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# Deniz Eseryel

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## Research Emphasis

- Issues related to designing and implementing learning environments to promote learning and development of expertise in complex, ill-structured knowledge domains, especially STEM domains (i.e., instructional design to promote complex, ill-structured problem solving skill acquisition)
- Assessing progress of learning in complex, ill-structured knowledge domains (i.e., assessment of complex problem solving skill acquisition)
- Issues related to designing and implementing advanced interactive learning environments such as dynamic modelling platforms, computer-based simulations, virtual (synthetic) learning environments, and digital games.
- Designing and implementing interventions to support K-12 teachers and faculty members in implementing educational technology environments

## Education

1999 - 2006                      Syracuse University                      Syracuse, NY

### **Ph. D. Instructional Design, Development, & Evaluation**

- Received 'Outstanding Dissertation Research Award' from Syracuse University
- Ph.D. Emphasis: Instructional design and development; online teaching and learning; advanced learning technologies; technology integration into teaching
- Dissertation Title: Expert Conceptualizations of the Domain of Instructional Design: An Investigative Study on the DEEP Assessment Methodology for Complex Problem-Solving Outcomes

Chair: Dr. Philip L. Doughty

Committee Members: Dr. J. Michael Spector & Dr. Jerry W. Klein

1997 - 1998                      University of Twente                      Enschede, The Netherlands

### **M. Sc. Educational & Training Systems Design**

- Graduated Cum Laude, top of my class
- M.Sc. Emphasis: Instructional design, instructional technology, performance engineering, teacher education, & school reform
- Masters Thesis Title: Construction of a WWW-based learning environment to support acquisition of instructional design theories.  
Complex Problem-Solving Outcomes

Promoter & Chair: Prof. Dr. Sanne Dijkstra

Committee Member: Prof. Dr. Betty Collis

1991 - 1995                      Middle East Technical University                      Ankara, Türkiye

### **B. Sc. Science Education / Mathematics Teaching**

- Graduated with High Honor, second of my class
- Dual Degree in Mathematics & Mathematics Education
- Minor in Computer Science

## Academic & Professional Experience

07/2007 – Present University of Oklahoma Norman, OK

### Assistant Professor

- Department of Educational Psychology [Instructional Psychology and Technology (IPT) Program]
- K20 Center for Educational & Community Renewal

05/2006 – 07/2007 Syracuse University Syracuse, NY

### Post-Doctoral Research Associate

- Department of Instructional Design, Development, & Evaluation (IDD&E)

08/2001 – 07/2007 Syracuse University Syracuse, NY

### Teaching Associate

- Department of Instructional Design, Development, & Evaluation (IDD&E)

01/2000 – 10/2002 University of Bergen Bergen, Norway

### Research Associate

- Advanced Design Approach for Personalized Training - Interactive Tools (ADAPT<sup>IT</sup>) Project funded by the European Union Commission Information Society Technology Program (5<sup>th</sup> Framework)

10/1999 – 02/2001 Center for Business Information Technologies (CBIT) Syracuse, NY

### Instructional Designer

- Designed and developed a number of certificate programs in Information Technology both in classroom- and in distance- delivery formats

08/1998 – 05/1999 Advanced Computing Management (ACM) Amsterdam, The Netherlands

### Educational Technologist

- Designed and developed staff development programs; certification programs in information technology for distance delivery; train-the-trainer programs; conducted formative and summative evaluation

08/1997 – 08/1998 University of Twente Enschede, The Netherlands

### Teaching & Research Associate

- College of Education

08/1995 – 08/1997 Ari College Ankara, Türkiye

### Mathematics Teacher

- Taught several mathematics courses (in English) to Grades 6 through 12

## Research Projects

01/2008 – Present University of Oklahoma Norman, OK

### Co-Principal Investigator -

### Simulation-Based Training in Medicine

- Design-based research: Designing and implementing a simulation-based training program at OU Health Sciences Center to be used by undergraduate students, residents, doctors, and nurses. This project is a collaborative effort between Dr. Mikio Nihira, Dr. Katie Smith, & Barbara O'Brian at OU HSC and Dr. Xun Ge, Dr. Pat Hardré, and me at OU Department of Educational Psychology.

08/2008 – 12/2008 University of Oklahoma Norman, OK

**Principal Investigator -**

***Cognitive Processes Underlying Model-Based Learning***

- A comparison of three alternative conceptualizations of model-based learning (i.e., learning from models, learning by modelling, & model-facilitated inquiry learning) on their effectiveness to support learning and complex problem skill acquisition in science education with ninth-grade students.

01/2008 – 08/2008 University of Oklahoma Norman, OK

**Principal Investigator -**

***Instructional Design for Computer-Based Interactive Learning Environments***

- Comparison of the effectiveness of two instructional design approaches for developing computer-based interactive learning environments to support complex problem skill acquisition and achievement in ninth-grade interdisciplinary science and mathematics education: Model-based learning versus problem-based learning.

08/2007 – 12/2007 University of Oklahoma Norman, OK

**Principal Investigator -**

***Design-Based Research on Digital Game-Based Learning: Impact on Students' Complex Problem Solving Skill Acquisition, Motivation, & Mathematics Achievement***

- Investigated the impact of the McLarin's Adventures, an MMOG developed by the K20 Center, on around 400 9<sup>th</sup>-grade students at Shawnee High School in order to investigate the impact of digital game-based learning on student motivation, problem solving, and critical thinking skills to arrive at design principles to guide effective digital game-based learning.

