

# William R. Watson

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## General Information

### Academic Record

Ph.D. 2007, Indiana University, Education, Specialization in Instructional Systems Technology

M.S. 2000, Indiana University, Information Science

B.A. 1998, Indiana University, English

### Academic Appointments

Associate Professor, Department of Curriculum and Instruction, Purdue University, August 2014  
- Present

Assistant Professor, Department of Curriculum and Instruction, Purdue University, August 2007  
to 2014

Lecturer, Department of Computer and Information Technology, Indiana University – Purdue  
University at Indianapolis, 2002-2007

Visiting Lecturer, Department of Computer and Information Technology, Indiana University –  
Purdue University at Indianapolis, 2000-2002

### Corporate/Business Experience

Web Usability Analyst, MZD, Inc. & MyAutoMD.com, Bloomington, IN, 2000

### Awards and Honors

Teaching for Tomorrow Fellowship Award, Purdue University, 2011-2012

Charles M. Reigeluth, Emerging Researcher Award, the Association for Educational  
Communications and Technology's (AECT) Division for Systemic Change, 2011

Center for Digital Education's Top 30 Technologists, Transformers, & Trailblazers, 2015

Dean's Fellow, Purdue University College of Education, 2015

### Memberships in Academic, Professional, and Scholarly Societies

American Educational Research Association (AERA)

Association for Educational Communications and Technology (AECT)

## **SECTION A. TEACHING**

### **1. Courses taught in last 3 years**

- a. EDCI 57200 Learning Systems Design (F11, Su14)
- b. EDCI 55600 Computer and Video Game Design for Education (Sp10, Sp11, Sp13, Sp15)
- c. EDCI 56900 Introduction to E-learning (Sp10, Sm12)
- d. EDCI 58800 Motivation in Instructional Design (Sp12)
- e. EDCI 67200 Advanced Practices in Learning Systems Design (F12, F13, F14, F15)
- f. EDCI 66000 Learning Design & Technology Seminar (F15)

### **2. Contributions to course and curriculum development**

#### **a) Redesign of traditional (F2F) courses for the online learning environment.**

1. EDCI 58800 Motivation in Instructional Design (F09)
2. EDCI 53100 Learning Theory for Instructional Designers (F07)

#### **b) New course development**

1. EDCI 62700 Innovation & Change in Education (F10)
2. EDCI 55600 Computer and Video Game Design for Education (Sp08)

#### **c) Redesign of traditional 16 week courses for 8 week online Masters program courses.**

1. EDCI 57200 Learning Systems Design (F11)
2. EDCI 56900 Introduction to E-learning (Sp12)
3. EDCI 58800 Motivation in Instructional Design (Sp 13)

#### **d) Substantial redesign of existing course**

1. EDCU 57200 Learning Systems Design (Su13)
2. EDCI 66000A Seminar in Learning Design and Technology (F13)

### **3. Preparation of instructional materials**

#### **a) Instructional Materials**

Watson strives to use innovative and engaging approaches to instruction in all of his courses. He utilizes such instructional materials as videos, serious games, Second Life and other virtual worlds. Materials are presented through blogs, social networking media, new Purdue learning technologies he has helped design, as well as the more traditional Blackboard course management system.

#### **b) Learning Support**

Watson likewise supports students through a number of different approaches in order to provide students with a variety of ways to strengthen their learning. He has hosted office hours in virtual worlds, utilizing synchronous audio and video conferencing, in addition to his traditional face-to-face office hours. He has facilitated small group discussions using social networking and other Web 2.0 tools, as well as in the physical classroom in order to encourage peer feedback and critical discussion of materials. He promotes student reflection through his structuring of the course requirements, pushing students to examine their own learning, collaborate with and support their peers, and actively engage and take ownership in their learning.

### **4. Experimentation in teaching methods and techniques**

- Utilized Mixable, a Purdue developed educational social networking site to introduce students to social networking for collaboration and discussion as well as to manage course activities (EDCI 57200 F11; EDCI 55600 S11, Sp15). Also collaborated on the design of *Mixable* by repeatedly meeting with ITaP developers to provide feedback on its functionality and how it could be improved.
- Utilized Ning.com, a social networking site, for course Website to introduce students to Web 2.0 social networking software and increase ease of collaboration (all courses F09, S10)
- Utilized *The Diffusion Simulation Game*, an educational video game on diffusing innovative instructional practices in a K-12 school, in all sections of EDCI 57200.
- Utilized *Passport*, a Purdue developed competency-based assessment tool, which he was involved in the design of, in order to help students focus on their learning outcomes and how they are tied to specific course activities in EDCI 67200, F12 & EDCI 55600, Sp13, Sp15.
- Introduced students in EDCI 53100, Learning Theories and ID, to a survey for evaluating personal research epistemology. The survey helped students to frame learning theories and instructional design theories based on their personal epistemology.
- Introduced students in EDCI 53100, Learning Theories and ID, to the virtual world, *Second Life*, as an example of a constructivist micro-world.

## 5. Recognition received from students and other impact on students

PICES core items:

CO1 – Overall, I would rate this course as...

CO2 – Overall, I would rate this instructor as...

*Table 1: Students' responses on two PICES core items.*

Course	Semester/Year	Median CO1/CO2
EDCI 59100T Learning Theory for ID	Fall 2007	4.5/4.0
EDCI 59100U Educational Video Game Design	Spring 2008	4.7/4.7
EDCI 59100T Learning Theory for ID	Fall 2008	3.8/4.5
EDCI 57200 Intro to Learning Design	Fall 2008	3.5/3.2
EDCI 59100U Educational Video Game Design	Spring 2009	4.7/4.7
EDCI 56100 E-learning Design	Spring 2009	4.8/4.7
EDCI 57200 Intro to Learning Design	Fall 2009	3.9/4.1
EDCI 59100 Motivation in ID	Fall 2009	4.1/3.9
EDCI 66000 Seminar in Ed Tech	Fall 2009	4.0/4.2
EDCI 59100U Educational Video Game Design	Spring 2010	4.0/4.6
EDCI 56100 E-learning Design	Spring 2010	4.0/4.0
EDCI 62700 Innovation & Change in Education	Fall 2010	4.1/4.7
EDCI 55600 Educational Video Game Design	Spring 2011	4.3/4.1
EDCI 57200 Intro to Learning Design	Fall 2011	4.0/4.0
EDCI 58800 Motivation in ID	Spring 2012	4.3/4.1
EDCI 56900 E-learning Design	Summer 2012	4.2/4.0
EDCI 67200 Advanced Learning System Design	Fall 2012	4.7/4.7

