



Yu-Chang Hsu, Ph.D.

Assistant Professor

Department of Educational Technology

Boise State University

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<http://sites.google.com/site/yuchanghsuportfolio/>

EDUCATION

Ph.D., Instructional Systems (Minor: Educational Psychology)

The Pennsylvania State University, 2009.

Dissertation: The effects of self-explanation and metacognitive interventions on undergraduate students' learning with multiple external representations in a web-based environment.

Ed.M., Education and Technology

State University of New York at Buffalo, 2005.

Ed.M., Teaching English to Speakers of Other Languages (TESOL)

State University of New York at Buffalo, 2003.

B.A., English

National Taiwan Normal University, 1999.

APPOINTMENTS

Boise State University

Assistant Professor, Department of Educational Technology (2010–present)

Penn State University

Postdoctoral scholar/Assessment Coordinator, Toys and Mathematical Options for Retention in Engineering (Toys 'n MORE) Project (NSF STEP Grant DUE # 0756992), College of Engineering, Penn State University, 2010.

Assessment Coordinator, Toys and Mathematical Options for Retention in Engineering (Toys 'n MORE) Project, College of Engineering (2008-2009)

Technology Learning Consultant, Education Technology Service (ETS) (2007-2008)

Instructional Design Intern, The Schreyer Institute for Teaching Excellence and Penn State University Testing Center (2007)

Graduate Coordinator, Online Applied Behavior Analysis (ABA) for Special Education Program, Penn State University (2007)

Graduate Coordinator, Technology Integration Certificate for K-12 Educators for Tomorrow (TICKET) (2005-2006)

State University of New York at Buffalo

Videographer/Research Assistant, TRIAD Project (early childhood mathematics learning) (NSF Grant # ESI-9730804 and REC-0228440) (2004-2005)

Librarian, Graduate School of Education Software Library (2003-2004)

Taiwan

English Teacher/Homeroom Teacher, Hujiang Senior High School, Taipei, Taiwan, 2000-2001.

English Teacher/Homeroom Teacher, Chien Kuo Senior High School, Taipei, Taiwan, 1999-2000.

GRANTS AND RESEARCH PROJECTS

- **PI**, mLearning Scholar 2.0, Boise State University. (**funded**; 2012)
- **Co-PI**, *Mobile and Robot Programming for High School (MRP4HS)*. National Science Foundation. (with PI Dr. Gang-Ryung Uh and Co-PI Dr. Yu-Hui Ching). (\$1,000,000, full proposal submitted; 2011)
- **PI**, *A Decision Support System (DSS) for Online Teaching, Learning, and Administration*. Spencer Foundation. (with PI's Drs. Jui-Long Hung and Kerry Rice). (\$480,000, pre-proposal submitted; 2011)
- **PI**, *Computer Science and the Mobile World*. CS4HS (Computer Science for High School) Grant, Google, Inc. (\$20,000, full proposal submitted; with Drs. Gang-Ryung Uh and Yu-Hui Ching). (2011)
- **Co-PI**, *Idaho Digital Learning Academy (IDLA) Student Survey Analysis and Model Building* (\$18,000, **funded**; with Drs. Andy Hung and Kerry Rice) (2010-2011)
- **PI, mLearning Scholar** for outstanding proposal on implementing mobile learning in curriculum, Boise State University. [One iPod Touch (\$300) for the instructor; 15 subsidized iPod Touch (\$150 each) for students (\$2250); mobile Apps (approximately $15 \times 17 = \$255$).] (\$2505, **funded**) (2011)
- **Researcher**, *Professional development for supporting web-enhanced Problem-based Learning (PBL) teaching practice for increasing problem-solving ability of middle school science students*, funded by the PK-12 Education Thematic Initiative Fund, College of Education at PSU (\$30,000, **funded**; PI: Dr. Barbara Grabowski) (2005-2006)