05/2006 – 07/2007 IDD&E, Syracuse University Syracuse, NY

**Research Associate -**

***Enhanced Technology Integration Support for K-8 Educators (ENTISE) Project***

- Designed, developed, implemented, and investigated an integrative approach to supporting teachers' technology integration efforts in the areas of Mathematics, Science, and Reading & Writing

09/2003 – 05/2004 Center for Digital Literacy Syracuse, NY

**External Program Evaluator -**

***S.O.S. (Situation Outcome Strategies) for Information Literacy Project***

- S.O.S. for Information Literacy Project (<http://www.informationliteracy.org>) led by Prof. Ruth Small; a 3-year project dedicated to improving the teaching of information literacy and research skills of children through the development of a Web-based database of multimedia enhanced lesson plans, contributed by and shared among classroom teachers and library media specialists throughout the world.

06/2001 – 12/2001 College Center of Finger Lakes (CCFL) Corning, NY

**Principal Investigator -**

**eLearning Research Project**

- Identified and evaluated existing technologies that support development of Web-based courses and programs for the CCFL, a New York-based consulting company, which was interested in developing a strategy on advising other organizations on the best blend of e-learning solutions that meets their organizational and technical requirements. Led a team of instructional designers at the CCFL to develop a conceptual evaluation framework, categorize and evaluate nearly one hundred e-learning products.

10/1999 – 08/2001 Information Society Technology Program (5<sup>th</sup> Framework)  
European Union Commission

**Research Associate -****Advanced Design Approach for Personalized Training- Interactive Tools (ADAPT<sup>T</sup>) Project** <http://www.adaptit.org/>

- Collaborated with several researchers across Europe including Prof. Jeroen van Merriënboer, Prof. Mike Spector, and Dr. Jelke van der Veen to produce ICT-based tools for training designers, embodying a training methodology for personalized training that is based on cognitive science and which optimizes the integrated use of ICT Training technologies. The training method was validated in two domains: Aircraft Maintenance and Air Traffic Control. Researchers from University of Bergen/Norway, Open University of Netherlands, the Dutch Aerospace Laboratory, Euro Control & the Swedish Air Traffic Control Academy also collaborated in this project. A commercial version of the tool is available from [www.enovateas.com](http://www.enovateas.com)

06/1997 – 08/1998 University of Twente Enschede, The Netherlands

**Research Assistant -****Tele-Learning at Toegepaste Onderwijskunde (TeleTOP) Project**  
<http://www.teletop.nl/en/>

- Collaborated with a team of instructional designers, researchers, and developers led by Prof. Dr. Betty Collis in the design, development, and implementation of the TeleTOP Project, which aimed at systematically supporting the professional development of faculty in terms of potential applications of telematics in their teaching, and to further support the redesign of all of its courses so that the faculty become more experienced, more enriched, and more flexible via innovative and appropriate applications of telematics, particularly WWW-based tools and environments. TeleTOP Project pioneered with one of the first fully-customizable learning management systems. TeleTOP tools and technologies are still evolving and have been adapted by companies like Shell, Inc.

**Consulting /  
Design &  
Development  
Projects**

08/2003 – 05/2004 Training Systems Institute Syracuse, NY

**Instructional Designer -****Competency-Based & Web-based Training Program Development for Cendant Hotel Group, Inc.**

- Designed and developed a competency-based training program and appropriate assessment modules for Cendant Hotel Group, Inc. that would help accommodate variances in the skill and knowledge levels among hotel managers and address differences between different hotel brands operating under Cendant, Inc. This goal is achieved by a team of three by:
  - Creating a Competency Catalog for New Hire General Managers/Owners (Competency clusters listing competency statements and assessment items and/or process to determine mastery of

competencies).

- Grouping competencies into instructional modules.
- Developing tests and/or process for identifying modules a new hire general manager needed to take.
- Creating competency identification and assessment development methods and process that could be used by Cendant staff in future competency-based training development projects.
- Conducting a benchmark study of hotel GM training programs across the industry including Holiday Inn, Marriott, Hampton Inn, Choice, etc.
- Designing and assisting development of highly interactive, Web-based training courses parallel to the new competency-based training program.

06/2002 – 08/2002 Training Systems Institute

Syracuse, NY

**Instructional Designer -**

***Workshop on Human Resources Development & Learning Organization for BKKBN***

- Led the design, development, and facilitation of a training program for the managers and training facilitators of the Indonesian National Center for Family Planning (BKKBN), which is responsible for the development of reproductive health and family planning programs in Indonesia. This training program included Human Resources Development, Performance Engineering, Strategic Management, Knowledge Management, and Learning Organizations as well as field-based experiences targeted to address the specific HRD&M requirements of BKKBN. Upon the completion of their training program, I assisted BKKBN officials to develop a plan for the “BKKBN University Learning Organization”

06/2002 – 07/2002 Training Systems Institute

Syracuse, NY

**Instructional Designer -**

***Workshop on Effective Communication in Diverse Contexts for Agway, Inc.***

- Led the design and development efforts and assisted in facilitation of the workshop entitled, “The Synthetic Culture Simulation Exercise” which aimed at cultivating critical awareness of the relationship between people’s communication as individuals and their membership in particular cultural groups. This workshop is conducted for approximately 250 executives of Agway, Inc. engaging them in an intense cultural simulation exercise. In accordance with the rules of the exercise the executives were divided in four (Alfa, Beta, Delta, Gamma) synthetic culture groups. Each group represented a differing cultural/communication pattern. The participants, under the guidance of the workshop group leaders, interacted and engaged in problem solving with those who have different styles of communication from them. They were able to observe how communication obstacles and conflicts arise from different cultural patterns and meanings. The participants were provided with the opportunity to ‘try-out’ different communicative strategies to solve these communication conflicts.