EDCI 55600 Educational Video Game Design	Spring 2013	4.2/4.6
EDCI 67200 004 Adv. Learning System Design	Fall 2013	3.9/4.1
EDCI 67200 008 Adv. Learning System Design	Fall 2013	4.5/4.5
EDCI 57200 001 Intro to Learning Design	Summer 2014	4.2/4.4
EDCI 57200 002 Intro to Learning Design	Summer 2014	4.4/5.0
EDCI 67200 002 Adv. Learning System Design	Fall 2014	3.8/3.5
EDCI 67200 003 Adv. Learning System Design	Fall 2014	4.3/4.8
EDCI 55600 001 Educational Video Game Design	Spring 2015	4.1/4.3
EDCI 66000 002 Learning Design & Technology Seminar	Fall 2015	4.2/4.3
EDCI 66000 002 Learning Design & Technology Seminar	Fall 2015	4.4/4.4
EDCI 66000 002 Learning Design & Technology Seminar	Fall 2015	4.1/4.1
EDCI 67200 Adv. Learning System Design	Fall 2015	4.7/4.7

This table indicates that Dr. Watson consistently receives high evaluations with an average course rating of 4.22/5.0 and an average instructor rating of 4.3/5.0

## SECTION B. CREATIVE ENDEAVOR, RESEARCH, AND SCHOLARSHIP

### 1. Published Work

#### a) Peer Refereed Journal Articles

1. Martinez, R.\* , Liu, S.\* , Watson, W.\* , & Bichelmeyer, B. (2006). Evaluation of a Web-based Masters Degree Program: Lessons Learned from an Online Instructional Design and Technology Program. *Quarterly Review of Distance Education*, 7(3), 267-283.
2. Reigeluth, C. M.\* , Carr-Chellman, A. A.\* , Beabout, B.\* & Watson, W.\* (2006). Creating shared visions of the future for K-12 education: A systemic transformation process for a learner-centered paradigm. *The F. M Duffy Reports*, 11 (3), 1 - 18. Reprinted in *The Journal of Educational Alternatives*, 3(1), 34-66.
3. Watson, W.R.\* , & Watson, S.L.\* (2007). An Argument for clarity: What are Learning Management Systems, what are they not, and what should they become. *TechTrends*, 51(2), 28-34.
4. Watson, W. R.\* , Mong, C. J., & Harris, C. A. (2011). A case study of the in-class use of a video game for teaching high school history. *Computers & Education*, 56(2), 466-474.
5. Watson, S.L.\* , & Watson, W.R.\* (2011). The role of technology and computer-based instruction in a disadvantaged alternative school's culture of learning. *Computers in the Schools* 28(1), 39-55.
6. Watson, S.L.\* & Watson, W.R.\* (2011). Critical, emancipatory and pluralistic research for education: A review of critical systems theory. *Journal of Thought*, 40(4), 63-77.
7. Watson, W.R.\* & Fang, J.\* (2012). PBL as a framework for implementing video games in the classroom. *International Journal of Game-Based Learning*, 2(1), 77-89.
8. Ruggiero, D.\* , de Hurtado, B.G., & Watson, W.R. (2013). Juvenile offenders: Developing motivation, engagement, and meaning-making through video game creation. *International Journal of Game-Based Learning* 3(2), 112-129.
9. Bodner, D. A.\* , Wade, J. P., Watson, W. R., & Kamberov, G. I. (2013). Designing an Experiential Learning Environment for Logistics and Systems Engineering. *Procedia Computer Science*, 16, 1082-1091.
10. Watson, W. R.\* , & Watson, S. L.\* (2013). Exploding the ivory tower: Systemic change for higher education. *TechTrends*, 57(5), 42-46.
11. Ruggiero, D.\* , & Watson, W.R. (2014). Engagement through praxis in educational game design. *Simulation & Gaming*, 1-20.

12. Reigeluth, C.M., Aslan, S., Chen, Z., Dutta, P., Huh, Y., Lee, D., Lin, C., ... Watson, W.R. (2015). PIES: Technology functions for the learner-centered paradigm of education. *Journal of Educational Computing Research*. doi: 10.1177/0735633115603998
13. Watson, W.R.\*, Watson, S.L.\*, & Reigeluth, C.M. (2015). Education 3.0: Breaking the mold with technology. *Interactive Learning Environments*, 23(3), 332-343. DOI: 10.1080/10494820.2013.764322

#### **b) Editor Reviewed Articles**

1. Reigeluth, C.M.\*, Watson, W.R.\*, Watson, S.L.\*, Dutta, P., Chen, Z., & Powell, N. (2008). Roles for technology in the information-age paradigm of education: Learning Management Systems. *Educational Technology*, 48(6), 32-39.
2. Watson, W.R.\*, Watson, S.L.\*, & Reigeluth, C.M. (2012). A systemic integration of technology for new paradigm education. *Educational Technology*, 52(5), 25-29.
3. Watson, S.L.\* & Watson, W.R.\* (2014). Engaging at risk populations in the systemic educational transformation process. *Educational Technology*, 54(3), 34-38.
4. Watson, W.R.\* & Watson, S.L.\* (2014). Redesigning higher education: Embracing a new paradigm. *Educational Technology*, 54(3), 47-52.

