

My Adventures in Educational Technology

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I knew at an early age that I wanted to become a teacher. Finishing high school and choosing to go on to college for my teaching certificate was the natural progression from there. At Central Michigan University, I took two different courses while in pursuit of my undergraduate degree that were heavily involved with incorporating technology in the classroom. The first was a math class that infused Computer Algebra System (CAS) Calculators into classroom activities. Although we did some interesting things with the technology, it would have come with a hefty price tag to implement in any classroom setting. The other class I took was a class called Technology in Education. In that class, we focused on creating web quests and a classroom website, among other things. When I was hired for my first “real” job, fresh out of college, I could not believe how different the classroom setting was from when I graduated high school just five years before. I could not have predicted the development and level of infusion of so many different technologies into the classroom.

Graduate school was the next step along my educational journey and with all of the advances and additions to the world of technology, I decided to pursue a Master of Arts Degree in Educational Technology (MAET), choosing Michigan State for two reasons. First, Michigan State University has a great reputation for their classes and professors within the Educational Technology program. Second, the program I was interested in was offered all online. Thinking back to the classes I took during my undergrad and the workload they came with, I thought this would

be the way to go because I could not even imagine trying to take these classes on top of teaching full-time. I started with the Educational Technology Certificate courses online and knew I had chosen the right path for my future.

Through the certificate courses I was introduced to the world of online education. I had never taken an online class at that time, so I was a little nervous to see how it all would work. During the first of the certificate courses, CEP 810 (Teaching for Understanding with Technology), I created my Twitter account (I know, what rock had I been living under?!) and learned some of the basics of Twitter. I was also introduced to Google Docs, which is something I use on a regular basis now, both personally and professionally. I use Google Docs to collaborate and plan with colleagues, organize events for Student Council, and even school-wide elections for homecoming court. In this course, I was able to work with a group of classmates/colleagues who were interested in the same hot topic in education that I was: Flipping the Classroom. We created an online resource to deliver all of the information that we had collected and analyzed about flipped instruction. This course allowed me to see that communication and collaboration within a group was in deed possible (and successful) over the Internet.

The second certificate course, CEP 811 (Adapting Innovative Technologies to Education), was all about using various technologies in the classroom to improve student learning. I developed a Stand-alone Instructional Resource that reviewed the concept of factoring with the students. I was able to use in my Algebra class later that year and it was very helpful for many of my students. Although I did not teach math this past year, I was able to take some of the concepts of that project

along with other tools I learned about in CEP 811 and apply them to the Physics classes I was teaching. In this course, I was also introduced to the concept of Universal Design for Learning (UDL). Our school has adopted the UDL principles this past year and this course allowed me to be one step ahead of the game (thank you MSU!).

With the number of different technologies on the market, one can feel overwhelmed in choosing one over another. The district where I teach was fortunate enough to have a technology bond passed, allowing the purchase one-to-one iPads for all students grades 3 – 12 and classroom sets of 20 for students in Kindergarten – 2nd Grade. The high school students have had their iPads for a year-and-a-half now. Reflecting back on this time, I definitely felt pressure to use the iPad as often as possible, which was really the wrong way of incorporating technology. What I should have been doing was focusing on the content; what was it that I wanted the students to learn. From there, I could determine what technology would be the best at meeting those goals. I got to a point during the semester where I was trying to use certain apps, or features of iPad apps just to say we used the iPads that day, even though it did not really enhance the lesson in any way – I totally failed the TPACK framework! As I look ahead to the future, I will approach the situation by looking at the content first and allowing the technology to follow suit.

The final certificate course, CEP 812 (Applying Educational Technology to Issues of Practice), focused on using different educational technologies to tackle some common issues in education. Many of the assignments in this course were building blocks for our semester-long project: solving a “Wicked Problem” in

education. The problem I chose was to not only successfully but meaningfully integrate the iPad into daily classroom use. As my school district has had 1-1 iPads issued to students in 3rd-12th grades for short time, this project was very meaningful not only to me but to my coworkers that I was able to help through the process. Throughout the assignments in this course, I created and deployed online polls, interpreted the data and found online tools for data visualization, and even created a Flipped Professional Development presentation with a group of classmates. This Flipped PD allowed my learning to come full circle – using flipped instruction for both students (my project in CEP 810) and for staff (my project for CEP 812). I truly see the benefit for flipped instruction at all of the different levels for a variety reasons.

