Choosing my own adventure

I didn't make my decision to apply to MSU's online MAET program lightly. In fact, by the time I applied, I had spent a good three or four years researching different options for masters programs related to education. Part of the difficulty in making a decision came from not knowing exactly which direction I wanted to go in professionally. I had finished a year of AmeriCorps service teaching ESL classes before working for fours years on a variety of eLearning design and development projects at MountainTop Technologies (MTT). Both had been great experiences that allowed me to develop a diverse skillset while doing interesting and meaningful work, however I knew that advancing in either field would require different degrees and credentials, and I was unsure which I wanted to pursue.

Ultimately, my experience working on serious game projects at MTT led me to consider the Serious Game Design and Research certificate program being offered online by MSU's telecommunications department. The serious game program in turn led me to consider and eventually apply to the MAET. The MAET offered enticing core and elective courses itself, but I most appreciated the amount of flexibility it allowed me in choosing what, how and when I could take courses. While most other programs I looked at seemed to offer rigid tracks leading to certain specializations, the MAET gave me leeway to "choose my own adventure" in exploring the broad topics of learning, design and technology.

Studying serious game design

The Serious Game Design and Research certificate program included the courses Theories of Interaction Design, which explored heuristics of effective game design as well as the various theories of learning, communications, and psychology that described how game and play experiences can create ideal learning conditions, and Understanding Users, which covered techniques used by game design professionals to research player characteristics and preferences and create great user experiences. The third course, TC830: Foundations of Serious Game Design, could have worked as an introduction to the program's ideas and concepts. But in my experience, since I scheduled it last in the series, it served as more of a culmination. In this class, we explored the different categories of serious games currently recognized and discussed the reasons why these categories and the language used to describe them continue to evolve. We also explored the affective components of effective game experiences including various definitions of "fun" and how elements of gameplay elicit player motivation and engagement. We examined the importance of carefully considering what players *do* in games and the feedback they get from the game system as well as the social values embedded in these interactions. We learned that this system of player action and systemic feedback, or what Ian Bogost calls "procedural rhetoric", often defines what players learn most deeply from game experiences, regardless of what other narrative or aesthetic elements may be involved. Therefore, it is essential to connect player actions and interactions to the serious goals of the design for the experience to be successful.

Foundations of Serious Game Design was actually the first course where I directly connected my classwork to the professional context I was working in at the time, and the

results were really positive. Before beginning the foundations course, I had changed jobs from working in eLearning to working in quality control for a court reporting agency. I began assisting with workforce development and new employee training about six months before starting the foundations course. Over that time, I quickly realized that although I had developed keen listening skills and strategies through working in quality control, I had no idea how to facilitate development of those skills in others. This gap in my skills inspired me to research listening comprehension and strategies for teaching listening skills to inform my final project design, which was a serious card game designed to help players practice "bottom-up" listening comprehension skills.

Part of my background research for the game involved investigating how court reporting and legal transcription are taught in other programs, which helped me to develop a deeper understanding of and appreciation for the profession. My background research also involved analysis and thoughtful examination of the program I was working in as well as characteristics of the trainees/players and the setting in which they would play the game. This allowed me to apply the research and analysis techniques I had previewed in Understanding Users to an authentic context. It also led me to discover some serious weaknesses in our current training approach and experiment with potential fixes. The final assignment in the course was to create a website showcasing our final, playable game along with supporting research. My game site (which I have also included on my showcase page) can be found at this link.

Learning technology by design

At the same time I took Foundations of Serious Game Design, I also took CEP817: Learning Technology by Design. In Learning Technology by Design, we explored the concepts of "design" and "quality" through a variety of innovative and subversive activities. We discussed theories and perspectives of design from successful practitioners working in a variety of fields and media including comics, novels, film, technical documentation, and classroom education. We also engaged in regular reflection on examples of good and bad design in the world around us, discussing why particular design strategies worked or did not work and what could make them better.

This class, with its broad exploration of universal design principles, completed the game and user experience design-focus of the certificate program surprisingly well. Our discussion of language and writing conventions early in the course also led to a vital resource for me as a trainer and student. Through the readings in Learning Technology by Design, I first encountered Exploring Language: A Handbook for Teachers, published by the New Zealand Ministry of Education. This handbook introduced me to the various concepts and language used to describe and define spoken language--things like "tone group"--as well as the different conventions between spoken language and written language. Most of these were things I recognized inherently as a language user, but did not have the language for to explain the concepts to others. These new perspectives on language helped me to enhance training content by offering better explanations and illustrations of concepts. They also acted as a launching point for the listening research I completed in TC830 and subsequent courses.

For my main project in Learning Technology by Design, I chose a somewhat different focus from other courses. Instead of doing something related to teaching listening or transcription, I chose to create a website and blog resource for basic astronomy and stargazing education--subjects I had a strong interest in, but no actual teaching experience or qualifications. I also had limited experience designing and creating websites on my own, and limited graphical resources to draw from to build the site. As a result, working on this project was daunting, as I was never quite sure that I could actually complete it successfully. But it was also thrilling as I enjoyed the challenge of learning new tools and I found the subject matter captivating.