#### **c) Invited Journal Articles**

1. Watson, W. (2006). Systemic change and systems design. *TechTrends*, 50(2), 26.

#### **d) Book Chapters**

1. Watson, W. R.\*, Lee, S. \*, & Reigeluth, C. M. (2007). Learning Management Systems: An overview and roadmap of the systemic application of computers to education. In F. M. M. Neto & F. V. Brasileiro (Eds.), *Advances in computer-supported learning* (pp. 66-96). London: Information Science Publishing.
2. Watson, S.L.\*, Watson, W.R.\*, & Reigeluth, C.M. (2008). Systems design for change in education and training. In J.M. Spector, M.D. Merrill, J.J.G. van Merriënboer & M.P. Driscoll (Eds.), *Handbook of research on educational communications and technology* (3rd ed., pp. 692-701). London: Routledge.
3. Reigeluth, C.M., Carr-Chellman, A.A., Beabout, B., & Watson, W. (2009). Creating shared visions of the future for K-12 education: A systemic transformation process for a learner-centered paradigm. In L. Moller, J.B. Huett & D.M. Harvey (Eds.), *Learning and instructional technologies for the 21st century* (pp. 131-150). New York: Springer.
4. Watson, W. R. (2010). Once upon a time: The role of stories in educational video games. In D. H. Andrews, T. D. Hull & K. DeMeester (Eds.), *Storytelling as an instructional method: Research perspectives* (pp. 105-118). Rotterdam: Sense Publishers.

5. Watson, W. R. (2010). Games for social studies education. In A. Hirumi (Ed.), *Playing games in school: Video games and simulations for primary and secondary education* (pp. 173-202). Washington DC: International Society for Technology in Education.
6. Reigeluth, C.M.\*, Watson, W. R.\*, Watson, S.L.\*, Dutta, P., Chen, Z. & Powell, N.D.P. (2010). Learning management systems. In F. M. Duffy (Ed.), *Dream! create! sustain! : Mastering the art & science of transforming school systems* (pp. 288-315). Leading Systemic School Improvement Series. Lanham, MD: Rowman & Littlefield Education.
7. Reigeluth, C. M.\*, Watson, W. R.\*, & Watson, S. L. (2012). Personalized Integrated Educational Systems: Technology for the Information-Age paradigm of education in higher education. In S. P. Ferris (Eds.), *Teaching And Learning With the Net Generation* (pp. 41-60). Hershey, PA. IGI Global.
8. Watson, W.R.\* (2013). Paul Lindley: Designing a video game for history education. In P.A. Ertmer, J. Quinn, & K.D. Glazewski (Eds.), *The ID CaseBook: Case studies in instructional design* (4<sup>th</sup> ed.). Upper Saddle River, NJ: Prentice Hall.
9. Watson, S. L.\* & Watson, W. R.\* (2013). Toward critical, emancipatory, and pluralistic research: Critical systems theory for qualitative research methodology. In B. Dennis, L. Carspecken, & P. Carspecken (Eds). *Qualitative Research: A Reader in Philosophy, Core Concepts, and Practice*.

**e) Refereed Conference Proceedings**

1. Martinez, R.\*, Liu, S.\* , Watson, W.\*, & Bichelmeyer, B. (2005). *Evaluation of a Web-based Masters degree program in a Midwestern research university*. Proceedings from the annual meeting of the American Educational Research Association, Montreal, Quebec.
2. Watson, W. (2005). *If you build it, will they come? Designing an instructional computer game for an undergraduate computer course*. Proceedings from the annual meeting of the Association for Educational Communications and Technology, Orlando, FL
3. Squires, A., Wade, J., Watson, B., Bodner, D., Okutsu, M., Ingold, D., Dominick, P. , & Gelosh, D.. (2011). *Investigating an innovative approach for developing systems engineering curriculum: The systems engineering Experience Accelerator*. Proceedings from the annual meeting of the American Society for Engineering Education Annual Conference. Vancouver, Canada.
4. Bodner, D., Wade, J., Squires, A., Reilly, R., Dominick, P., Kamberov, G., & Watson, W. (2012). *Simulation-based decision support for systems engineering experience acceleration*. Proceedings of the 2012 Institute of Electrical and Electronics Engineers (IEEE) International Systems Conference. Vancouver, Canada.
5. Squires, A., Wade, J., Watson, B., Bodner, D., Reilly, R., & Dominick, P. (2012). *Year one of the Systems Engineering Experience Accelerator*. Proceedings of the 2012 Conference on Systems Engineering Research (CSER). St. Louis, MO.

## **2. Unpublished Work**

### **a.) Works In-press & Accepted**

1. Watson, W.R. (in press). Dawn or Doom 2: The benefits and risks of technology and its role in education. *Educational Technology*.
2. \*Watson, W.R., & \*Watson, S.L. (in press). Personalized instruction. In C.M. Reigeluth & B. Beatty (Eds.), *Instructional-Design Theories and Models* (Vol. 4). New York: Taylor & Francis.
3. \*Watson, S. L., \*Watson, W. R., Richardson, J., & Loizzo, J. (In Press). Instructor's Use of Social Presence, Teaching Presence and Attitudinal Dissonance: A Case Study of an Attitudinal Change MOOC. *The International Review of Research in Open and Distributed Learning*.
4. \*Watson, S. L., \*Loizzo, J., \*Watson, W. R., Mueller, C., Lim, J., & Ertmer, P. (Accepted). Instructional design, facilitation, and perceived learning gains: An exploratory case study of a human trafficking MOOC for attitudinal change. *Educational Technology Research & Development*.

### **b.) Submitted Works Under Review**

1. Watson, W.R.\*, Yang, S.\*, & Ruggiero, D. (under review). *Games in schools: Teachers' perceptions of barriers to game-based learning*.
2. \*Watson, S. L., \*Watson, W. R. & Kim, W. (In Review). Student perceptions of learning in three MOOCs: A case study of attitudinal change instruction.
3. \*Watson, W. R. & \*Watson, S. L., Kim. W. (In Review). Learning outcomes of a MOOC designed for attitudinal change: A case study of an animal behavior and welfare MOOC.
4. \*Watson, S.L. & \*Watson, W.R. (In Review). Critical Systems Theory approaches to systems analysis for the transformation of education in *Handbook of Research on Improving Educational Institutions through Systems Thinking*. IGI Global.

## **3. Refereed Conference Presentations**

### **a). International and National Meetings**

1. Watson, W., Smith, D., Tomblin, S., Martinez, R., Lee, S. K., & Borders, C. (2004). *The process of applying computer/video games and simulations to education*. The Annual meeting of the Association for Educational Communications and Technology, Chicago, IL.
2. Watson, W. (2005). *If you build it, will they come? Designing an instructional computer game for an undergraduate computer course*. The annual meeting of the Association for Educational Communications and Technology, Orlando, FL
3. Martinez, R., Liu, S., Watson, W., & Bichelmeyer, B. (2005). *Evaluation of a Web-based Masters degree program in a Midwestern research university*. The Annual Meeting of the American Educational Research Association, Montreal, Quebec.



