

GAMING FOR THE OPEN ROAD

+++++ A START

▶ **A**sk Amanda Ochsner, Ph.D. what one of her favorite educational games is, and she'll mention a classic, all-time favorite: The Oregon Trail. Originally released in 1971, the video game series has players, traveling in a covered wagon party, traverse a virtual frontier of perils ranging from treacherous river crossings to starvation. Many a player remembers losing the game because of poor choices that resulted in death by dysentery. Modeled after 19th century pioneer life, the series wraps elements of strategy and practicality into an entertaining package that simultaneously teaches historical lessons about the challenges of pre-mechanized western migration through the rugged American wilderness.

"That game has stuck with people for years. You talk to adults everywhere and they remember playing it and they have some story about the one play-through that went horribly wrong," said Ochsner, who began teaching courses in fall 2017 for the University of Findlay's Doctor of Education Program.

Gaming as it pertains to learning interests Ochsner so greatly that she concentrated her academic studies on it. She continues to research its effects and its potential as an alternative teaching method to traditional approaches that seem to fail so many. She has also examined women's roles and contributions to the industry, including their roles as developers, advocates, educators and leaders.



AMANDA OCHSNER PHD
ASSISTANT PROFESSOR
OF EDUCATION

University of Wisconsin - Madison
Ph.D. Digital Media
M.S. Digital Media

University of Minnesota – Morris
B.A. English

PLAYING TO LEARN

Ochsner’s academic interests in the gaming world began with an editorial position on a website called Green Pixels, designed to reach those who play games, but who does not consider gaming to be a core part of their identity. The expertise gained through that job, coupled with her quest to complete graduate school, led her to the University of Wisconsin, Madison. She specifically chose to target her studies on the potentially positive impacts of games.

“It felt like there were so many interesting things you can do with games, and I couldn’t understand why people weren’t doing them. I read all these news stories about games and violence, and games and obesity, and I thought, ‘There have to be more things that we can be looking at than just violence and obesity,’” she said.

At UW, she became connected with some of the foremost researchers of game-based learning. Her graduate advisor was Constance Anne Steinkuehler, Ph.D., who went

on to work as a senior policy analyst in the Office of Science and Technology Policy at the White House Executive Office.

Ochsner assisted with Steinkuehler’s ethnographic study of at-risk high school boys who had become exceptionally disengaged with school. The students’ World of Warcraft game playing helped researchers identify alignments between interest-driven learning and school-based learning. Specifically, the students’ chat logs were analyzed to identify factors such as motivation, strategy and collaboration.

One of the most interesting findings from the study, Ochsner said, was that the participants exhibited higher reading competency within the gaming realm, but tested well below expected reading levels on standardized tests administered in the school setting. Instead of lack of interest that precipitated skipping sections of reading, the boys modeled high rates of self-correction that improved their comprehension and decision-making capabilities.

“So it turns out that these boys can actually read at a college level on certain things, on things that interested them,” Ochsner said.

Ochsner also found herself learning alongside Kurt Squire, Ph.D., who had conducted research on the Civilization gaming series that has participants utilize resources and alliances to build an empire. Squire was also conducting a “citizen science project,” using gaming and technology devices, in which children explored Madison’s ecosystem by collecting data.

The academic environment so captivated Ochsner that she went on to earn her Ph.D. at UW after completing her masters. “It was really interesting work and there were constantly new projects to work on,” she said. During her time there, she participated in the creation of the Games+Learning+Society Center, where she managed research projects, worked as a research assistant and concentrated her research on digital media.

DIGITAL EQUITY

Ochsner’s focus on equity and diversity in games also began when she worked for the San Francisco gaming publication. “Part of my position there was reviewing games geared toward younger audiences and I was more or less abhorred by the low quality of games for adolescent girls,” she said. “They were just these formulaic trash games that obviously were underfunded and were developed by teams of people that would much rather be making the next Call of Duty, and it really showed. So I became really interested in this phenomenon where anything targeted to girls was inferior.”

Her dissertation was titled, “Reasons Why & Reasons to Be: Investigating Women’s Pathways in Games.” In it, she conducted concurrent research involving interviews with women who work in the gaming industry, and analyzed Twitter hashtags delving into why there are so few female game designers.

