

## Wicked Journey to Solve Wicked Problems

When I first entered the MAET program my goal was to learn how to use technology. I wanted to learn about all the latest technologies that were out there. I wanted to learn where to go to find these technologies. My goal was to stay ahead of the curve and always be at the leading edge when every new technology was released. This was exciting to me as the next new technology was always an unknown. What new gadget or program was around the corner inspired my interests. As I progressed through the MAET program my goals changed. My thoughts about technology and what I wanted to get out of it or how I saw it being implemented in my classroom changed. My role and goals as a teacher using technology changed as well. My emphasis shifted from the tool (technology) to the goal or mission (learning). The further I advanced through the MAET program the clearer my goal became. Enhancing student learning is now my goal. Arriving at this goal has changed my entire approach as an educator and how I use technology in my classroom to enhance student learning and as a tool in my daily life.

At the start of the MAET program many of the initial lesson revolved around demonstrating proficiency with different software and programs and understanding how to perform specific tasks on ones computer. This seemed very practical to me at the time. Very quickly the emphasis shifted from the tools to the goal. Enhancing student learning was the goal. The key to enhancing student learning was not technology. The key to enhancing student learning was good teaching. Good teaching and instructional practices always have a greater impact on student learning than any technology might. The most positive effects on student learning occurred when instructional elements were balanced properly. Some lessons and content might lend itself to easier incorporation of technology than others. Technology should not be forced into instruction. It should be added in when it allows for enhancing student learning. This lesson and way of thinking had a tremendous impact on me.

Prior to my MAET studies I found myself constantly reflecting on ways that I could incorporate new technologies into all of my instruction. While reflecting on this was good my emphasis was in the wrong place. My focus was on the technology. As I learned in CEP 815 I was thinking instrumentally, always focused on the tool that I would use and not on what I wanted to accomplish with the tool. This is a very common way of thinking for many educational technology users and administrators. With my focus shifted to enhancing student learning my lesson design and instruction would take its proper shape. Using what I learned in CEP 815 my lessons were now designed using missional thinking to reach my goal or objectives. I was no longer designing lessons specifically around what technologies I wanted to use. Lessons were designed with the goal in mind. Technology was only incorporated when appropriate and when it would serve to enhance a student's learning experience.

As I progressed through the MAET program I found myself becoming a more and more reflective educator. This was a component of all of my courses in the MAET program but CEP 807 helped me to refine this practice the most. Looking back on decisions and choices that I made in past assignments and instruction. The more that I learned the more I found myself

reflecting on my prior practices. I was asking myself questions constantly as I designed and taught my lesson. I asked myself questions such as what is my goal with this lesson? Does my instruction match my goal? How might I change or improve student learning in this lesson? Could technology be used to enhance this learning experience? These questions vary significantly from where I started. Early on considering questions were instrumental such as how could I use a powerpoint to teach students about the Civil War? Now my questions are goal and mission oriented. How could I teach about the Civil War better using technology to enhance learning? Is this the best use of technology to enhance student learning or is it just part of the lesson? There are few fields where being reflective of one's actions, choices, and plans are more crucial than in education. One must always understand the reasoning for actions and how those actions might be improved upon. As I have examined this I have been able to follow my progress along the SAMR model. Now able to recognize my jumps up and down the spectrum. Starting with substitution and moving towards transforming learning. I have learned a great deal about analyzing my own actions and plans. As a result of my work in the MAET program I have found myself to be a far more reflective educator and individual in general.

Enhancing student learning has always been a primary focus of the MAET program. The greatest enhancement of student learning and student learning occurs when students are engaged in thoughtful instruction. As mentioned earlier the goal is the most important element one must consider when designing instruction. In addition to this goal one must consider the proper balance of knowledge and resources that are necessary to reach this goal. My understanding of this balance has been dramatically affected by what I have learned in CEP 820 from the TPACK framework. When I created my course shell I demonstrated my clear understanding of TPACK. TPACK provides a new way of thinking about the skills and knowledge an instructor must demonstrate when incorporating technology into instruction to enhance student learning. Good instruction requires a well balanced educator. An educator must have a sound understanding of the technologies that are at their disposal. An instructor must understand what tools they have and how students might potentially interact with them. They must recognize the potential these tools have in an educational setting. Secondly an instructor must possess an understanding and command of pedagogical techniques and practices. Nothing can replace good teaching.