4. Watson, W., & Lee, S. (2006). *Learning Management Systems for the information age*. The annual meeting of the Association for Educational Communications and Technology, Dallas, TX.
5. Watson, W., & Lee, S. (2006). *Learning Management Systems for learner-centered instruction*. The Annual meeting of the American Educational Research Association, San Francisco, CA.
6. Watson, W. (2006). *Video games as an environment for understanding: A process for designing and incorporating video games for instruction*. The annual meeting of the Association for Educational Communications and Technology, Dallas, TX.
7. Watson, W. (2007). *Research on the initial leadership team for a systemic change effort*. The annual meeting of the American Educational Research Association, Chicago, IL.
8. Watson, W. (2007). *Formative research on an instructional design theory for educational video games*. The annual meeting of the Association for Educational Communications and Technology, Anaheim, CA.
9. Watson, S. L., Reigeluth, C., Watson, W., Dutta, P., & Powell, N. (2008). *Learning Management System Features for Learner Centric Schools*. Annual meeting of Association of Educational Communications and Technology, Orlando, FL.
10. Watson, W., Mong, C., Harris, C., Bergstrom, G., & Pai, H. (2008). *Living history: Design of a citizenship education video game about the internment of Japanese-Americans*. Annual meeting of the Association of Educational Communications and Technology, Orlando, FL.
11. Watson, W.R., Mong, C.J., & Harris, C.A. (2009). *Case study of the in-class use of a video game for teaching high school history*. Annual meeting of the American Educational Research Association, San Diego, CA.
12. Watson, W., & Mong, C. (2009). *Design and development of a case-based learning module in a multi-user virtual environment*. Annual meeting of the Association of Educational Communications and Technology, Louisville, KY.
13. Watson, W., & Watson, S.L. (2009). *Interchangeable parts, scope, and scale: A vision of what educational software needs to be and what it might look like*. Annual meeting of the Association of Educational Communications and Technology, Louisville, KY.
14. Watson, W.R. (2010). *Video Games in the K-12 Classroom: Barriers, promise, and the reality of incorporating educational video games in today's classrooms and curriculum*. Annual meeting of the American Educational Research Association, Denver, CO.
15. Watson, S.L., & Watson, W.R. (2010). *Towards critical, emancipatory and pluralistic research: Critical systems theory for qualitative research methodology*. Annual meeting of the American Educational Research Association, Denver, CO.

16. Watson, W. R. & Watson, S. L. (2010). A Disadvantaged and Marginalized Alternative School's Use of Learning Management Systems for Learner-Centered Instruction. Annual meeting of the American Educational Research Association, Denver, CO.
17. Watson, W. R., Fang, J., Li, J., Kim, N., Mong, C. J., & Garcia, B. (2010). *Using PBL as a framework for implementing educational video games in the K-12 classroom*. Paper presented at the Annual meeting of the Association for Educational Communications and Technology, Anaheim, CA.
18. Watson, W. R., & Mong, C. J. (2010). *Design and development of National Pastime, a citizenship education video game on the internment of Japanese-Americans*. Paper presented at the Annual meeting of the Association for Educational Communications and Technology, Anaheim, CA.
19. Reigeluth, C. M., Aslan, S., Jordan, E., Shao, Z., & Watson, W. R. (2010). *PIES - Personalized Integrated Educational System*. Paper presented at the Annual meeting of the Association for Educational Communications and Technology, Anaheim, CA.
20. Watson, S. L., & Watson, W. R. (2010). *Towards critical, emancipatory and pluralistic research: Critical systems theory for educational change*. Paper presented at the Annual meeting of the Association for Educational Communications and Technology, Anaheim, CA.
21. Watson, S.L. & Watson, W.R. (2011). *Critical Systems Theory for systemic change in education*. Paper presented at the Annual meeting of the American Educational Research Association, New Orleans, Louisiana.
22. Mong, C.J., & Watson, W.R. (2011). *Evolution of an experienced teacher's integration of an educational video game: A case study*. Paper presented at the Annual meeting of the American Educational Research Association, New Orleans, Louisiana.
23. Squires, A. F., Wade, J., Bodner, D. A., Okutsu, M., Ingold, D., Dominick, P. G., et al. (2011). *Investigating an innovative approach for developing systems engineering curriculum: The systems engineering Experience Accelerator*. Paper presented at the American Society for Engineering Education Annual Conference, Vancouver, Canada.
24. Watson, W.R., & Watson, S.L. (2011). *Personalized integrated educational systems (PIES): A closer look at the future of educational technology*. Paper presented at the Korean Society for Educational Technology's International Conference, Seoul, South Korea.
25. Watson, W.R. (2011). *National Pastime: An educational video game for teaching about history and citizen's rights and responsibilities*. Paper presented at the Korean Society for Educational Technology's International Conference, Seoul, South Korea.
26. Ruggiero, D., Mong, C.J., & Watson, W.R. (2011). *From modeling to integration-Technology from college to classroom*. Paper presented at the annual meeting of the Association for Educational Communications and Technology, Jacksonville, FL.