PUBLICATIONS

Peer-reviewed Journal Article

1. **Hsu, Y. -C.**, & Ching, Y. -H. (2011). Microblogging for strengthening a virtual learning community in an online course. *Knowledge Management & E-Learning: An International Journal*, 3(4), 375-388.
2. Ching, Y. -H. & **Hsu, Y. -C.** (2011). Design-grounded assessment: A framework and a case study of Web 2.0 practices in higher education. In J. Waycott & J. Sheard (Eds), *Assessing students' Web 2.0 activities in higher education*. *Australasian Journal of Educational Technology*, 27 (Special issue, 5), 781-797. (SSCI)
3. Lin, H., Ching, Y. -H., **Hsu, Y. -C.**, Dwyer, F. M. (2010). Learning from animation: The effect of prior knowledge and navigation mode. *International Journal of Instructional Media*, 37 (2), 201-212.
4. **Hsu, Y. -C.**, Ching, Y. -H., Mathews, J. P., & Carr-Chellman, A. A. (2009). Undergraduate students' self-regulated learning in web-based learning environments. *Quarterly Review of Distance Education*, 10(2), 109-122.
5. **Hsu, Y. -C.**, Lin, H., Ching, Y. -H., & Dwyer, F. (2009). The effects of assigned and preferred educational website navigation modes on undergraduate students' learning outcomes. *Journal of Educational Technology & Society*,

12(1), 271-284.

6. **Hsu, Y. -C.** (2006). Better educational website interface design: The implications from gender-specific preferences in graduate students. *British Journal of Educational Technology* 37(2), 233-242.

Editor-reviewed Journal Article

1. **Hsu, Y. -C.**, Rice, K., & Dawley, L. (2012). Empowering educators with Google's Android App Inventor: An online workshop in mobile app design. *British Journal of Educational Technology*, 43(1), E1-E5. doi:10.1111/j.1467-8535.2011.01241.x (SSCI)

Refereed Book Chapter

1. **Hsu, Y. -C.**, Ching, Y. -H., & Grabowski, B. (under revision). Web 2.0 Applications, Practices, and Learning through Collaboration. In M. Spector, D. Merrill, J. Elen, & M. J. Bishop (Eds.). *Handbook of research on educational communications and technology* (4th ed.). Springer Academics.
2. **Hsu, Y. -C.**, Ching, Y. -H., & Grabowski, B. (2009). The spirit of educational Web 2.0 literacy: Cognitive tools of the new media age for K-12. In T. WHL & R. Subramaniam (Eds.), *Handbook of research on new media literacy at the K-12 level: Issues and challenges* (pp. 353-371). Hershey, PA: IGI Global.

Refereed Proceedings

1. Ching, Y. -H., & **Hsu, Y. -C.** (2011). Incorporating peer feedback for learning in a project-based online learning environment. The proceedings of World Conference on E-Learning in Corporate, Government, Health, & Higher Education, Honolulu, Hawaii, USA, October 18-21, 2011.
2. Margle, J., Cohan, C., **Hsu, Y. -C.**, Lane, J., Freeman, A., Gomez-Calderon, J., Sathianathan, D., Engel, R. (2011). Toys'n More -Initial Implementation of Intervention Strategies. The proceedings of 2011 ASEE Annual Conference and Exposition, Vancouver, BC, Canada, June 26-29, 2011.
3. **Hsu, Y. -C.**, & Ching, Y. -H. (2010). Learning statistics with cognitive and metacognitive strategies facilitating multiple external representations integration in a web-based environment. The proceedings of Association for Educational Communications and Technology (AECT) Annual International Convention, Anaheim, California. October 27-30, 2010.
4. Ching, Y. -H., & **Hsu, Y. -C.** (2010). Blogging in higher education: Issues, challenges, and design considerations. The proceedings of Association for Educational Communications and Technology (AECT) Annual International Convention, Anaheim, California. October 27-30, 2010.
5. Margle, J., Gomez-Calderon, J., **Hsu, Y. -C.**, Freeman, A. Sathianathan, D., and Engel, R. (2010). Toys and Mathematics Options for Retention in Engineering (Toys 'n MORE) broad impact: The Campuses. The proceedings of 2010 ASEE Annual Conference and Exposition, Louisville, Kentucky, June 20-23, 2010.
6. Ching, Y.-H., & **Hsu, Y.-C.** (2010). Strategy training that facilitates undergraduate students in representing and solving ill-structured problems. The proceedings of American Educational Research Association (AERA) Annual Meeting and Exhibition, Denver, Colorado, USA, April 30-May 4, 2010.
7. **Hsu, Y. -C.**, Ching, Y. -H., Grabowski, B. (2008). Bookmarking/tagging in the web 2.0 era: from an individual cognitive tool to a collaborative knowledge construction tool for educators. The proceedings of World Conference