Fortunately, I received guidance and assistance from classmates throughout the project. I learned of resources for finding royalty-free images and creating free logos and graphics through the course. I also learned or increased my skills in an array of web development and web-based tools including Weebly, Google Sites, Google Presentation/Slides, YouTube, and Pixlr. In addition, I learned principles of good, effective web design and had the opportunity to receive great feedback on my work. I was even able to get feedback from authentic users thanks to a group member who went above and beyond to assist with my project by asking volunteers from her own class to test and review my site. This feedback was invaluable, not just because it helped me to complete the assignment, but because it came from real students. Their perspectives helped me to improve my site in ways I couldn't have through testing on my own or using only feedback from convenience sampling. The students' feedback was mostly positive and encouraging, too, which made the experience that much more rewarding for me. Ultimately, I left Learning Technology by Design feeling like a much savvier and more capable designer. I had developed a better understanding of how to present technical content in engaging, unexpected ways and gained confidence in my abilities to learn new technologies, find creative solutions to complicated problems, and adapt to changing circumstances.

Learning the psychology of learning

Although I had begun to recognize parallels between what I was learning about learning design from the Serious Game Design program and other electives like Learning Technology by Design the connections among the course topics did not really gel for me until I took CEP800: Psychology of Learning in School and Other Settings. Through this course, I learned that learning is affected by a tremendous amount of variables including (among other things) the learner's past experiences, the interactions learners have with other learners, the pedagogical strategies a teacher chooses, how well the teacher is able to implement those strategies, the environment in which the learning takes place, and the tools and materials used to present information and facilitate learning. Together, these variables can be described as the *learning context*, which is very much akin to the idea of the *design context* I had explored in the earlier courses.

Other similarities included the importance of considering learners' emotions throughout the learning experience as well as the pace at which new content is presented. This focus on emotion followed the work of education and design researchers and thought leaders like David Wong and Donald Norman, who argue that learners tend to learn best only when in the

right emotional state: a kind of precarious balance between calm and bored, stimulated and stressed, and alert and fearful. It is in that affective sweet spot that learners are best able to think broadly and creatively about new information. The importance of pacing stemmed from our discussion of cognitive load theory, which holds that learners are only able to process so much new information at a time. When overwhelmed with too much information, or too many unfamiliar processes at a time, learners' comprehension and retention become severely limited. This view of cognition has bearing on all instructional planning, but special significance for technology-rich interventions, as it follows that for students to learn anything *from* or *through* new technologies, they first need to learn *how* to use those new technologies. Therefore adequate learning time and resources must be planned and provided.

Considerations of both emotions and pacing had come up before in discussions of good game design heuristics, and it was interesting for me, as a learner, to see these parallels. However, the topic from CEP800 that resonated with me the most was the cognitive apprenticeship model of teaching. I recognized this model at work in the communicative language teaching I engaged in as an ESL teacher as well as in the transcription training program (albeit imperfectly) I was working in at the time. The cognitive apprenticeship model inspired me to engage in more dialogue with trainees, asking questions to make their thinking and mine more visible throughout the training process. It also inspired the Intro to Court Reporting and Transcription lesson plan I created for the main course project. Through course readings and activities as well as testing and reflecting on my lesson plan, I came to realize that one of the most important things I can do as an educator is help learners to recognize and confront misconceptions about subjects by making their thinking visible.

Putting everything into perspective

The final course in the MAET program, CEP807, the Capstone Portfolio Course, has worked tremendously well as both a capstone and as a kind of advance organizer guiding my progress through the program. I love the flexibility of the MAET program and the variety of courses it offers, but those things could have easily worked against me. Given my broad professional interests and variety of experiences, I entered the program with only a vague idea of where I wanted to go by the end of it. However, anticipating the capstone course and its required projects pushed me to plan my schedule carefully and maintain thematic connections through much of my work and research. Within the course, the stages of completing this portfolio website have guided me in reaffirming some of those connections, revising others, and drawing new insights--all while continuing to build my webpage design and development skills through authentic practice. The essay pages in particular have challenged me to spend time reflecting on my goals when I entered the program and how those have changed as a result of my experience, as well as where I plan to go in the future. Taking the program as I did, as a continuous run through the majority of electives and core courses, left little downtime between courses to assimilate my new learning from discussions, readings, and project work. So it has been invaluable to have this scheduled, structured time, framed by project requirements and deadlines, to look back and put together a bigger picture, as I have been doing in composing this synthesis essay.

For me, the biggest part of that bigger picture is *context*. I've learned that in serious game design (as well as user experience design in general), context forms the foundation for

background research into the problem to be solved as well as design research into the needs and expectations of the audience. It also functions to continually shape design decisions about the player's experience at various stages of play, and how success of the intervention is defined. In the same vein, I've learned that context can have tremendous impact on teaching and learning, oftentimes determining what and how much students learn. I've also learned that technology forms a critical piece of learning context. As evidenced by the TPACK framework, context forms (or should form) the foundation of decisions about content, pedagogy, and technology in a program. It follows that to be effective in my role, whether I am working as a teacher or trainer, or supporting a learning initiative as a designer or technologist, I need to understand the context I am working in as deeply as possible. If education can be viewed as a designed experience, then educators and education professionals can benefit from applying design thinking. To be effective, we need to continually research, test, revise, and reiterate, exploring new techniques and technologies in order to facilitate meaningful experiences for our learners.