27. Watson, S.L., & Watson, W.R. (2011). *Critical Systems Thinking for systemic change in education: Guidelines and examples*. Paper presented at the Annual meeting of the Association for Educational Communications and Technology, Jacksonville, FL.
28. Watson, W.R., Watson, S.L., & Reigeluth, C.M. (2011). *Personalized Integrated Educational Systems: Challenges, solutions, and prescriptions for transforming education with technology*. Paper presented at the Annual meeting of the Association for Educational Communications and Technology, Jacksonville, FL.
29. Watson, W.R., & Watson, S.L. (2012). *Exploding the ivory tower: Systemic change of higher education*. Paper presented at the Annual meeting of the American Educational Research Association, Vancouver, British Columbia.
30. Yang, S., Berndt, B., & Watson, W.R. (2012). *How digital scaffolds in educational video games affect learning and motivation*. Paper presented at the Annual meeting of the Association for Educational Communications and Technology, Louisville, KY.
31. Watson, S.L., Watson, W.R., & Reigeluth, C.M. (2012). *Systemic integration of technology in distance learning: A vision for transforming online education through PIES (Personalized Integrated Educational System)*. Paper presented at the Annual meeting of the Association for Educational Communications and Technology, Louisville, KY.
32. Watson, W.R., Yang, S., & Ruggiero, D. (2012). *Games in schools: Teachers' perceptions of barriers to game-based learning*. Paper presented at the Annual meeting of the Association for Educational Communications and Technology, Louisville, KY.
33. Watson, W.R., Watson, S.L. (2013). *New paradigm assessment technology as a leverage point for systemic change*. Annual meeting of the American Educational Research Association, San Francisco, CA.
34. Watson, S. L., & Watson, W.R. (2013). *Critical systems theory for critical, emancipatory and pluralistic educational research*. Annual meeting of the Association of Educational Communications and Technology, Anaheim, California.
35. Watson, W.R. & Watson, S.L. (2013). *A digital badges, competency-based assessment platform for new paradigm learning*. Annual meeting of the Association of Educational Communications and Technology, Anaheim, California.
36. Watson, S.L. & Watson, W.R. (2014). *Engaging disadvantaged and marginalized populations in the systemic transformation process: Implications for systemic educational change theories and district level policies*. Annual meeting of the Association of Education Communications and Technology, Jacksonville, Florida.
37. Watson, S.L., & Watson, W. R. (2015). *Instructional Design and Attitude Change: A Case Study of a Human Trafficking MOOC*. Annual meeting of the Korean Society of Educational Technology. Seoul, South Korea.

38. Watson, W.R. & Watson, S.L. (2015). *Walking the walk: Colleges of education as change leaders*. Annual meeting of the American Educational Research Association. Chicago, Illinois.
39. Watson, W.R. (2015). *National Pastime, using an educational video game to create critical and engaged democratic citizens*. Annual meeting of the Comparative and International Education Society, Washington, DC.
40. Watson, S.L., Loizzo, J., Watson, W.R. Mueller, C., Lim, J., & Ertmer, P. (2015). *Instructional design, facilitation, and perceived learning gains: An exploratory case study of a human trafficking MOOC for attitudinal change*. Annual meeting of the Association of Educational Communications and Technology. Indianapolis, Indiana.
41. Watson, W.R., Watson, S.L., & Newby, T. (2015) *Piecing together the puzzle of Higher Education: Debundling education with digital Badges and micro-courses for customized, competency-based learning*. Annual meeting of the Association for Educational Communications and Technology. Indianapolis, Indiana.
42. Lee, D., Watson, S.L., & Watson, W.R. (2015) *Designing a learning tool to support regulation of learning in Personalized Integrated Educational System (PIES)*. Annual meeting of the Association for Educational Communications and Technology. Indianapolis, Indiana.
43. Watson, S.L., & Watson, W. R. (2015). *Instructional Design and Attitude Change: A Case Study of a Human Trafficking MOOC*. Annual meeting of the Korean Society of Educational Technology. Seoul, South Korea.
44. Watson, W.R. & Watson, S.L. (2015). *Redesigning the conversation on educational reform: A call for agency*. Annual meeting of the American Educational Research Association. Chicago, Illinois.

#### **b) Invited Presentations**

1. Watson, W. (2006). *Interactive digital storytelling: Synthesizing storytelling theory, training theory, and video game design theory*. The “Storytelling as an Instructional Method: In Search of Theoretical and Empirical Foundations” workshop for the Air Force Research Laboratory, Phoenix, AZ.
2. Watson, W.R. (2007). *What’s the name of the game? A review of video games for citizenship education*. The James F. Ackerman Colloquium on Technology and Citizenship Education, West Lafayette, IN.
3. Watson, W.R. (2007). *First steps: A preliminary evaluation of an instructional theory for educational video games*. The Purdue Discovery Learning Center Serious Games Forum, West Lafayette, IN.
4. Watson, W.R. (2007). *Digital game-based learning: The hope, the hype, and a plan for future research*. EDCI 513 Foundations of Educational Technology course presentation, West Lafayette, IN.
5. Watson, W. (2008). *Game-based technologies and simulations: Discussions with leaders in the field*. The annual meeting of the American Educational Research Association, New York.

6. Watson, W. & Watson, S.L. (2008). *Panel on LMS, LCMS, CMS*. The annual meeting of the Association for Educational Technology and Communications, Orlando, FL.
7. Watson, W.R. (2008). *Video games for K-12*. EDCI 270 Introduction to Educational Technology and Computing course presentation, West Lafayette, IN.
8. Watson, W.R. (2008). *Technology for information age instruction*. Presentation to the Purdue College of Education's Dean's Advisory Board, West Lafayette, IN.
9. Watson, W.R. (2008). *Educational video games for K-12 instruction*. Ball State University Edtec 352 Multimedia web design and development for education course presentation, Muncie, IN.
10. Watson, W.R. (2008). *Video games for literacy education*. EDCI 500 Foundations of Literacy course presentation, West Lafayette, IN.
11. Watson, W.R. (2008). *Video games for education*. Teaching and Technology Brownbag presentation, West Lafayette, IN.
12. Watson, W.R. (2009). *Technology for information age instruction: How games, virtual environments, and educational software can transform education*. Indiana's Future: Bold Choices. Better Schools. The annual conference of the University of Indianapolis' Center of Excellence in Leadership of Learning, Indianapolis, IN.
13. Watson, W.R. (2009). *Video games for literacy education*. EDCI 500 Foundations of Literacy course presentation, West Lafayette, IN.
14. Watson, W.R. (2009). *Educational video games for K-12 instruction*. Ball State University Edtec 352 Multimedia web design and development for education course presentation, Muncie, IN.
15. Watson, W.R. (2009). *Video games for K-12*. EDCI 270 Introduction to Educational Technology and Computing course presentation, West Lafayette, IN.
16. Watson, W.R. (2009). *Game-based Learning*. Ewha Woman's University Educational Technology course presentation, Seoul, South Korea.
17. Watson, W.R. (2010). *Using video games in the classroom*. Leadership Development Program presentation, West Lafayette, IN.
18. Watson, W.R. (2010). *Video games for K-12*. EDCI 270 Introduction to Educational Technology and Computing course presentation, West Lafayette, IN.
19. Watson, W.R. (2010). *Educational video games for K-12 instruction*. Ball State University EDTEC 470: Technology Policy and Ethics course presentation, Muncie, IN.