10/1999 – 08/2000 Merrill Lynch

Princeton, NJ

**Instructional Designer -**

***Web-Based Training Program***

- Conducted needs assessment for Merrill Lynch, which aimed at streamlining the effectiveness of training and utilizing the advantages of the World Wide Web as an emerging and competitive tool for training. Needs assessment

resulted in a proposal for the Web-based training strategy for Merrill Lynch, which led to the design and development a series of Web-based courses for Merrill Lynch. Collaborated with two other instructional designers during the analysis, design, and development phases. Analysis phase included content, learner, and contextual analyses, which resulted in specification of learning objectives, task analysis, instructional strategies and tactics. Design phase included the design specifications of Web-based training environment and the content design. The design phase resulted in design specifications for individual modules and screen designs, which were translated into high-level design of the Web-based training course. The final development phase adopted a rapid prototyping approach and included development of the Web-based training course and the multimedia components. A series of formative evaluations were conducted to make sure the final product is effective and meets the requirements of the clients.

## **Publications**

### **Manuscripts in Preparation**

- **Eseryel, D.**, Law, V., & Guo, B. (in preparation). Cognitive processes underlying model-based learning: Impact of different conceptualizations on promoting complex problem solving skill acquisition in science education. [Empirical]
- **Eseryel, D.**, Guo, B., & Law, V. (in preparation). Learning with technology-based learning environments: Comparison of model-based learning and problem-based learning in interdisciplinary mathematics and science education. [Empirical]
- Hardré, P. L., Ge, X., **Eseryel, D.**, Nihira, M., Johnson, G. O'Brien, B., & McKissack, J. (in preparation). Analyzing the dynamic team task of normal vaginal delivery in a teaching hospital. [Empirical]
- Hardré, P. L., Nihira, M., Johnson, G. O'Brien, B., Ge, X., & **Eseryel, D.** (in preparation). Improving learning and environmental dynamics of the obstetrics-gynecology rotation in a major medical center. [Empirical]
- Hardré, P. L., Ge, X., **Eseryel, D.**, Nihira, M., Johnson, G. & O'Brien, B., (in preparation). Simulating new life: Design, development, and testing of an OB-Gyn simulation for medical residents. [Empirical]
- **Eseryel, D.**, Ge, X., Hayes, T., Law, V., Guo, Y. & Ifenthaler, D. (in preparation). The effects of the massively multiplayer online games on students' complex problem solving skill acquisition. *International Journal of Mobile Learning and Organizations*. [Empirical]
- **Eseryel, D.** & Swearingen, D. K. (in preparation). Student characteristics X treatment interaction effects on ninth grade students' mathematics achievement in problem-centered game-based learning. *Journal for Research in Mathematics Education*. [Empirical]
- **Eseryel, D.**, Ge, X., & Miller, R. (in preparation). Implementing technology-rich design-based research: Complexities and challenges. *International Journal of Mobile Learning and Organizations*. [Empirical]

### **Manuscripts Under Review / Revision**

- **Eseryel, D.** (submitted 08-01-09). Learning in and about Complex Systems: Effect of Question Prompts versus Model Progression as Cognitive-Regulation Scaffolds in Simulation-Based Inquiry-Learning Environment. *Journal of Educational Computing Research*. [Empirical]
- **Eseryel, D.** & Ifenthaler, D. (under review). Using causal representations

to assess progress of complex problem solving skill acquisition. *Computers in Human Behavior*. [Empirical]

- **Eseryel, D.** (under review). Solving complex, ill-structured problems in the domain of instructional design: A grounded theory. *Instructional Science*. [Empirical]
- **Eseryel, D.** (under review). Expertise in the domain of instructional design. *Educational Psychologists*. [Empirical]
- **Eseryel, D.** (under review) Expert conceptualizations of the domain of instructional design: An exploration of the processes underlying complex, ill-structured problem solving. *Educational Technology, Research, and Development*. [Empirical]
- **Eseryel, D. & Koszalka, T. A.** (under review) Educational technology integration: Synthesis and research agenda. *Review of Educational Research*. [Literature Review]

#### **Special Journal Issue**

- **Eseryel, D.** (Ed.) (in process) Special issue on digital game-based learning. *International Journal of Mobile Learning and Organizations*.

#### **Books / Book Chapters**

- **Eseryel, D., Eseryel, U. Y., & Edmonds, G. S.** (2005). Knowledge management and knowledge management systems. In M. D. Lytras & A. Naeve (Eds.), *Intelligent learning infrastructures for knowledge intensive organizations: A Semantic web perspective* (pp. 105-145). Hershey, PA: IDEA Group Publishing. [Literature Review]
- Klein, J. & **Eseryel, D.** (2005). The corporate learning environment. In M. D. Lytras & A. Naeve (Eds.), *Intelligent learning infrastructures for knowledge intensive organizations: A semantic web perspective* (pp. 1-38). Hershey, PA: IDEA Group Publishing. [Conceptual]

#### **Refereed Journal Articles**

- Eseryel, U. Y. & **Eseryel, D.** (2004). Project management for information technology accessibility initiatives. *Educational Technology and Media Yearbook*, 29, 61-74. [Conceptual]
- **Eseryel, D.** (2002). Approaches to evaluation of training: Theory and practice. *Journal of Educational Technology and Society, Special Issue: Integrating Technology into Learning and Working*, 5(2), 93-98. [[http://ifets.ieee.org/periodical/vol\\_2\\_2002/v\\_2\\_2002.html](http://ifets.ieee.org/periodical/vol_2_2002/v_2_2002.html)] [Lit. Review]
- **Eseryel, D., Ganesan, R., & Edmonds, G. S.** (2002). Review of computer-supported collaborative work (CSCW) systems. *Journal of Educational Technology and Society, Special Issue: Integrating Technology into Learning and Working*, 5(2), 130-136. [Literature Review] [[http://ifets.ieee.org/periodical/vol\\_2\\_2002/v\\_2\\_2002.html](http://ifets.ieee.org/periodical/vol_2_2002/v_2_2002.html)]
- Dijkstra, S., Collis, B. A., & **Eseryel, D.** (1999). Instructional design for tele-learning. *Journal of Computing in Higher Education*, 10(2), 3-18. [ERIC No: EJ586189] [Empirical]

