grant (support trip to AERA 2013 annual meeting, San Francisco, April 26 - May 1, 2013, \$750, awarded).
- 2011--PI for Transforming STEM Learning Grant Proposal “Integrated Multidisciplinary Problem-based Learning for Achieving Core Transformation (IMPACT) in Middle School STEM Education” (National Science Foundation, \$465,538, for 2012-2014, Not Funded)
- 2011--UND EHD Travel Grant (support trip to Kaohsiung, Taiwan, World Educational Research Association Conference, 2011, December 16-18, \$750, awarded)
- UND SSAC Travel Grant (support trip to Lisbon, Portugal, ED-MEDIA International Conference, 2011, June 27-July 1, \$650, awarded)
- Co-PI for collaborative grant proposal “REESE: Assessing and Enhancing Problem Conceptualization In Engineering Education From High School To College Education” (National Science Foundation, \$488,369, for 2011-2014, Not Funded)
- EHD Summer Professorship Grant “An exploratory Study on Group Processing in Problem-based Learning Environment” (College of Education & Human Development, University of North Dakota, \$3,500, 2010, awarded).
- Co-PI for collaborative grant proposal “REESE: Development and Testing of Assessment Instruments for Problem Conceptualization in Engineering Education – High School to Undergraduate Education” (National Science Foundation, \$401,954, for 2010-2013, Not Funded)
- PI for grant proposal “Group Cognitive Processing in Problem-based Learning” (UND Faculty Research Seed Money Grant, \$33,300, denied)
- UND EHD Research& Travel Mini-Grant (support trip to Pacific Circle Consortium conference in Taipei, May 25-29, 2009, \$400, awarded).
- PI for grant proposal “Essential Skills Analysis for Unmanned Aircraft System Pilots” (UND Faculty Research Seed Money Grant, \$39,700, Not Funded)
- Co-PI for grant proposal “An Interactive Simulation Game to Promote Scientific Problem Solving in Middle School: An interactive simulation game and professional development materials to promote problem-based learning and science inquiry in middle schools” (Institute of Education Sciences, \$1,441,118, 2009-2012, Not Funded)
- EHD Summer Professorship Grant “An investigation of the effectiveness of the 3C3R Problem Design Model” (College of Education & Human Development, University of North Dakota, \$3,000, 2008, awarded).

- Co-PI in grant proposal “The Instructional Inquiry Support System (IISS)” (the Department of Education, Not Funded)
- Foreign Travel Grant to AERA annual meeting in Montreal, Canada (University of Arizona, \$500, 2005, awarded).

SERVICE

Journal Editor

- *Co-editor for Interdisciplinary Journal of Problem-based Learning*

Editorial board member

- *Interdisciplinary Journal of Problem-Based Learning* (elected, 2008-2012; 2015-present)
- *International Journal of Quantitative Research in Education* (2012-2015)

Manuscript reviewer

- Educational Research Review
- Educational Technology Research & Development
- Interdisciplinary Journal of Problem-Based Learning
- Computers & Education
- Learning & Instruction
- European Journal of Psychology of Education
- Advances in Health Sciences Education
- The Asia-Pacific Education Researcher
- Teaching & Teacher Education
- International Journal of Quantitative Research in Education
- Journal of Online Learning & Teaching
- Journal of Engineering Education
- Computers in Human Behaviors
- Educational Psychology

Conference/Grant Proposal Reviewer

- The Programme Council for Practice-oriented Research (PPO), the Netherlands Initiative for Education Research (NRO) of the Netherlands Organisation for Scientific Research (grant proposal reviewer)
- Singapore Ministry of education tertiary education research fund projects (grant proposal reviewer)
- The Israel Science Foundation (grant proposal reviewer)
- City University of New York Research Award Program (grant proposal reviewer)
- AERA Annual Meeting
- AECT International Convention
- Engineering Education Conference

American Educational Research Association (AERA)

- 04/2016 – 05/2019 PBL SIG Program Chair
- 04/2008 – 05/2010 PBL SIG Chair
- 04/2005 – 04/2007 PBL SIG Communications Chair
- AERA Annual conference:
 - Division C proposals reviewer
 - PBL SIG proposals reviewer
 - PBL SIG paper presentation session chair
 - PBL SIG paper presentation session discussant

PANPBL Association of Problem-Based Learning and Active Learning

Methodologies

- 11/2019 – present Program Chair for Strand of “PBL and active learning in primary and secondary education” at PANPBL 2020 conference (postponed to August 17-19, 2021 due to COVID 19).
- 06/2017 – present Treasurer
- 06/2017 – present Executive Board Member

Professional Membership

- American Educational Research Association (AERA)
- Association for Educational Communication and Technology (AECT)
- PANPBL Association of Problem-Based Learning and Active Learning Methodologies
- International Society of the Learning Sciences (ISLS)
- Association for the Advancement of Computing in Education (AACE)

University of North Dakota

- 08/2015—present T&L Doctoral Admission Committee Member
- 08/2013 – present Graduate Director of Instructional Design & Technology program
- 11/2015—05/2017 EHD College Technology Committee Member
- 08/2014 – 05/2015 Member of The EHD College Research Council
- 08/2015—05/2014 T&L Technology Committee Member
- 08/2014 – 12/2014 College Internal Review Committee member for the Kinesiology and Public Health Education (KPHE) undergraduate program
- 08/2011 – 08/2014 Presenter of “Group Dynamics” session for Medical School New Students Orientation
- 08/2011 – 05/2013 Teaching & Learning Doctoral Admission Committee member
- 08/2008 – 05/2013 Teaching & Learning Department Technology Committee member
- 08/2012 – 05/2013 Teaching & Learning Department Appeals & Advisory committee member

- 09/2011 – 05/2012 College of EHD Tenure & Promotion Committee member
- 10/2009 – 05/2011 Undergraduate Student Learning Working Group (member)
- 08/2009 – 05/2010 College of EHD Technology Committee member

University of Arizona South Campus

- 07/2006 -- 08/2007 Coordinator of Educational Technology Program
- 12/2005 -- 08/2007 Curriculum Committee member
- 12/2005 -- 06/2007 Personnel Committee member
- 09/2003 -- 06/2006 Chair of Classroom Teaching Tools Committee
- 09/2003 -- 06/2005 Web Development Committee member

CONSULTING WORK

- 08/2009-12/2009 Consultant for a project “Learning and Engagement in Social Spaces: Development of an Acoustics-based Model of Measurement” (Purdue University)