20. Watson, W. R. (2010). *Education 2.0: Breaking the mold with technology*. Presentation at the 2010 Indiana ASCD State Conference "Take action, Indiana: Educating the whole child", Indianapolis, IN.
21. Watson, W. R. & Watson, S. L. (2010). Comparing Academic Expectations at Research and Teaching Institutions. Presentation at the annual meeting of the American Educational Research Association, Denver, Colorado.
22. Watson, W. R., & Gelosh, D. (2010). *RT-16: Experience Accelerator*. Presentation at the 2nd Annual SERC Research Review, College Park, MD.
23. Watson, W. R. (2010). *Education 2.0: Breaking the mold with technology*. Presentation at the Dean's Advisory Council meeting, West Lafayette, IN.
24. Watson, W.R. (2011). *Using video games in the classroom*. Leadership Development Program presentation, West Lafayette, IN.
25. Watson, W.R. (2011). *Educational video games for K-12 instruction*. Ball State University EDTEC 470: Technology Policy and Ethics course presentation, Muncie, IN.
26. Watson, S.L. & Watson, W.R. (2011). *The past, present, and future of educational technology: Personal journeys*. Ewha Woman's University Educational Technology course presentation, Seoul, South Korea.
27. Watson, W.R. (2011). *Video games: The design and gamification of Educational Technology for the gamer generation*. Hanyang University. Seoul, South Korea.
28. Watson, W.R. (2011). *Video games: The design and gamification of Educational Technology for the gamer generation*. Kunsan University, Kunsan, South Korea.
29. Watson, W.R. (2011). *Video games: The design and gamification of Educational Technology for the gamer generation*. Sogang University, Seoul, South Korea.
30. Watson, W.R. (2011). *Video games, simulations, and the Purdue Center for Serious Games*. Purdue University College of Agriculture IT Community Leads (AgTECH) monthly meeting, West Lafayette, IN.
31. Watson, W.R. (2012). *Educational Video Games in the Classroom*. Technology Coordinators Meeting at the Wabash Valley Education Center, West Lafayette, IN.
32. Watson, W.R. (2012). *Video games and virtual environments for learning*. Depaul College of Computing and Digital Media's School of Computing Research Colloquium, Chicago, IL.
33. Watson, W.R., Watson, S.L., Reigeluth, C.M., Duffy, F.M., Sockman, B.R. (2012). *The future of higher education: A panel discussion on the systemic change of higher education*. Annual meeting of the Association of Educational Communications and Technology, Louisville, KY.

34. Watson, W.R., Watson, S.L. (2013). *Leading forward: A provocative conversation with the authors of the 2013 TechTrends special edition on educational technologists and leadership - Exploding the ivory tower*. Annual meeting of the Association for Educational Communications and Technology, Anaheim, CA.
35. Watson, W.R. (2013). *Education 3.0: Systemic change and transformative technology*. Workshop given at the Hoosier Educational Computer Coordinators annual conference.
36. Watson, W.R. (2014). *Dare to do: How Purdue is uniquely positioned to lead the transformation of higher education*. Presentation to the Purdue Polytechnic Institute, West Lafayette, IN.
37. Watson, W.R. (2014). *Square pegs for round holes: Why education reforms fail*. TedX Purdue presentation, West Lafayette, IN.
38. Watson, W.R. (2014). *Transforming learning with digital badges for assessment*. Ewha Womans University, Seoul, South Korea.
39. Watson, W.R. (2014). *Competency-based assessment and customized learning pathways: Digital badges as transformative technology*. Presentation to Schools That Can, New York, NY.
40. Watson, W.R. (2014). Systemic change and competency-based education workshop. Workshop facilitation and presentation for the Transdisciplinary Degree Program, West Lafayette, IN.
41. Peck, K., Watson, W.R., Merrill, M.D., & Draper, D. (2015). Address the elephant: Using systems thinking to address MOOCs and social media in design and development. Annual meeting of the Association for Educational Communications and Technology. Indianapolis, Indiana.
42. Watson, W.R. (2015). Exploding the ivory tower: A vision for a new paradigm of higher education. **Keynote presentation** at the Annual meeting of the Association for Continuing Higher Education, South Region. New Orleans, LA.
43. Watson, W.R. (2015). Digital badges: Educational technology for leveraging transformational change. **Keynote presentation** at the Lipscomb University's Driving Innovation Conference, Badges: Exploring Micro-credentials in Higher Ed and the Workplace. Nashville, TN.
44. Watson, W.R. (2016). *Digital badging: Transforming education through personalized instruction*. Webinar given for the Systems Thinking and Change Division of the Association for Educational Communications and Technology.
45. Watson, W.R. (2016). *STEM educational game design*. Workshop given at the Indiana STEM Educational Conference, West Lafayette, IN.

### c) Graduate Research and Mentoring

#### 1. Chair, Ph.D. committees (in progress)

- a. Belen Garcia
- b. Elizabeth Brott Beese
- c. Secil Caskurlu

- d. Ali Al-Shamarri
- 2. Chair, Ph.D. committees (complete)**
  - a. Jun Fang
  - b. Dana Ruggiero
- 3. Member, Ph.D. committees (in progress or complete)**
  - a. Zeynep Tanes-Ehle
  - b. Jacob Enfield
  - c. Chris Mong
  - d. Pratima Dutta
  - e. Nikki Boots
  - f. Alice Ying Nie
  - g. Barbara Louise Albee
  - h. Jamie Loizzo
  - i. Dongping Zheng
  - j. Joseph Waters
  - k. Junaid Siddiqui
  - l. Annette Tomory
  - m. Adrie Koehler
- 4. Chair, Master's committees (in progress, traditional program)**
  - a. Kevin O'Shea
- 5. Chair, Master's committees (completed, traditional program)**
  - a. Brian Berndt. (2012). *Designing an educational video game to teach learning theories.*
  - b. Fred Byon (2013). *Measuring students' perceptions of computer aided instruction using a non-traditional research method.*
  - c. Casey Wright (2013). *Pre-service teacher perceptions of digital badges.*
- 6. Chair, Master's committees (in progress, online program)**
  - a. 45 students
- 7. Chair, Master's committees (complete, online program)**
  - a. 36 students
- 8. Member, Master's committees (in progress, online program)**
  - a. 88 students

### **Collaboration with Students**

Watson has worked with numerous students interested in studying both the design of and the implementation and efficacy of educational video games and virtual environments.