At that point there was a fork in the road and I had a decision to make, do I stick with the online programs or should I sign up for the summer hybrid course? One of my colleagues mentioned how she did the Hybrid Program and highly recommended it. I have to admit, that enrolling in the Summer Cohort was probably the best decision I could have made to continue with the master's program. Throughout the two-week, face-to-face sessions, there were so many valuable readings, discussions, and activities; I did not think I could contain it all in my brain. I feel so lucky to have been able to spend two weeks with an amazing group of people, both my fellow classmates and instructors. Everyone was so helpful, knowledgeable, and enthusiastic that the two weeks seemed to be over before I knew it. During the additional three weeks off campus, I was able to research, reflect, and comprehend all of the content for CEP 800 (Psychology of Learning in

School and Other Settings), 815 (Technology and Leadership), and 822 (Approaches to Educational Research). I was surprised at the impact this program had on me, both as a person and my role as an educator.

There were a few different activities that we did throughout these three courses that really resonated with me. We did a paragraph memorization activity in class and I remember struggling to remember what seemed like a meaningless string of sentences that attempted to create a set of instructions. After we found out that the writing had two different titles, “Paragraph Memorization” and “Doing the Laundry”, the activity was put into perspective. This is how students feel sometimes when asked to do something in the classroom. Without context, a task can seem very difficult to complete successfully. Between that activity, the reading from that day, and the discussion in class, I was able to put these ideas into context. By giving clear lesson objectives and reiterating them throughout the lesson, I can help the students organize the information being presented so it will stick with them and help them commit it to memory. It is important to remember that providing the framework for the lesson/activity being taught in class is imperative for information retention by the students.

In the Summer Cohort we had many conversations about the difference between knowledge and understanding, including a major project to try to analyze a person’s “understanding” of a topic. As I go back and revisit the lessons I taught last year and modify them for the future, I want to be sure to include discussions and/or activities that tap into my students’ background knowledge of the subject. This can make a huge difference and lead to the difference between knowledge and

understanding. Students have gotten used to memorizing facts and spitting them back out for a test, but without a connection to the material, the information will never be fully understood.

Continuing with the idea of using students' background knowledge, it is important to uncover misconceptions and allow students the opportunity to discover the true answers. I teach Physics, so the Ball Drop Video Activity that we did in the Summer Cohort is something I will definitely be doing in the classroom. In class, we used this activity as an example of authentic learning. The main idea I took out of the discussion following this activity is that it's not what the students don't know, but what they already "know" that can be a hindrance to learning. It is important to make learning visible. The ideas and conceptions need to be put out there for the students to see themselves.

All of the classes I took up to that point on my journey set a solid foundation for my educational technology background. It was in CEP 820 (Teaching Students Online) that I was really able to put a lot of it together. Because of the recent increase of high school students taking online classes, it was important for me to find a Master's program that had a course that would prepare me for the challenge of teaching online courses and CEP 820 was it. The school where I teach currently offers Hybrid programs, meaning both online and face-to-face instructional sessions, depending on the day. Through CEP 820, I was able to create a few lessons for a Hybrid Physics Support course that I was able to use in my classroom at the time. I will take the web tools and technology skills that I learned through CEP 820 as well as the big ideas behind UDL that I learned through CEP 811 and create a Hybrid

Physics course (along with some of my coworkers) that my school will offer sometime in the near future.

After completing the Master of Arts in Educational Technology (MAET) Program, I will continue to be an advocate for the infusion of technology in education and hope to further expand what can be achieved through the use of technology. My district recently added the position of 21st Century Teachers to assist staff with incorporating technology into daily lessons. That is something I could very easily see myself doing in the future. I have learned so much through this program and feel the need to share that knowledge with my colleagues throughout the district. Looking ahead to the next leg of my adventure, the possibilities are truly endless and I am ready for the challenge.