#### **Non-Refereed Journal Articles**

- Klein, J. & **Eseryel, D.** (2003). A conceptual model for managing change in organizations through blended organizational learning. *e-Lumination*, 5(2),

## 3-6. [Conceptual]

- **Eseryel, D.** (1999). Extending the boundaries of classroom: Can technology help? *ACM Magazine*, 6(1), 3-16. [Conceptual]

**Refereed Conference Proceedings Paper**

- **Eseryel, D.**, Ifenthaler, D., Ge, X., Law, V., Guo, Y. (2009). *A validation study of a methodology for assessing progress of learning and complex, ill-structured problem solving in STEM*. Proceedings of the IADIS International Conference on Cognition and Exploratory Learning in Digital Age (CELDA), Rome, Italy.
- **Eseryel, D.** (2007). Expert conceptualizations of the domain of instructional design: An exploration of the processes underlying complex, ill-structured problem solving. In M. Simonson (Ed.), *30<sup>th</sup> Annual Proceedings of Selected Research and Development Papers Presented at the National Convention of the Association for Educational Communications and Technology* (Vol. 1, pp. 72-85). Anaheim, CA: AECT {Received AECT Featured Research Award}
- **Eseryel, D.** (2003). Expertise in complex problem solving. In M. Simonson & M. Crawford (Eds.), *26<sup>th</sup> Annual Proceedings of Selected Research and Development Papers Presented at the National Convention of the Association for Educational Communications and Technology* (Vol. 1, pp. 102-110). Anaheim, CA: AECT.
- **Eseryel, D.**, Bludnicki, M., & Doughty, P. (2003). Redesigning graduate programs in instructional Design and Technology: Issues, challenges, & trends. In M. Simonson & M. Crawford (Eds.), *26<sup>th</sup> Annual Proceedings of Selected Research and Development Papers Presented at the National Convention of the Association for Educational Communications and Technology* (Vol. 1, pp. 111-118). Anaheim, CA: AECT.
- **Eseryel, D.** (2002). Learning in complex domains. In M. Simonson & M. Crawford (Eds.), *25<sup>th</sup> Annual Proceedings of Selected Research and Development Papers Presented at the National Convention of the Association for Educational Communications and Technology* (Vol. 1, pp. 121-129). Dallas, TX: AECT.
- **Eseryel, D.** (2002). A framework for evaluation & selection of e-learning solutions. In G. Richards (Ed.), *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2002* (pp. 275-282). Chesapeake, VA: AACE.
- **Eseryel, D.** (2002). An exploration of the potential of causal influence diagrams for assessing progress of learning in complex domains. In P. Barker & S. Rebelsky (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2002* (pp. 491-492). Chesapeake, VA: AACE.
- **Eseryel, D.** (2002). A conceptual framework for evaluating online learning environments. In P. Barker & S. Rebelsky (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2002* (pp.-). Chesapeake, VA: AACE.
- **Eseryel, D.** (2002). Evaluation of online learning environments: A framework. In S. T. Lowe (Ed.), *Proceedings of the 16th Annual Edward F. Kelly Evaluation Conference*. Ithaca: Cornell University.
- **Eseryel, D.**, Schuver-van Blanken, M., & Spector, J. M. (2001). Current

practice in designing training for complex skills: Implications for design and evaluation of ADAPT-IT. In C. Montgomerie & J. Vitelli (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia, & Telecommunications 2001* (pp. 474-479). Chesapeake, VA: AACE. [ERIC No: ED462955]

- **Eseryel, D.**, & Ganesan, R. (2001). Distributed group design process: Lessons learned. In C. Montgomerie & J. Vitelli (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia, & Telecommunications 2001* (pp. 469-473). Chesapeake, VA: AACE. [ERIC No: ED466156]
- **Eseryel, D.**, & Spector, J. M. (2000). Assessing adaptive instructional design tools and methods in ADAPT-IT. In M. Crawford & M. Simonson (Eds.), *23<sup>rd</sup> Annual Proceedings of Selected Research and Development Papers Presented at the National Convention of the Association for Educational Communications and Technology* (Vol. 1, pp. 121-129). Denver, CO: Association for Educational Communications and Technology. [ERIC No: ED455770]
- Dijkstra, S. & **Eseryel, D.** (1999). Instructional communication for telelearning. Paper presented at 8th Biennial Conference for Research on Learning and Instruction (EARLI), Göteborg, Sweden.
- Collis, B., **Eseryel, D.**, & Dijkstra, S. (1999). Instructional design of WWW-based course-support environments: From case to principles. In B. Collis & R. Oliver (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 1999* (pp. 231-235). Chesapeake, VA: AACE. [ERIC No: ED462954]

#### **Research Reports**

- **Eseryel, D.** (2001). *eLearning research* (Tech. Report No. 2001-2120). Corning, NY: CCFL.
- Schuver-van Blanken, M. J., van Bavelgem, J., de Crook, M., van der Pal, J., & **Eseryel, D.** (2000). *Advanced design approach for personalised training - interactive tools: Design preparation training- designer's needs*. ADAPT<sup>IT</sup> Deliverable 2.2 (NLR-TR-2000-528) prepared for the European Commission DGXIII under contract no. IST-1999-11740 (No. NLR-TR-2000-528). Amsterdam: NLR.
- Abma, H., de Crook, M., **Eseryel, D.**, Paas, F., van der Pal, J., & van Merriënboer, J. (2002). *Advanced design approach for personalised training - interactive tools: Design of the ADAPT Method- ADAPT Methodology*. ADAPT-IT Deliverable 3.2 (NLR-TR-2002-528) prepared for the European Commission DGXIII under contract no. IST-1999-11740 (No. NLR-TR-2002-528). Amsterdam: NLR.