on E-Learning in Corporate, Government, Health, & Higher Education, Las Vegas, Nevada, USA, November 17-21, 2008.

8. Kidwai, K., **Hsu, Y. -C.**, Lee, H. W., Redman, S., Miller, S. T., & Grabowski, B. (2008). Revising a large question pool for an astronomy class: collaboration between instructional design researchers and astrophysicists. The proceedings of World Conference on E-Learning in Corporate, Government, Health, & Higher Education, Las Vegas, Nevada, USA, November 17-21, 2008.
9. **Hsu, Y. -C.**, Ching, Y. -H., Lin, H., & Dwyer, F. M. (2007). The effects of assigned and preferred web navigation modes on undergraduate students' learning outcomes. The proceedings of American Educational Research Association (AERA) Annual Meeting and Exhibition, Chicago, Illinois. April 9-13, 2007.
10. Ching, Y. -H., **Hsu, Y. -C.**, Yung, H. -I., Kidwai, K., & Grabowski, B. L. (2007). A correlation study of middle school students' metacognition and science related characteristics. The proceedings of American Educational Research Association (AERA) Annual Meeting and Exhibition, Chicago, Illinois. April 9-13, 2007.
11. **Hsu, Y. -C.**, Ching, Y. -H., & Lin, H. (2006). Undergraduate students' preferences for educational website interface design features: a gender perspective. The proceedings of Association for Educational Communications and Technology (AECT) Annual International Convention, Dallas, Texas. October 10-14, 2006.
12. Ching, Y. -H., **Hsu, Y. -C.**, Lin, H., & Dwyer, F. (2006). Different levels of learning gains in web-based environment with animation. The proceedings of Association for Educational Communications and Technology (AECT) Annual International Convention, Dallas, Texas. October 10-14, 2006.
13. Lim, K. Y., Ching, Y. -H., **Hsu, Y. -C.**, Lee, H. W., Nguyen, H., Yung, H. -I., & Grabowski, B. (2006). Designing a teacher professional development program for the effective use of web-enhanced PBL. The proceedings of Association for Educational Communications and Technology (AECT) Annual International Convention, Dallas, Texas. October 10-14, 2006.
14. Lin, H., Ching, Y. -H., **Hsu, Y. -C.**, Dwyer, F. (2006). The effect of prior knowledge and navigation mode on learning from animation: A cognitive load perspective, The proceedings of the ED-MEDIA World Conference on Educational Multimedia, Hypermedia & Telecommunications, Orlando, Florida. June 26-30, 2006.
15. **Hsu, Y. -C.** (2005). Better educational website interface design: The implications from gender-specific preferences in graduate students. The proceedings of Association for Educational Communications and Technology (AECT) International Convention, Orlando, Florida. October 18-22, 2005.
16. **Hsu, Y. -C.** (2005). Does gender make a difference in one's preference for website interface design? The proceedings of EDMEDIA World Conference on Educational Multimedia, Hypermedia & Telecommunications, Montreal, Canada. June 27-July 2, 2005.

