Embodying a Learner, Leader, & Thinker

Dan Hoekstra's Synthesis Essay

I have always desired to be a learner, leader, and thinker as I carry out my science teaching and technology coaching roles. However, on my own, I was only able to partially achieve this goal. While the will was present, the skill was lacking. Now, after completing the Master of Arts in Educational Technology (MAET) program at Michigan State University, I believe that I embody an educator who is a learner, a leader and a thinker.

I am a LEARNER.

If you don't know where to look for information, learning can be hard. Prior to enrolling in the MAET program, I felt like I was an island. At best, my coworkers served as neighboring islands and together, we created a small, isolated archipelago. While we could communicate with each other, collaboration was often difficult due to different schedules, different classes, and different priorities. When I tried to go beyond my school and collaborate with other educators, I found it even more difficult as I did not know where to begin. It was like trying to get an island and to the mainland without a functional boat. CEP 810: Teaching for Understanding with Technology opened up a whole new world of sharing, collaborating, and therefore learning. First, I was asked to consider my Professional Learning Network (PLN). While doing this, I realized how narrow my world really was. I occasionally collaborated with my coworkers but beyond that, I only interacted with a few other educators that I had met at local workshops or at the AP Biology Reading. I also had the power of the Internet at my fingertips but no good way to filter my Google searches. No wonder I was at a loss regarding how to continue to learn about educational technology! Then came Twitter. I actually remember scoffing when I learned that I had to create a Twitter account. I saw it as a silly exercise with little educational value. After all, what was I going to tweet? However, as I began to follow more and more people that had a hand in the world of Ed Tech, the power of Twitter began to emerge. People were not just tweeting what they ate for breakfast or

sharing selfies as they moved through their day. Rather, people were sharing ideas, tools, and encouragement while linking their tweets to blogs, articles, websites and more. The firehose of information from the internet had been filtered yet my opportunity to learn was magnified. I now scan my Twitter feed daily selecting and "liking" topics that I want to read and learn more about. Now I just need to find the time to read all the great articles that I mark!

As so much new information came pouring in through classes, blogs, and Twitter, another revelation occurred. While technology can be cool and fun, in education it should never be used just for the sake of using technology. Rather, educational technology must improve, enhance and offer something new to the assignment or lesson. This became clear in CEP 810 when we were introduced to the [TPACK framework](#) which stands for Technological, Pedagogical and Content Knowledge. To summarize, appropriate technology must be used alongside sound pedagogy and strong knowledge of the subject. As can be seen by the TPACK image, the goal of good teaching is to find the intersection of these three different types of knowledge. This also means that while I continue to learn more about technology, I need to continue to learn about best practices of teaching as well as deepening my understanding of biology. While the importance of building a PLN, using Twitter and understanding TPACK are specific things that I learned in CEP 810, the MAET program overall stressed the concept of lifelong learning. For example, I began a Research in Action project that stressed the importance of teachers also being researches. By being a teacher-researcher, I will become a better teacher by enhancing my educational understanding and building my skill set. In addition, the findings of this research can have a significant impact as I help to lead and improve my school. I also learned about addressing [wicked problems](#) and [thorny issues](#) and I even spent time experiencing school from the perspective of my students in an attempt to learn more about how they view school.

I am a lifelong learner and I want my students to be lifelong learners as well. To start, I can lead by example as I show my students that I continue to learn each and every day. I can also foster a lifelong learning attitude by giving my students the skills to be self-regulated learners. To start, I need to give my students more control over their learning, allow them to fail, and give them specific and timely feedback, all while providing them with technology tools that will shift control their way, help them organize their ideas, and help them reflect on their learning. This will continue to be a work in progress.

I am a LEADER.

I wanted to believe that I was a leader before I started the MAET program but I did not comprehend how to lead. To begin with, I did not have a clear understanding regarding how to support my coworkers in my technology integration coaching role. My primary goals were to show them lots of cool tech tools and to answer their technology questions when something went wrong. Throughout the program, while learning about the TPACK, SAMR and Triple E frameworks of technology integration, I learned that I have to be careful that I do not encourage our staff to use technology for technology's sake. Instead, my role is to lead them as they use technology to support and enhance their lessons. As a result of this new understanding, I changed our school's way of approaching technology goals. In the past, a teacher would often choose a technology tool that interested them and then build their lesson around it. While they generally liked the tool they chose, it often ended up feeling like pounding a square peg into a round hole as the tech tool did not match well with the lesson. Now, I ask teachers to think about lessons or projects that they feel are important yet might be boring, lacking choice or not requiring deeper thinking skills and then I help them use technology that will aid and enhance this lesson.

A few years ago I also did not know how to lead my school as a whole but CEP 815: Technology and Leadership showed me how to be a better leader in a variety of ways.