Many of her presentations and publications have continued to focus on female presence in gaming environments and on learning-based outcomes. For instance, in 2014 she gave a talk at the Games+Learning+Society Conference titled “Tech TrajecStories: Values that shape the lives of women in technology”; and at the center’s 2012 conference, her presentation was about “Playing nice: Social and ethical reasoning across in-and out-of-gaming contexts.”

Ochsner’s post-doctoral work was based at the Pullias Center for Higher Education at the University of Southern California, where she worked on a project exploring the potential of a game that engages high school students from low-income and underrepresented communities in learning about college. She explained such research is targeting digital equity to help level the playing field in terms of college preparation. With funding from the U.S. Department of Education, the grant’s cornerstone project, the “Mission: Admission Challenge,” bolsters concepts and skills necessary for college acceptance. The center has co-developed four games and robust research on the effects of game play on college knowledge and college-going efficacy.

“We found out that one of the things that’s really difficult is time management, understanding what colleges are actually evaluating, and how all of these components matter,” said Ochsner. Therefore, one of the games, called “Mission Admission,” also teaches about elements such as activities and essays that are important to the college entry process.

The so-called digital divide is more complex than infrastructure inadequacies and device access, Ochsner noted. It also pertains to the entire learning structure in which one class, teacher, or learning experience can make all the difference in a student’s educational trajectory. Ochsner, William G. Tierney and Zoë B. Corwin edited a recently published book on the topic, titled “Diversifying Digital Learning: Online Literacy and Educational Opportunity.”

Well-designed experiences with digital media can also help with inclusivity, Ochsner maintained. For instance, she increased female enrollment in a gaming club at a Wisconsin school district by providing an inclusive environment around creating electronic textiles and crafting projects. Using LilyPad Arduinos, girls from the third-grade level and higher were able to accomplish traditional crafting activities that were combined with learning about circuits, electronics and coding. Soon, the mostly middle-school aged boys and their high school mentors were joined by several girls, and the club’s membership doubled.

The school club’s success was, in part, due to the explicit message that the girls were wanted at the table, “that we wanted them to be there engaging in this,” said Ochsner. “That’s what I found with women in the industry too – there are so many things telling you that you don’t fit in here, that you’re not welcome here, that this isn’t really the industry for you.”

CHANGING PERCEPTIONS

Attitudes and misconceptions about gaming need to change, Ochsner thinks. “We still carry around this idea that video games are this adolescent boy thing and it’s immature and it’s not a good use of time,” she said, “but surprisingly, a lot of high-level professionals actually find time for games even though they’re really successful in their professional lives.”

Ochsner also believes that “there’s a lot of room for growth, especially for families engaging. There’s so much we can do with people of different ages and experience levels and comfort levels with games, playing together. I think that people who are designing games for younger audiences or educational games are starting to think about how can we support different levels of engagement at different times,” she added.

Ultimately, game-based learning deserves more attention for its practical uses, she said.

“Good games provide complex problems with multiple pathways to a solution, and I think that can be immensely gratifying,” she said. “That’s why I think so many people struggle with school; there is one correct answer. There’s one way to get there. Even if there are multiple ways to get there, you might be penalized if you don’t choose your teacher’s preferred way of you getting there, and you don’t show your work in the way that you’re expected to show it.”

Well-designed games, however, “give you multiple pathways to get there,” Ochsner pointed out. “There are opportunities for veering off path and coming up with your own goals. It’s like all things – games aren’t a waste of time and they aren’t conducive to productivity either. They’re both at the same time. It’s all about balance and how they fit into your life,” and into your classroom, for that matter, she said.

Continuing research is increasingly geared more toward positive influence rather than negativity with gaming, which, of course, is what has always piqued Ochsner’s interest.

Just as research into the negative aspects of gaming should continue, “I’d think we’d want people recognizing this is a powerful technology, and that people are spending a lot of time and money on it. So how can we harness that in ways that can make the world better?” Ochsner maintained. “The (research) field is kind of shifting from games for learning to games for impact, and I really like that term. How can games make a positive impact in the world, and what can we do to support that type of game play and those types of behaviors in the communities that enable that?”

THE END