Report

1. **Co-author** (2010). Toys and Mathematical Options for Retention in Engineering (Toys 'n MORE): Year 2 annual report. [NSF STEM Talent Expansion Grant, # 0756992; PI: Dr. Renata Engel]
2. **Co-author** (2009). Toys and Mathematical Options for Retention in Engineering (Toys 'n MORE): Year 1 annual report. [NSF STEM Talent Expansion Grant, # 0756992; PI: Dr. Renata Engel]

PRESENTATIONS

National/International Conference Presentations

1. **Hsu, Y. -C.**, & Ching, Y. -H. (2011). Mobile computer-supported collaborative learning (mCSCL): A review of experimental research. Association for Educational Communications and Technology (AECT) Annual International Convention, Jacksonville, Florida. November 8-12, 2011.
2. **Hsu, Y. -C.**, & Ching, Y. -H. (2011). Mobile social learning in an online course: A mixed-method study. Association for Educational Communications and Technology (AECT) Annual International Convention, Jacksonville, Florida. November 8-12, 2011.
3. **Hsu, Y. -C.**, & Saba, A. (2011). Augmented reality for learning and teaching: A literature review of the state-of-the-art. Association for Educational Communications and Technology (AECT) Annual International Convention, Jacksonville, Florida. November 8-12, 2011.
4. Ching, Y. -H., & **Hsu, Y. -C.** (2011). Theory-grounded Web 2.0 Practices: A framework and a case study. Association for Educational Communications and Technology (AECT) Annual International Convention, Jacksonville, Florida. November 8-12, 2011.
5. Ching, Y. -H., & **Hsu, Y. -C.** (2011). Incorporating peer feedback for learning in a project-based online learning environment. World Conference on E-Learning in Corporate, Government, Health, & Higher Education, Honolulu, Hawaii, USA, October 18-21, 2011.
6. Rice, K., Hung, J. L., & **Hsu, Y. C.** (2011). Towards the development of a real-time decision support system for online learning, teaching and administration. Presentation at the International Association for K-12 Online Teachers, Virtual School Symposium, Indianapolis, IN.
7. Margle, J., Cohan, C., **Hsu, Y. -C.**, Lane, J., Freeman, A., Gomez-Calderon, J., Sathianathan, D., Engel, R. (2011). Toys'n More -Initial Implementation of Intervention Strategies. ASEE Annual Conference and Exposition, Vancouver, BC, Canada, June 26-29, 2011.
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9. Ching, Y.-H., & **Hsu, Y. -C.** (2010). Blogging in higher education: Issues, challenges, and design considerations. Association for Educational Communications and Technology (AECT) Annual International Convention, Anaheim, California. October 27-30, 2010.
10. Margle, J., Gomez-Calderon, J., **Hsu, Y. -C.**, Freeman, A., Sathianathan, D., & Engel, R. (2010). Toys and Mathematics Options for Retention in Engineering (Toys 'n MORE) broad impact: The Campuses. ASEE Annual Conference and Exposition, Louisville, Kentucky, June 20-23, 2010.