Good teaching pedagogy and instructional design will always have a great impact on student learning. TPACK has had a tremendous impact on how I think about my instruction and how technology might be integrated into it. I now see that the most effective teaching is a result of the proper balance and usage of technological pedagogical content knowledge. An instructor must have a knowledge and mastery of the technology that is available to be used as part of their instruction. In addition, an instructor must also apply their knowledge of pedagogical knowledge and good instructional design into their teaching. They must follow the practices of good teaching and instructional design. Good instructional design and pedagogy should not be sacrificed purely to incorporate more technology into a lesson. Lastly an instructor must be an expert in their content area. They must know it inside and out to properly plan instruction. All of these type of knowledge combine to formulate a new type of knowledge. This new knowledge is

the combination of all three and is known as Technological Pedagogical Content Knowledge or TPACK. When creating my course shell in CEP 820 I put all of these different types of knowledge together. The end result was a creative and very thoughtful and goal oriented unit.

TPACK demonstrates the proper balance of knowledge an instructor should strive for when designing instruction. No one part of or type of knowledge is superior to the others. Alone each knowledge would provide very limited student gains in content knowledge and understanding. When combined and balanced together they provide an excellent opportunity for enhanced student learning and reaching the goal or objective. TPACK has had a very profound impact on my own instruction and design. Now technology plays an equal role in instructional design with my understanding of the content knowledge and pedagogical knowledge.

When I design a lesson using the TPACK framework I very closely consider what specific content I want students to learn. What historical event or document do they need to interact with and better understand. Then I consider the practices of good instruction and teaching pedagogy. How might I design a lesson to ensure that students learn the material. Lastly how might I use technology or how might technology lend itself to enhance the delivery of the lesson or increase student interaction with the content. TPACK has been a very helpful tool that I have used to guide my instructional practices. It has truly helped me to be a balanced and thoughtful instructor and educator.

The growing possibilities of education and instruction with reflection, goal oriented instruction, and TPACK have changed my philosophy as a teacher and the way that I face obstacles and problems in general. As I learned in CEP 812 often in education and life one is judged by the outcome of their first choice or attempt at solving a problem. If one judges the situation or questions correctly and answers it correctly they receive the credit. When they answer incorrectly or cannot solve the problem they are wrong and receive no credit. Often times there is no incentive to continue on when incorrect as the points and credit has already been lost. This results in a very dangerous and serious outcome. If a student does not learn something the first time there is very little opportunity for improvement or for them to learn the material. As a result when a student doesn't learn something the first time there is a very great likelihood that they will not learn it later. In education this is a very large problem. If one's goal is for students to learn then this style of instruction and assessment is a major barrier to student learning.

The key to efficient goal oriented instruction is giving students the opportunity learn from their mistakes. In CEP 812 I learned how students must be free to make mistakes and learn from them. Students must also be guided to the correct answer. This provides a perfect opportunity for stand alone instructional resources. When students answer incorrectly they have received feedback immediately. This lets students know what they have done wrong. It also provides reinforcement to identify what the students misconceptions were and how to correct them. Learning this technique and how to create these resources has changed the dynamic of my classroom. Students are not afraid of failure and instead embrace learning and the challenges that may come with it.

Turning failure into an opportunity for learning is possibly one of the greatest lessons I have learned from the MAET program. Failure is often an obstacle in education that denies success and learning to students. When students fail they have little or no opportunity for identifying and correcting misconceptions. As stated above this is incredibly important in education. Breaking out of this cycle of thinking and using failure as an opportunity to learn provides the best opportunity for success. By turning failure into an opportunity to learn each failure brings one a step closer to the answer. This way of thinking is a crucial element that must be embraced for society to conquer its many challenging and wicked problems. Often times the wicked problems we face are so overwhelming and complex that no one wants to take them on. The fear of failure is too great. No one wants to be judged as a failure. As a result our wicked problems remain unsolved. As I learned in CEP 812 failure must be turned into learning thus providing an opportunity for improvement. This provides a great incentive and opportunity to solve our wicked problems. If society wants to conquer our wicked problems failure must be turned into learning. This must first be done in our schools and classrooms. Failure must be seen as acceptable but must also be provided opportunities for learning. By making these changes I strongly feel that no problem could remain unsolved.

My studies and learning as a result of the MAET program of change me as an educator and as a person. I see now my goal as missional and directed to enhance student learning. Being an effective educator and individual requires great amounts of reflection. One must continually examine their actions and the reasons for them. Technology will never replace good teaching. Good teaching is a balance of many types of knowledge such as technological pedagogical content knowledge. Failure must be turned into learning opportunities. This is incredibly important in our education system if society intends to solve its wicked problem. I now see myself not just as an educator but an innovator providing society with individuals who will be equipped to tackle and conquer society's wicked problems.