Design of educational video games and virtual environments:

Collaborated with students from EDCI 59100U (now 55600) course to present at the 2008 Association for Educational Technology's annual conference (see B-3.a.10).

Collaborated with student Christopher Mong on a presentation at the 2010 annual meeting of the Association for Educational Communications and Technology (see B-3.a.18).

Collaborated with student Christopher Mong on a paper presented at the 2009 annual



meeting of the Association for Educational Communications and Technology (see B-3-a.12).

Implementation and evaluation of educational video games and virtual environments:

Co-Wrote article with student Jun Fang which was published in the *International Journal of Game-Based Learning* (see B-1.a.7) and presented paper at the 2010 annual meeting of the Association for Educational Communications and Technology (see B-3.a.17).

Co-wrote article with students Christopher Mong and Constance Harris, which was published in *Computers & Education* (see B-1.a.5) and presented at the 2009 American Educational Research Association's annual conference (see B-3.a.11).

Collaborated with student Chris Mong on paper presented at the annual meeting of the American Educational Research Association (see B-3.a.22).

Collaborated with students Dana Ruggiero and Chris Mong on paper presented at the annual meeting of the Association for Educational Communications and Technology (see B-3.a.26).

Collaborated with students Sha Yang & Brian Berndt, and Sha Yang and Dana Ruggiero on papers presented at the annual meeting of the Association for Educational Communications and Technology (see B-3.a.30 and B-3.a.32).

Co-wrote article with students Dana Ruggiero and Belen Garcia (see B-1.a.8).

### **3. Research, Development, and Training Grants**

Dr. Watson has been involved in approximately \$1,375,000 in funded projects and had direct responsibility for approximately \$1.1 million.

- a) Agency/Title of Grant: Jerrold E. Kemp Award IST Fellowship, Indiana University.  
*Creating an Educational Video Game for a School within a District Undergoing Systemic Change.*  
Duration of funding: May 2007 – May 2008  
Total amount of award: \$3,900  
Role: Principal Instructional Designer and Developer  
Responsible for: 100%
- b) Agency/Title of Grant: Discovery Learning Center Seed Grant, Purdue University.  
*Purdue Center for Serious Games and Learning in Virtual Environments.*  
Duration of funding: 2008-2009  
Total amount of award: \$25,000.  
Role: PI  
Responsible for: 100%
- c) Agency/Title of Grant: TLT Instructional Innovation Grant, Purdue University. *Second Life as Case-based Instruction for Teaching Learning Theory.*  
Duration of funding: 2008-2009  
Total amount of award: \$14,698.50.

Role: Center director  
Responsible for: 100%

- d) Agency/Title of Grant: Provost Instructional Innovation Grant, Purdue University. *Technology for international collaboration and distance education.*  
Duration of funding: 2009-2010  
Total amount of award: \$37,595.  
Role: Consultant  
Responsible for: 25%
- e) Agency/Title of Grant: Electronic Software Association Foundation. *National Pastime: An educational video game for teaching about the internment of Japanese-Americans in World War II.*  
Duration of funding: 2009-2010.  
Total amount of award: \$69,726  
Role: PI  
Responsible for: 100%
- f) Agency/Title of Grant: USDA (Subcontract): Land Grant University Extension System-Military Partnership Outreach Project. Heartlink and Key Spouse Online Initiative.  
Duration of funding: 2010-2011.  
Total amount of award: \$371,000  
Role: PI  
Responsible for: 50%
- g) Agency/Title of Grant: DoD (Subcontract): Stevens Institute of Technology. RT-16: Developing Systems Engineering Experience Accelerator (SEEA) Prototype and Roadmap.  
Duration of funding: 2010-2011.  
Total amount of award: \$395,568.  
Role: PI  
Responsible for: 75%
- h) Agency/Title of Grant: DoD (Subcontract): Stevens Institute of Technology. RT-16: Developing Systems Engineering Experience Accelerator (SEEA) Prototype and Roadmap.  
Duration of funding: 2011-2012.  
Total amount of award: \$414,521.  
Role: PI  
Responsible for: 100%
- i) Agency/Title of Grant: Year-long PRF, Purdue University. Games in schools: Examining barriers and teacher perceptions and the comparison of playing games in structured versus non-structured environments.  
Duration of funding: 2011-2012  
Total amount of award: \$17,059

Role: PI, project manager  
Responsible for: 100%

- j) Agency/Title of Grant: DoD (Subcontract): Stevens Institute of Technology. RT-16: Developing Systems Engineering Experience Accelerator (SEEA) Prototype and Roadmap.  
Duration of funding: 2012-2013  
Total amount of award: \$44,334.  
Role: PI  
Responsible for: 100%
- k) Agency/Title of Grant: DoD (Subcontract): Stevens Institute of Technology. RT-16: Developing Systems Engineering Experience Accelerator (SEEA) Prototype and Roadmap.  
Duration of funding: 2014-2015  
Total amount of award: \$21,428.  
Role: PI  
Responsible for: 100%

## 5. Current Research Interests and Projects

- Digital Badges: Examining instructional design, faculty, and student perspectives on the use of digital badges at Purdue.
- Micro-courses: Digital badges for debundling education into non-time based micro-courses and the personalization of higher education through badge marketplaces.
- MOOCs for attitudinal change: Continuing to conduct case studies on MOOCs for attitudinal change while also designing and offering a MOOC on attitudinal change regarding educational reform on the EdX platform.
- Professional development for game-based learning: Designing a framework for teacher professional development for in-class use of game-based learning.

