

**Barton K. Pursel**

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<http://www.virtuallearningworlds.com>

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### PROFILE

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My experience spans nearly ten years within the Pennsylvania State University, working in a variety of roles including management, research and instructional design. I have been part of the management, design and development of many online IST courses, experienced by thousands of students. I have also worked on multiple research projects, including the evaluation of key technologies related to learning. I have the vision to create and implement high-level strategies that align with the mission of the university. Key skills and areas of expertise include:

- Needs assessment for both large and small-scale projects
- Various design methodologies, including instructional design and game design
- Experience conceptualizing and executing research projects
- Strategic planning and partnerships
- Effectively work in teams
- Excellent written and oral communication skills

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### EDUCATION

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| Ph.D. | Workforce Education and Development, College of Education, The Pennsylvania State University, 2009           |
| M.S.  | Instructional Technology, Department of Instructional Technology, Bloomsburg University, Bloomsburg PA, 2000 |
| B.S.  | Mass Communications, Bloomsburg University, Bloomsburg PA, 1999  |

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### Experience

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#### **Undergraduate Education and Instructional Researcher, The Schreyer Institute for Teaching Excellence, The Pennsylvania State University**

*2009 - Present*

As part of the Schreyer Institute for Teaching Excellence, I work with the President of Undergraduate Education to conduct research to support decision making to improve the undergraduate experience at all Penn State campuses. This position also allows me to work with various faculty members around the university on innovative and new teaching methods. Major duties include:

- Taking general questions regarding undergraduate education, formulating hypothesis, identifying variables and using SQL to access Penn State's data warehouse to collect and analyze data.
- Awarding undergraduate teaching grants and working with grant recipients to assess new or innovative teaching methods.
- Participating in various university-wide committees to assess programs designed to engage and education undergraduate students.
- Provide instructional support in a faculty development context for all Penn State faculty across the state.

**Senior Instructional Designer, Office of Learning Initiatives, College of Information Sciences and Technology, The Pennsylvania State University**

2009

Worked within a team of designers, graduated students and undergraduate students to design and develop online course materials and modules for the Collete of IST. Major duties included:

- Designing introductory learning modules for adult learners, providing the learners with a framework for understanding the technology and tools leveraged in our Master's degree offerings.
- Rigorous testing of hands-on labs, designed to allow students to remote access robust network applications and resources to complete labs associated with topics such as password cracking, database administration and firewall configuration.

**Lead, Office of Learning Solutions, IST Solutions Institute, College of Information Sciences and Technology, The Pennsylvania State University**

2006 – 2008

Acted as the lead of a small team of instructional designers and student developers within the IST Solutions Institute. This position required strategic planning and coordination among the instructional design team and our key stakeholders, including faculty and staff, to deliver high quality instructional materials to our various audiences. Major duties included:

- Instructional design and technology support on various faculty research projects.
- Working with the team to successfully manage and implement large, learning-centric projects.
- Assessing opportunities that align with the mission of the Institute and choosing the projects that have a broad impact.
- Managing an annual budget.
- Establishing and maintaining relationships with key organizations.
- Working with faculty on both online learning course development and research grants.
- Assessing our online learning environments by constantly evaluating participant feedback and adjusting the environments accordingly.

**Teacher, College of Information Sciences and Technology, The Pennsylvania State University**

2007 - 2009

I had the opportunity to teach in 2002 and 2004 for the Pennsylvania Governor's School for Information Technology (PGSIT), and immediately found I had a passion for teaching and a great rapport with students. In 2007, I began teaching on a regular basis for the College of Information Sciences and Technology. Courses I have taught include:

- *IST 110: Information, Technology and People*
- *IST 210: Data uses and Issues*
- *IST 250: New Media and the Web*
- *IST 302: IT Project Management*
- *IST 440w: IT Integration*
- *Introduction to ColdFusion*

**Research Associate, Center for Network-Centric Cognition and Information Fusion, College of Information Sciences and Technology, the Pennsylvania State University**

2007 - 2009

Over the past two years, I have worked under Dr. Dave Hall in the Center for Network-Centric Cognition and Information Fusion (NC2IF) on a variety of projects focusing on virtual worlds. I performed a variety of activities for the center, including:

- *Virtual worlds and deception*: worked on a funded grant to explore deception within online virtual worlds.
- *Virtual worlds exploration*: continual assessment of virtual world platforms, including detailed breakdown of strengths and weaknesses of each platform, to align the work of the Center with the best possible virtual world platform to fit out needs.
- *Scholarly writing*: with the mentorship of Dr. Hall, I contributed to a variety of scholarly papers, book chapters and grant proposals.