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13. Kidwai, K., **Hsu, Y. -C.**, Lee, H. W., Redman, S., Miller, S. T., & Grabowski, B. (2008). Revising a large question pool for an astronomy class: collaboration between instructional design researchers and astrophysicists. World Conference on E-Learning in Corporate, Government, Health, & Higher Education, Las Vegas, Nevada, USA, November 17-21, 2008.
14. **Hsu, Y. -C.**, Ching, Y. -H., Lin, H., & Dwyer, F. (2007). The effects of assigned and preferred web navigation modes on undergraduate students' learning outcomes. 2007 American Educational Research Association (AERA) Annual Meeting and Exhibition, Chicago, Illinois. April 9-13, 2007.
15. Ching, Y. -H., **Hsu, Y. -C.**, Yung, H. -I., Kidwai, K., & Grabowski, B. L. (2007). A Correlation study of middle school students' metacognition and science related characteristics. 2007 American Educational Research Association (AERA) Annual Meeting and Exhibition, Chicago, Illinois. April 9-13, 2007.
16. **Hsu, Y. -C.**, Ching, Y. -H., & Lin, H. (2006). Undergraduate students' preferences for educational website interface design features: A gender perspective. Poster presented at Association for Educational Communications and Technology (AECT) Annual International Convention, Dallas, Texas. October 10-14, 2006.
17. Ching, Y. -H., **Hsu, Y. -C.**, Lin, H., & Dwyer, F. (2006). Different levels of learning gains in web-based environment with animation. Paper presented at Association for Educational Communications and Technology (AECT) Annual International Convention, Dallas, Texas. October 10-14, 2006.
18. Lim, K. Y., Ching, Y. -H., **Hsu, Y. -C.**, Lee, H. W., Nguyen, H., Yung, H. -I., & Grabowski, B. (2006). Designing a teacher professional development program for the effective use of web-enhanced PBL. Paper presented at Association for Educational Communications and Technology (AECT) Annual International Convention, Dallas, Texas. October 10-14, 2006.
19. Lin, H., Ching, Y. H., **Hsu, Y. -C.**, Dwyer, F. (2006). The effect of prior knowledge and navigation mode on learning from animation: A cognitive load perspective. Paper presented at the ED-MEDIA World Conference on Educational Multimedia, Hypermedia & Telecommunications, Orlando, Florida. June 26-30, 2006.
20. **Hsu, Y. -C.** (2005). Better educational website interface design: The implications from gender-specific preferences in graduate students. Poster presented at Association for Educational Communications and Technology (AECT) International Convention, Orlando, Florida. October 18-22, 2005.
21. **Hsu, Y. -C.** (2005). Does gender make a difference in one's preference for website interface design? Paper presented at EDMEDIA World Conference on Educational Multimedia, Hypermedia & Telecommunications, Montreal, Canada. June 27-July 2, 2005.

Other Professional Presentations

1. **Assessment & Evaluation Strategies for the Toys Design Courses**, Penn State University. [Audience: Campus Engineering faculty; NSF-STEP Grant, 04/13/10]
2. **Assessment & Evaluation Strategies for the Math Tutoring Programs**, Penn State University. [Audience: Campus Mathematics faculty; NSF-STEP Grant, 04/10/10]
3. **Toys 'n MORE Progress Update: Year 2**. 2010 NSF-STEP Grant Grantee Meeting. Arlington, VA. (with the Toys 'n MORE project team; 3/4/10)
4. **Assessment & Evaluation Strategies for the Toys Design Courses**, Penn State University. [Audience: Campus Engineering faculty; NSF-STEP Grant, 08/18/09]
5. **Toys 'n MORE Progress Update: Year 1**. 2009 NSF-STEP Grant Grantee Meeting. Arlington, VA. (with the Toys 'n MORE project team; 3/11/09)
6. **Assessment & Evaluation Strategies for the Toys 'n MORE Project** (Toys and Mathematics Options for Retention in Engineering), Penn State University. [Audience: Vice President and Dean for Undergraduate Education, Campus Academic Officers, Mathematics and Engineering faculty; NSF-STEP Grant, 12/06/08]
7. **Design-based Research** [Audience: Instructional Systems Colleagues, Penn State University, 12/08/08]

Teaching

Boise State University

Graduate Courses

- **Instructor**, EDTECH 592: Portfolio [Online; Moodle; New course] (Spring 2012)
- **Instructor**, EDTECH 597: Mobile App Design for Teaching and Learning [Online; Moodle; Newly-designed course] (Fall 2011)
- **Instructor**, EDTECH 506: Graphic Design for Learning [Online/Moodle/Partial Redesign/Mobile Learning]; (Fall 2011)
- **Instructor**, EDTECH 506: Instructional Message Design [Online/Moodle/Partial Redesign/Mobile Learning] (Spring 2011; Summer 2011)
- **Instructor**, EDTECH 561: Research in Educational Technology [Online/Moodle/Partial Redesign] (Fall 2010)