## **Conference Presentations**

#### **Refereed National & International Conference Presentations**

- **Eseryel, D.** & Law, V. (submitted). *Promoting learning in complex systems: Effect of question prompts versus system dynamics model progressions as a cognitive-regulation scaffold in a simulation-based inquiry-learning environment*. Paper to be presented at the 9<sup>th</sup> International Conference of the Learning Sciences, Chicago, IL, June 29-July 2, 2010.
- Swearingen, D. & **Eseryel, D.** (submitted). *Student characteristics that affect ninth grade students' mathematics achievement in digital game-based learning*. Paper to be presented at the Annual Meeting of the

American Educational Research Association, Denver, CO., April 30-May 4, 2010.

- Swearingen, D. & **Eseryel, D.** (submitted). *The effects of massively multiplayer online games on high school students' mathematics achievement*. Paper to be presented at the Annual Meeting of the American Educational Research Association, Denver, CO., April 30-May 4, 2010.
- **Eseryel, D.**, Ge, X., Law, V., Guo, Y., Ifenthaler, D., & Miller, R. (submitted). *A longitudinal study on the impact of digital game-based learning on complex problem solving skill acquisition: The effect of system dynamics modeling as a scaffold for self-regulation*. Paper to be presented at the Annual Meeting of the American Educational Research Association, Denver, CO., April 30-May 4, 2010.
- Miller, R. B., **Eseryel, D.**, & Ge, X., Guo, Y., Law, V. (submitted). *The effects of modeling instruction on students' motivation in a massively multiplayer online game (MMOG)*. Paper to be presented at the Annual Meeting of the American Educational Research Association, Denver, CO., April 30-May 4, 2010.
- **Eseryel, D.**, Ifenthaler, D., Ge, X., Law, V., Guo, Y. (2009). *A validation study of a methodology for assessing progress of learning and complex, ill-structured problem solving in STEM*. Paper presented at IADIS International Conference on Cognition and Exploratory Learning in Digital Age (CELDA), Rome, Italy, November 20-22, 2009.
- **Eseryel, D.** & Swearingen, D. K. (2009). *Student characteristics X treatment interaction effects on ninth grade students' mathematics achievement in digital game-based learning*. Paper presented at the 2009 Annual Convention of Association for Educational Communications and Technology, Louisville, KY., October 27-31, 2009.
- Ge, X., **Eseryel, D.**, Miller, R. B., Law, V., Hayes, T., & Guo, Y. (2009). *Implementing technology-rich design-based research: Complexities and challenges*. Paper presented at the 2009 Annual Convention of Association for Educational Communications and Technology, Louisville, KY., October 27-31, 2009.
- **Eseryel, D.**, Ge, X., Law, V., Hayes, T., Guo, Y., & Ifenthaler, D. (2009). *The effects of an educational massively multiplayer online game on students' complex problem solving skill acquisition*. Paper presented at the 2009 Annual Convention of Association for Educational Communications and Technology, Louisville, KY., October 27-31, 2009.
- Miller, R. B., **Eseryel, D.**, & Ge, X. (2009) *Surviving in Space: The effects of a massively multiplayer online game (MMOG) on students' motivation*. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA., April 13-17, 2009.
- Wilson, S., Whisenhunt, T. G., & **Eseryel, D.** (2008). *A design-based research framework for McLarin's Adventures: An interdisciplinary massively multiuser online game*. Paper presented at the Annual Convention of Association for Educational Communications and Technology, Orlando, FL, November 4-8, 2008. {Winner of the 2008 AECT Design & Development Showcase}
- Wilson, S., Whisenhunt, T. G., & **Eseryel, D.** (2008) *An instructional design and development model for effective game-based learning*

*environments*. Paper presented at the Annual Convention of Association for Educational Communications and Technology, Orlando, FL, November 4-8, 2008.