## 6. Evidence of Interdisciplinary Activity

Watson has worked to form interdisciplinary groups at Purdue for designing and researching educational video games as well as Second Life. He has received numerous grants which are interdisciplinary in nature. For example, along with Dr. Jennifer Richardson, Watson has worked with Purdue's Military Family Research Institute (MFRI), serving as experts in the design of online learning for the US military's *Heartlink* and *Key Spouse* online initiatives. He was also the contact point for the Systems Engineering Research Center (SERC) to have Purdue University join 19 other universities in the SERC, and has collaborated with researchers from Purdue, Georgia Tech, Stevens Institute of Technology, and the University of Southern California on the design and development of case-based simulation game for teaching systems engineers, serving as the Co-PI on the project as well as the lead on the educational design and assessment design for the project.

He has also collaborated with researchers at Indiana University, K-12 teachers, administrators, and students, such as through his co-hosting of a summer workshop for social studies teachers on

the use of games in the classroom with the Ackerman Center for Democratic Citizenship Education. As director of the Purdue Center for Serious Games and Learning in Virtual Environments, he has sought to establish collaboration across Purdue and with K-12 schools regarding the use video games and interactive environments for learning. Through the center, he has already collaborated with a number of faculty and established relationships with the IdeaLaboratory in Computer Graphics Technology, the Libraries' gaming group, and the Ackerman Center.

He has served on student committees in disciplines across the university, including Engineering Education, Communications, Organizational Leadership and Supervision, and Computer Graphics Technology. He has also collaborated with ITaP's learning technology developers, piloting their social networking learning environment, *Mixable*, and providing valuable feedback on its redesign and was recruited by ITaP to guide the design and vision of their digital badges assessment platform, *Passport*. *Mixable* and *Passport* are key applications that help comprise ITaP's *Studio* of learning technologies. *Studio* was recently recognized by winning the North America Regional award from Wharton-QS Stars Awards 2014: Reimagine Education and was also runner-up in the E-learning Award category. Watson also led a faculty workshop on systemic change in education for the Transdisciplinary degree program in the Purdue Polytechnic Institute.

## **7. Other Evidence of International and National Activity**

Watson serves as a reviewer of several well-respected journals in his areas of expertise, and has been asked to serve as a program proposal reviewer for the National Science Foundation. He has presented

## **8. Supplementary Evidence of International and National Activity**

- Editorial Board Member, *Technology, Knowledge, & Learning*, 2014-current
- Reviewer, *TechTrends*, 2007
- Reviewer, *The Interdisciplinary Journal of Problem-based Learning* (IJPBL), 2007-current
- Reviewer, *The Asia Pacific Education Review*, 2008-2010.
- Reviewer, the Association of Educational Technology's Young Researcher Award, 2008.
- Reviewer, *Journal of Educational Computing Research*, 2009-current
- Reviewer, *Computers & Education*, 2010 - current.
- Reviewer, *Mind, Brain & Education*, 2010.
- Reviewer, *Journal of Science Teacher Education*, 2010- current.
- Reviewer, *Journal of Educational Computing Research*, 2010.
- Reviewer, *Simulation & Gaming*, 2011 – current.
- Reviewer, AERA's SIG-IT's awards, 2010.
- Reviewer, AERA SIG-Systems Thinking in Education 2010-current.
- Reviewer, AECT Division for Systemic Change 2007-current.
- Reviewer, AERA's SIG-IT, 2014
- Reviewer, *Learner, Media, and Technology*, 2013-current
- Review Board member, *International Journal of Game-based Learning*, 2014-current
- Reviewer, *Games & Culture*, 2014-current
- Reviewer, *Systems*, 2013-current

- Reviewer, IEEE Transactions on Emerging Topics in Computing

## **SECTION C. EXTENSION, SERVICE, AND UNIVERSITY OUTREACH**

### **1. Major Programs and Roles**

#### **Role in the Learning Design & Technology Program**

As a faculty member in the Learning Design & Technology Program at Purdue University, Watson aids in the scheduling of courses, reviewing program applicants, overseeing the program website updates, and attending to miscellaneous issues related to the Program, including the planning of the online Master's program. He is the course coordinator for the physical and online versions of EDCI 55600, EDCI 57200, and EDCI 58800.

### **2. University and Departmental Administrative Service**

#### **Purdue University Service**

Member, Innovations in P-12 sTEM Education Strategic Planning Task Force TLT Showcase, 2007

Faculty Fellow, Purdue Discovery Learning Center, 2007

Member, Advisory Board for the Envision Center, 2009-current.

Technology Advisor, Purdue Discovery Learning Center, 2010-current.

Member, Search Committee for Language and Literacy Position, 2011

Member, Curriculum and Instruction Faculty Affairs Committee, 2012

Member, Search Committee for Learning Design & Technology Position, 2012

Member, Purdue University Student Growth Taskforce, 2013

Organizer & Faculty Volunteer, COE Diversity Town Hall Planning Committee

### **5. Offices Held in International and National Professional Societies**

Communications Officer, AECT Division for Systemic Change, 2006-2007, 2015-current

Secretary, AECT Division for Systemic Change, 2010

President-Elect, AECT Division for Systemic Change, 2011

President, AECT Division for Systemic Change, 2012-2013

Program Officer, AERA Systems Thinking SIG, 2012-present

Past-president, AECT Division for Systemic Change, 2013-2014

### **6. Community Service Activities and K-12 Engagement**

Indiana University Support Team Member for the Metropolitan School District of Decatur Township's Systemic Change Effort, 2004-2009

### **7. Other Evidence of National, International and State Recognition**

Proposal reviewer for Association for Educational Communication and Technology, 2007, 2008, 2010- 2014

Proposal reviewer for American Educational Research Association, 2009-2014

Book reviewer for Johns Hopkins University Press 2012

Presented all day workshop for K-12 computer coordinators and administrators, *Education 3.0: Systemic change and transformative technology*, Hoosier Educational Computer Coordinators conference, 2013

Invited newsletter article publication:

Reigeluth, C. M.\*, Carr-Chellman, A. A.\*, Beabout, B.\* & Watson, W.\* (2006). Creating shared visions of the future for K-12 education: A systemic transformation process for a learner-centered paradigm. *The F. M Duffy Reports*, 11 (3), 1-18.