Professional Development Workshop

- **Instructor**: Exploring and Designing Mobile Apps for Teaching and Learning. [Online; Moodle; Newly-designed Workshop] (Summer 2011)

Pennsylvania State University

- **Co-Instructor**, INSYS 525: Instructional Design Models, Strategies, and Tactics (face to face) (Spring 2008)
- **Co-Instructor**, EDTEC448: Using the Internet in the Classroom (online) (Fall 2006, Summer 2007, Fall 2007, Summer 2008)
- **Lab Instructor**, INSYS441: Design, Development, and Evaluation of Internet Resources (Summer 2007)

HONORS / AWARDS

1. **Ralph T. Heimer Award** in the College of Education for outstanding achievement by a doctoral candidate enrolled in Instructional Systems. The Pennsylvania State University, University Park, PA, 2008-2009.
2. **Most adaptable design.** Design Competition: Redesigning e-Learning Courseware: Supervisor Essential Knowledge for Corning Inc. (team effort), 2007.
3. **Travel Grant for International Conference,** The Ministry of Education and the Bureau of International Cultural and Educational Relations, Taiwan, 2006-2007.

PROFESSIONAL SERVICE

1. **Consulting Editor,** *Educational Technology Research and Development* (2009-present)
2. **Refereeing Panel:** *British Journal of Educational Technology* (2009-present)
3. **Journal Manuscript Reviewer**
 - *Instructional Science* (2009-present)
 - *Learning and Instruction* (2009-present)
 - *Computers and Education* (2009-present)
4. **Book Chapter Reviewer**
 - M. Spector, D. Merrill, J. Elen, & M. J. Bishop (Eds.). *Handbook of research on educational communications and technology* (4th ed.). Springer Academics. (2011)
 - D. Ifenthaler, D. Eseryel, & X. Ge (Eds.). *Assessment in Game-based Learning: Foundations, Innovations, and Perspectives*. Springer, NY (2011).
 - T. WHL & R. Subramaniam (Eds.). *Handbook of research on new media literacy at the K-12 level: Issues and challenges* (pp. 353-371). Hershey, PA: IGI Global. (2009)
5. **Research Collaborator,** Online Learner Competencies by ibstpi. The International Board of Standards for Training, Performance and Instruction (ibstpi) (2010)

SYNERGISTIC ACTIVITIES

Dr. Hsu is Assistant Professor of Educational Technology at Boise State University. His research interests include cognitive and metacognitive processes of integrating multiple external representations in STEM fields, learning and instructional innovation through emerging technologies, and information and new media literacy. Before joining Boise State University, he served as the assessment coordinator (postdoctoral scholar) for the College of Engineering at Penn State University in Toys'n MORE project funded by NSF STEM Talent Expansion Program Grant (DUE # 0756992). He was one of the project leaders, conducting STEM education research with populations including underrepresented students, coordinating assessment efforts across 15 commonwealth campuses, and providing leadership in writing the annual reports.

Dr. Hsu has been selected as one of the Mobile Learning Scholars of Boise State University in 2011 and 2012 for his

innovative proposal on integrating mobile learning and applications in his graduate level course—Graphic Design for Learning, where students engaged in real-time data collection, design example sharing, and community building. He has conducted a fully online workshop for K-12 educators and taught a new course for graduate students, both on using Google’s Android App Inventor to design mobile apps, which helps educators leverage the power of mobile computing and applications for learning and instruction. In a recent project funded by Idaho Digital Learning Academy, he assessed K-12 online students’ learning through triangulating survey responses, mining server logs, and analyzing online discussion activities. In addition, he currently served as one of the PI’s of a research project developing an artificial intelligence Decision Support System (DSS) to support online K-12 educators, including STEM teachers, detect at-risk students, and provide early pedagogical intervention.