- Koszalka, T. A., **Eseryel, D.**, Forbes, A., Wu, Y., Lu, L. (2008). *Resuming the conversation: How should instructional designers be educated?* Paper presented at the Annual Convention of Association for Educational Communications and Technology, Orlando, FL, November 4-8, 2008.
- **Eseryel, D.** (2007). *Expert conceptualizations of the domain of Instructional Design: An exploration of the processes underlying complex, ill-structured problem solving*. Paper presented at the Annual Convention of Association for Educational Communications and Technology, Anaheim, CA, October 23-27, 2007. {Received Featured Research Award}
- **Eseryel, D.** (2003). *Expertise in complex problem solving*. Paper presented at the Annual Convention of Association for Educational Communications and Technology, Anaheim, CA, October 22-26, 2003.
- **Eseryel, D.**, Doughty, P., & Bludnicki, M. (2003). *Redesigning graduate programs in instructional design and technology: Issues, challenges, and trends*. Paper presented at the Annual Convention of Association for Educational Communications and Technology, Anaheim, CA, October 22-26, 2003.
- **Eseryel, D.** (2003). *Using causal influence diagrams to assess progress of learning in complex domains*. Paper presented at the Annual Meeting of American Educational Research Association, Chicago, IL.
- **Eseryel, D.** (2002). *Learning in complex domains*. Paper presented at the Annual Convention of Association for Educational Communications and Technology, Dallas, TX.
- Eseryel, U. Y. & **Eseryel, D.** (2002). *Evaluation of accessibility tools for electronic and information technology*. Paper presented at the Annual Convention of Association for Educational Communications and Technology, Dallas, TX.
- Eseryel, U. Y. & **Eseryel, D.** (2002). *Electronic and information technology accessibility*. Paper presented at the Annual Convention of Association for Educational Communications and Technology, Dallas, TX.
- **Eseryel, D.** & Zeytun, I. (2002). *A framework for evaluation and selection of e-learning solutions*. Paper presented at the World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education (E-LEARN 2002), Montreal, CA.
- **Eseryel, D.** (2002). *An exploration of the potential of causal influence diagrams for assessing progress of learning in complex domains*. Paper presented at the World Conference on Educational Multimedia, Hypermedia and Telecommunications (ED-MEDIA 2002), Denver, CO.
- **Eseryel, D.** (2002). *A conceptual framework for evaluating online learning environments*. Paper presented at the World Conference on Educational Multimedia, Hypermedia and Telecommunications (ED-MEDIA 2002), Denver, CO.
- **Eseryel, D.** (2001). *Characteristics of available computer-based tools to support instructional design*. Paper presented at the Annual Meeting of the Association for Educational Communications and Technology, Atlanta, GA.
- **Eseryel, D.**, Schuver-van Blanken, M., & Spector, J. M. (2001). *Current*

*practice in designing training for complex skills: Implications for design and evaluation of ADAPT-IT.* Paper presented at the World Conference on Educational Multimedia, Hypermedia and Telecommunications (ED-MEDIA 2001), Tampere, Finland.

- **Eseryel, D.**, & Ganesan, R. (2001). *Distributed group design process: Lessons learned.* Paper presented at the World Conference on Educational Multimedia, Hypermedia and Telecommunications (ED-MEDIA 2001), Tampere, Finland.
- **Eseryel, D.**, & Spector, J. M. (2000). *Assessing adaptive instructional design tools and methods in ADAPT-IT.* Paper presented at the Annual Meeting of the Association for Educational Communications and Technology, Denver, CO.
- Dijkstra, S. & **Eseryel, D.** (1999). *Instructional communication for telelearning.* Paper presented at 8th Biennial Conference for Research on Learning and Instruction (EARLI), Göteborg, Sweden.
- Collis, B., Dijkstra, S., & **Eseryel, D.** (1999). *Instructional design of WWW-based course-support environments: From case to principles.* Paper presented at the World Conference on Educational Multimedia, Hypermedia and Telecommunications (ED-MEDIA'99), Seattle, WA.

#### **Refereed Regional Conference Presentations**

- **Eseryel, D.**, Ge, X., Miller, R., Guo, Y., Hayes, T., Law, V., & Swearingen, D. K. (2008). *A longitudinal investigation on the impact of problem-centered game-based instruction & model-facilitated simulation-based instruction on student motivation, math achievement, and complex problem solving skill development.* Paper presented at the K20 Engaged Research Conference, Norman, OK. November 14, 2008.
- **Eseryel, D.** (2006). *Expertise in the domain of instructional design.* Paper presented at the 60<sup>th</sup> IDD&E Centennial Celebration Conference. Syracuse, NY, September 15-17, 2006.
- **Eseryel, D.** (2003). *Potential of mapping techniques for assessing the progress of learning in complex domains.* Paper presented at the 17<sup>th</sup> Annual Edward F. Kelly Evaluation Conference, Syracuse, NY.
- **Eseryel, D.** & Serumola, P. (2002). *Instructional design considerations for learning objects: SCORM example.* Paper presented at the Teaching Tools Conference, Syracuse, NY, October 25, 2002.
- **Eseryel, D.** (2002). *Evaluation of online learning environments: A framework.* Paper presented at the 16th Annual Edward F. Kelly Evaluation Conference. Cornell, Ithaca.
- **Eseryel, D.** (2001). *Adaptive instructional design advising systems for professional practitioners.* Paper presented at the Teaching Tools Conference, Syracuse, NY.
- **Eseryel, D.** (2001). *Perfect fit: Selecting the online learning solution for your organization.* Paper presented at the Teaching Tools Conference, Syracuse, NY.
- Gray, P. J., Spector, J. M., Doughty, P. L., Colley, R. M., **Eseryel, D.**, Robinson, D. J., Arnold, P. P. (2001). *The Mellon Project at Syracuse University: The Cost and Learning Effects of Alternative e-Collaboration Methods in Online Settings.* Teaching Tools Conference, Syracuse, NY.
- Eseryel, U. Y. & **Eseryel, D.** (2001). *A step towards success at E-*

*commerce: E-commerce information systems infrastructure*. Paper presented at the Electronic Business Conference by Middle East Technical University, Ankara, Turkey.

#### **Invited Speaking Engagements**

- **Key Note Speaker: Eseryel, D., & van der Pal, J. (2001).** *Evaluation perspectives for advanced training systems*. Paper presented at the European Union IST 5th Framework Concentration Meeting, Luxembourg.
- **Key Note Speaker: Eseryel, D. (1999).** *Integrating advanced learning technologies into teaching and learning*. ACM 14<sup>th</sup> Annual Meeting. Amsterdam, The Netherlands.