**Senior Instructional Designer, IST Solutions Institute, The Pennsylvania State University**

2004 – 2008

In 2004 I was promoted to a senior instructional designer, a role that involved both project management and lead design responsibilities on many online learning projects. A collection of selected projects include:

- *Edison Services*: Acted as a designer on a web-based, online course management system centered around a course syllabus. Also created and delivered a blend of face-to-face and online training materials for IST faculty to familiarize them with the system.
- *Istania, IST's Second Life Initiative*: Established and grew the College's Second Life initiative, managing a small team of student developers to assist in various Second Life projects with IST faculty.
- *Competency Maturity Model, Integrated (CMMI), Lockheed Martin Co*: Acted as the primary designer in the creation of an online course delivered to over 20,000 LMCO employees illustrating the importance of the CMMI model.
- *IST Content Management System (CMS) Training*: Acted as the project manager and lead designer in the design and development of materials for use in the face-to-face training of IST staff on the use of the content management system powering the IST website.
- *IT Project Management (IST 302)*: Acted as project manager and primary designer on a 16-week online course dealing with IT Project Management. The course received positive feedback due to small, game-based elements designed and embedded to help students learn specific concepts in project management.
- *Network Security (IST 451)*: Managed the design and development of a 16-week online network security course.
- *Storage Area Networking (SAN 200), Infinity I/O*: Acted as the project manager for the creation of an online training course for a corporate partner, Infinity I/O. This course built off a previous course I designed, SAN 100.

**Educational Game Designer, Education Technology Services, The Pennsylvania State University**  
2007 – Present

In 2007, an initiative began called the Educational Gaming Commons (EGC) within Education Technology Services. As part of my role on this initiative, I work with faculty to design and implement educational games, assist with grant writing and research and help shape the strategic vision of the EGC for the next five years. Highlights include:

- *Strategic partnerships*: established and maintain budding relationships with key gaming industry partners such as Valve Software, Blizzard Entertainment and Linden Labs.
- *Strategic vision*: work with other members of the team to align the vision of the Educational Gaming Commons with the vision of Education Technology Services and Teaching and Learning with Technology by creating several different support environments and services to enhance learning and research through the utilization of games at Penn State.
- *Game Design*: work with faculty to design, implement and assess game-based learning environments.
- *Game research*: work with affiliated faculty to conceptualize and execute research projects exploring the viability of games as a learning medium

**Instructional Designer, IST Solutions Institute, College of Information Sciences and Technology, the Pennsylvania State University**  
2000-2004

As an instructional designer within the College of Information Sciences and Technology, I participated in team brainstorming sessions involving the constant evaluation and iteration of our instructional design and development methodologies and toolsets. I also contributed on various design tasks, including:

- *IST 110*: created multiple labs and problem-based learning assignments for various versions of the course.
- *IST 210*: as the primary designer, I worked with the project manager and various faculty members on the conceptualization of the course structure, including objectives and assessment materials.
- *IST 220*: contributed to the creation of interactive media elements to support instructional objectives.
- *IST 250*: primary design activities included the creation of a content outline, primary and secondary objectives for each section, labs and problem assignments, graphics and media creation, and HTML implementation of various versions of the course.
- *Storage Area Networking (SAN) Basics, Infinity I/O (2003)*: Worked as the primary designer on an entry-level course dealing with Storage Area Networking for a company in California, Infinity I/O.