Most importantly, CEP 815 showed me how to recognize and address problems of practice in my school by creating a vision statement. I focused my vision on strengthening students' metacognitive skills through formative assessments, timely feedback, and student-centered activities. Later in the MAET program, this vision helped to shape my Research in Action project on "How can teachers best encourage and support self-regulated learning in their students through the use of current technologies combined with sound pedagogy?" CEP 815 also showed me how to lead through the creation of short informational screencasts. By creating these 2-3 minutes videos, I can alert my coworkers of different frameworks, tools, and ideas that can bring their teaching to new heights. I spun off of this idea a year ago and started a weekly Tech Tip Tuesday email that I send to our entire staff. It has been a great way to share new ideas as well as remind them that I am here to help! CEP 815 also took me through the process of designing professional development. While working with my classmates on a professional development project, I learned how to select appropriate and impactful topics as well as how to cater to a variety of different interests, skill levels, and job requirements. Offering our staff choices that revolve around a central topic has been a great way to keep everyone connected while allowing their learning to be personalized and relevant.

I was able to continue to learn about leadership in other courses as well. Most notably, I learned about Educative Mentoring. As a leader, I cannot just assume that novice teachers will somehow just learn how to teach. This means that our mentoring process needs to be much more intentional. I can help by bringing this issue into the spotlight and helping our administrators recognize the problem. In addition, I can help novice teachers by assuming the role of a second mentor as I help them select, use and reflect on technology in their teaching. Finally, I learned that in order to lead, I needed to know what my coworkers are thinking and feeling as well as their struggles. To help gather this data, I created a technology survey and then analyzed the results. This information

helped me to plan professional develop, email relevant tech tips and start to outline a common technology vision for my school.

I am a leader and I want my students to be leaders as well. By teaching my students how to successfully collaborate, cooperate, share, and support each other, they can become leaders within my school. Also, by designing labs where my students can actually contribute to a global body of knowledge, I can show my students that they can lead by being agents of change. Rather than having them memorize isolated facts, they can use their knowledge of science to try to make a difference in this world right now. Once students believe that they have the necessary skills and tools, they too can become leaders.

I am a THINKER.

Most technologies are not designed for education. However, with a little imagination, many of these everyday technologies can be repurposed to aid in education. [CEP 811: Adapting Innovative Technologies in Education](#) referred to environments created in this way as "Novel, Effective, and Whole" or NEW. As an Instructional Technology Coach, this realization opened up the door for endless possibilities. Technology is everywhere! If I can't find the exact tool I want, all I have to do is to find one that I think has potential, think outside the box, and modify it. The importance of being a thinker carried on throughout the entire MAET program. I learned about the [Stanford Design Model](#) and then used this model to create and test a prototype to address my problem of practice. Now, I can use this design process to identify technology issues around my school, brainstorm solutions, and test possible solutions. I also carefully researched and thought about best online practices and then I created an [AP Biology Blended Course](#) that could be implemented at my school. I took many of these online practices and used them in my current AP Biology course as my students are constantly using the internet even though we still meet face-to-face. Throughout the MAET program, I also created several infographics that boiled down topics such as Maker Education and online

learning to what I considered the main 4-5 points that I was then able to share with other educators.

I am a thinker and I want my students to be thinkers as well. CEP 811 also focused on the [Maker Movement](#) and using a constructivist approach to learn. I quickly discovered that this approach helped me to make deep connections as I thought about how to weave my new knowledge with my prior knowledge by creating an iMovie remix on the Maker Movement as well as designing a lesson that uses a [Makey Makey](#) to create an interactive 3D cell model. While it might not be possible to model Makerspaces in all classrooms, the concept of learning-through-doing can be applied nearly everywhere to help students learn. I was so influenced by the concept of making, constructing and thinking that I built a phase called "Produce" into the [SIMPLE Learning Cycle](#) that I was creating. Each lesson in my AP Biology class now progresses through six consecutive phases: Seize, Investigate, Master, Produce, Look-Back and Evaluate. The goal of Produce is to have the students synthesize and apply their new knowledge as they create something that displays their understanding. This phase encourages my students to become thinkers as well.

Through it all, I now leave Michigan State University's Master of Arts in Educational Technology program as: 1) A lifelong learner who understands that the journey never ends. There are always new tools to try, improvements to be made and alternatives to pursue. 2) An influential leader who helps lead educators from my school, community and beyond to become more efficient and conscious users of educational technology. 3) A thinker who recognizes that deep learning can occur when one is willing to think outside the box to create something "NEW". While I will continue to work on being a learner, leader, and thinker, I will strive to help my coworkers and students become learners, leaders, and thinkers as well.