## **Teaching**

#### **Academic: University of Oklahoma, Norman, Oklahoma, USA**

- EIPT 6613 – Research Issues in IT: Educational Modeling, Simulations, Virtual Reality, & Games (Spring 2008 & Spring 2009 – Online Course)
- EIPT 6930 – Instructional Design for Complex Problem Solving (Fall 2008 – Hybrid Course)

#### **Academic: Syracuse University, Syracuse, New York, USA**

- IDE737 – Advanced Instructional Design [classroom delivery]
- IDE735 – Modeling, Simulations, and Gaming in Education [classroom delivery and online]
- IDE830 – Doctoral Seminar in Design & Development [classroom delivery with online support; co-facilitated with Dr. Tiffany Koszalka]
- IDE621 – Principles of Instruction and Learning [classroom delivery with online support; co-facilitated with Dr. Tiffany Koszalka]
- IDE850 – Advanced Studies in Instructional Design and Emerging Technologies [classroom delivery w/ online support; co-facilitated with Dr. Tiffany Koszalka]
- IDE614 – Instructional Design: Theory & Practice [online / WebCT] (Developed and taught this course online under the supervision of Dr. J. Michael Spector)
- IDE700 – School Improvement Through Performance Feedback Systems [classroom delivery] (co-facilitated with Prof. Dr. Adrie Visscher)

#### **Academic: University of Twente, Enschede, The Netherlands**

- Instructional Design Theories [online / TeleTOP & classroom delivery] (developed and taught this course under the supervision of Prof. Dr. Sanne Dijkstra)
- Human-Computer Interaction [online / TeleTOP] (developed and taught this course under the supervision of Prof. Dr. Ivan Stanchev)
- Electronic Performance Support Systems [online / TeleTOP] (developed and taught this course under the supervision of Prof. Dr. Ivan Stanchev)

#### **Business-Related Instruction/Training/Workshop**

- Human Resources Development and Management; Performance Engineering; Learning Organizations; & Knowledge Management (a 3-week training program developed for the Indonesian National Family

## **Service, Leadership, & Team Roles**

Planning Coordinating Board (BKKBN)(September 9-27, 2002).

- Effective Communication in Diverse Contexts: Synthetic Cultures Simulation Exercise (Workshop developed for AGWAY Energy Products Summer Conference) (July 24, 2002)
- Designing instruction on the WWW (2001-2002)
- Effective dimensions of online teaching (1999-2000)
- Instructional design principles and models (1999-2000)
- Communication with Subject-Matter Experts (1999-2000)
- Train-the-Trainer Workshop: Integrating advanced learning technologies into teaching and learning (1998-1999)
- Train-the-Trainer Workshop: Adult learning (1998-1999)
- Faculty In-Service Development: The TeleTOP methodology (1997-1998)

### **Service to the Profession**

- **Editorial Board Member:**
  - International Journal of Mobile Learning and Organisation (IJMLO) (April 2005-Present)
  - International Journal of Knowledge and Learning (IJKL) (June 2004-Present)
- **Reviewer:**
  - Technology, Instruction, Cognition, & Learning (TICL) (May 2009-Present)
  - International Journal of Computers and Applications (IJCA) (November 2005-Present)
  - European Journal for Psychological Assessment (EJPA) (February 2005-Present)
- **Communications Officer**
  - AERA SIG#52-Instructional Technology (IT) (April 2009-Present)
- **VP of Communications:**
  - Association for Educational Communications & Technology (AECT) Design & Development Division (October 2009-Present)
- **Membership Chair:**
  - AERA SIG#119-Technology, Instruction, Cognition, and Learning (TICL) (April 2003-Present)
- **International Scientific Program Committee Member:**
  - The 5th World Scientific & Engineering Academy and Society (WSEAS) International Conference on Distance Learning and Web Engineering (DIWEB '05) Corfu, Greece (September 23-25, 2005)
- **Conference Program Chair:**
  - 2003 Edward Kelly Program Evaluation Conference Syracuse, NY

- **Conference Presentation Reviewer:**
  - American Educational Research Association (Division C Sec. 5 Learning Environments; Sec. 7 Technology Research; SIG TICL; SIG-IT) [2003-Present]
  - Association for Educational Communications and Technology (Division of Design & Development; Division of Distance Learning) [2002-Present]
  - International Conference of the Learning Sciences [2007-Present]
  - 13<sup>th</sup> European Conference on Information Systems (ECIS 2005) [E-Society Track]
- **Session Organizer / Coordinator:**
  - “Does Our Curriculum Match Up?” at Professors of Instructional Design & Technology (PIDT) 2002 Meeting (with Dr. Phil Doughty)
  - “Knowledge Management for PIDT: Introducing DocuShare” at Professors of Instructional Design & Technology (PIDT) 2002 Meeting Training Session:
  - “Qualitative Research Tools” at Professors of Instructional Design & Technology (PIDT) 2002 Meeting (with Radha Ganesan)
  - “Mapping the Complexity of Instructional Design” at Professors of Instructional Design & Technology (PIDT) 2002 Meeting (with Dr. J. Michael Spector)

#### **Service to University of Oklahoma, Norman, OK, USA**

- **Board Member:** OU Community Engagement (2008-Present)
- Supported IPT Program Recruitment Effort by preparing recruitment materials and by hosting a reception at the 2007 AECT Conference
- Registration Coordinator: K20 Center Open House Events
- Program Committee Member: K20 Center Winter Institute Events by serving on the

#### **Service to Syracuse University, Syracuse, New York, USA**

- Faculty Advisor to IDD&E Centennial Celebration Conference (September 15-17, 2006)
- Goodwill Ambassador to new students during Fall 2005 Orientation (August 2005)
- IDD&E Brown Bag Planning Team Member (Fall 2004)
- Member and Program Chair of 2003 Edward Kelly Program Evaluation Conference Planning Team at SU
- Member of new student applications review committee (Summer 2003)
- Member of the IDD&E curriculum redesign committee (2000-2002)
- Organizer of IDD&E new-student orientation program (August 2001)