**Research Awards**

I have worked on several grant projects within the College of IST, including the design and evaluation of instructional materials on handheld and notebook computers, custom elearning development for large organizations, and game-based learning experiences. My dissertation, partially supported by an NSF grant, aimed to evaluate virtual worlds as a collaborative environment for virtual team collaboration. A selection of the research grants I have been involved:

Ph.D. Dissertation: The Role of Virtual Worlds for Partially Distributed Teaming Collaboration with Dr. Rosalie Ocker (Penn State, IST)

Primary Investigator: Examining the use of disruptive technologies in a general education course IST 110, Spring 2009

Investigator: Sponsored Lockheed Martin Corporation project exploring deception detection in virtual worlds. With Dr. Will McGill (Penn State, IST)

Project Associate: National Science Foundation grant to create a game-based learning environment for project managers in architectural education. With Dr. John Messner. (Penn State, Architectural Engineering)

Project Associate: Working under a government contract to create a game-based learning environment for operators and maintainers of Light Armored Vehicles (LAVs). With Dr. Steve Haynes (Penn State, IST)

Project Associate: General virtual world platform exploration and prototyping to support research and teaching. With Dr. Dave Hall (Penn State, IST)

Research Support Staff: National Science Foundation grant to create a cyber security simulation in Second Life. Supported several students and faculty in the design and implementation of a simulation within Second Life. With Dr. Lee and Dr. Techatassanasoontorn (Penn State, IST)

Research Support Staff: Exploring the effectiveness of a game-based learning environment for engineering education. With Dr. Peter Idowu (Penn State, Environmental Engineering)

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#### **PUBLICATIONS**

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Hall, C.M., Hall, D.L., McMullen, S.A., McMullen, M.J., and Pursel, B.K. "Perspectives on visualization and virtual world technologies for multi-sensor data fusion," in Proceedings of FUSION 2008: the 11<sup>th</sup> International Conference on Information Fusion, Cologne, Germany, June 30-July 3, 2008.

Pursel, B. K., & Bailey, K. B. (2007). *Establishing virtual learning worlds: The impact of virtual worlds and online gaming on education and training*. Virtual Reality – Real Applications. P. Rao and S. Zodgekar, Icfai University Press.

(upcoming book contribution) Pursel, B.K. Learning design for 3D spaces and virtual worlds. With K. Kapp and T. O'Driscoll.

(upcoming book chapter) Pursel, B.K. Virtual world prospects for a community of analysts. With D. Hall

Pursel, B.K. *Virtual Learning Worlds*. Blog Author (<http://www.virtuallearningworlds.com>)

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## **PRESENTATIONS**

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Pursel, B.K. (2009). Experiments in virtual world environments and collaboration. Interactive Visualization of Network Dynamics. NATO-RTG/IST-085 Fall 2009 Workshop.

Pursel, B.K. (2009). Serious applications for Virtual Worlds. Panel participant, College of Information Sciences and Technology Graduate Symposium.

Pursel, B.K. (2009). Virtual worlds as a collaborative environment for partially-distributed teams. Panel Participant. State of Play Conference, NYC.

Pursel, B.K. (2009). Gaming and virtual worlds. Panel participant Information Sciences and Technology Graduate Symposium.

Pursel, B.K. (2008). Virtual worlds for outreach and communication. Big Ten Plus News Directors Annual Conference. State College, PA.

Pursel, B.K. (2008). Establishing a university-wide educational gaming initiative. Playing to Win Conference. State College, PA.

Pursel, B.K. (2007). Design Considerations for 3D environments. Kutztown University Design Conference.

Pursel, B.K. (2007). Virtual Worlds in Education. Invited presentation provided to Drexel's LeBow College of Business.

Pursel, B.K. (2007). Virtual Worlds in Education. Invited presentation provided to Villanova University's Center for Information Technology.

Pursel, B.K. & Bixler, B. X. (2007). Virtual Worlds Introduction. Penn State Web Developers Conference.

Pursel, B.K. (2007). Web 2.0 Technologies in Education and Industry. Panel participant. IST Future Forum.

Pursel, B.K., & Clark, S. (2006). Leveraging Cutting-Edge Technologies in the Management Classroom. Annual Academy of Management Conference, Atlanta GA.

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## **SERVICE**

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International Conference on Information Systems 2009. Peer reviewed articles for conference proposals and provided feedback.

Committee member, Special Interest Group on Institutional Assessment, Penn State University 2009

Co-advisor, IST Game Design Club, 2007-2009.

Advisor, IST Web Sciences Club, 2008-2009