#### **Service to University of Twente, Enschede, The Netherlands**

- Member of the TeleTOP implementation team (1997-1998)
- Provided in-service training and consulting to faculty on telematics-based

teaching (1997-1998)

#### **Service to the Public**

- **Board Member:** International Center of Syracuse, a non-for-profit organization to promote global understanding through personal contact, by developing professional programming and individual hospitality for international visitors of Central New York. (2005- 2006)
- **Vice President:** SEBIT, a non-for-profit organization dedicated to supporting educational technology projects for K-12 (1995-1997)
- **Tennis Coach:** Formed and trained a professional tennis team for Middle East Technical University (1991-1995)

#### **Grant Proposals Awarded**

- **Impact of Digital Game-Based Learning on Ninth-Grade Students' Complex Problem Solving Skill Acquisition, Motivation, & Mathematics Achievement.** Proposal submitted on 01/07/2008 to the 2008 Junior Faculty Research Program at the University of Oklahoma. Awarded on 02/26/2008. Received \$6,000 for June-July 2008.

#### **Grant Proposals Under Review**

- **K20 SUCCESS: Engaging Rural STEM Talent Expansion through Collaborative Learning Continuum, Digital Game-Based Environment, and Service Learning.** Proposal submitted on 09/30/08 to the National Science Foundation STEP Program [NSF 08-569] with Dr. Mary John O'Hair (PI), Dr. Jean Cate (Co-PI), Dr. Nancy Mergler (Co-PI), Dr. Pakize Polat (Co-PI), Dr. Henry O'Hair (Co-PI), Dr. Gordon Uno (Co-PI), Dr. Douglas Gaffin (Co-PI), Dr. Linda Atkinson (Co-PI), Dr. Pat Hardre (Co-PI), Dr. Leslie Williams (Co-PI), Dr. Scott Wilson (Co-PI), Dr. Deniz Eseryel (Co-PI), Dr. Penny Pasque (Co-PI), and Dr. Juanita Vargas (Co-PI) [Requested \$ 2,500,000 for 3 yrs]

#### **Grant Proposals Submitted**

- **SOLVE-IT Interactive Learning Environment for Facilitating Teaching and Learning of Complex, Ill-Structured Problem Solving in STEM Disciplines.** Proposal submitted on 04/25/2008 to the National Science Foundation's Advanced Learning Technology (ALT) Program (NSF 08535) by Dr. Xun Ge (PI), Dr. Deniz Eseryel (Co-PI), Dr. Renee McPherson (Co-PI), and Dr. Amy McGovern (Co-PI). [Requested \$597,443 for 3 years]
- **The Enhanced Technology Integration Support for K-8 Educators (ENTISE) Project.** Proposal submitted on 07/2007 to the Institute of Education Sciences, Teacher Quality-Mathematics & Science Education with Dr. Tiffany Koszalka (PI) and Dr. Rachel Brown (Co-PI) [\$3,000,000 for 4 yrs]
- **Enhanced Technology Integration Support for K-8 Educators (ENTISE) Project.** Proposal submitted on 07/2007 to the Institute of Education Sciences-Teacher Quality-Reading and Writing, on 07/2007 with Dr. Rachel Brown (PI) and Dr. Tiffany Koszalka (Co-PI) [Requested \$ 2,000,000 for 4 yrs]
- **Training and Capacity Building in Distance Education.** Proposal submitted on 07/2002 to the Mozambique Ministry of Higher Education, Science, and Technology with Dr. Alexander Romiszowski (PI) & Firouz Rahmanzadeh (Co-PI).
- **Advancing the State of the Art in Evaluating Learning in Complex Domains.** Proposal submitted on 04/2002 to the National Science Foundation with Dr. J. Michael Spector (PI), Dr. Tiffany A. Koszalka (Co-PI)

## **Grants, Awards, & Honors**

**Scholarships, Awards & Honors**

- **2009 AECT Design & Development Showcase Award** for the design and development strategy for Wilson, S., Whisenhunt, T. G., & **Eseryel, D.** (2008) McLarin's Adventures: An Interdisciplinary Massive Multiuser Online Game.
- **Featured Research Award** at the 2007 Annual Meeting of the Association for Educational Communications and Technology for my paper entitled, "Expert conceptualizations of the domain of Instructional Design: An exploration of the processes underlying complex, ill-structured problem solving."
- **2006 Outstanding Dissertation Research Award** by Syracuse University for exemplary inquiry in the field of instructional technology (May 12, 2006)
- **Certificate in University Teaching** awarded in 2006 by Syracuse University for successful completion of the requirements of the Future Professoriate Project
- **Finalist** Syracuse University Entrepreneurial Competition [CrossCultures: Next Generation Advanced Training Solutions for Cross-Cultural Communication & Global Business Management, April 4, 2003].
- **International Scholar Honor** by Alpha Sigma Chapter of Phi Beta Delta (inducted in April, 2000)
- **Scholarship** for a Doctoral study at Syracuse University by Turkish Council of Higher Education (\$128,000)
- **Scholarship** for Master's study at the University of Twente by Netherlands Organization for International Cooperation in Higher Education (NUFFIC) (\$55,000)

**Professional Memberships**

- Association for Educational Communications & Technology (AECT)
- American Educational Research Association (AERA)
- American Society for Training & Development (ASTD)
- Association for the Advancement of Computing in Education (AACE)
- European Association of Research on Learning & Instruction (EARLI)
- International Society for Performance Improvement (ISPI)
- IEEE Education Society
- System Dynamics Society