

Inquiry, Individualized Instruction and Internet: The 3 I's that have helped me as an Instructor.

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I started my career teaching seventh grade math at a charter school in the Downriver Michigan area. I loved my job, but found it difficult because the students that I was getting in my classes had no love for math. These students were not coming into my classroom with a strong foundation and because of that they could not grasp the concepts that I was trying to teach them. I struggled to find a way to bridge a gap for them. I put countless hours in working with other teachers in my building to see what they did but nothing was working. It was then that I decided that the only way for me to find the answers was to bridge the gap and to go back to school to better myself as a teacher of mathematics. I decided that I was going to enroll in the master's program at Michigan State because they had an online program and because it was Michigan State and when you think of a college that produces the best I could not think of a better choice. When deciding on what content areas that I was going to focus on, I of course decided on Math and Science. Also, with a lot of back and forth thinking I finally decided to focus on technology as well. Going in to the program I would have never thought that the technology portion of my master's degree would be the most beneficial but as my life changed so did my needs.

One of my first courses that I took for my Master's courses was TE 855. This course was all about how to drive mathematical instruction to a group of diverse learners. The class was a God send to me at this point in my career. The ideas that I learned and the techniques that I required really helped me with the biggest concern that I was having in my classroom. With a group of students who were struggling daily to complete assignments that I was giving them because they lacked the fundamental skills that were needed to complete them I needed a course on how to teach these diverse learners. The course taught many things from how to focus on student gaps and to find where the focus should be to how to teach math in a way that is more than just calculations and more of finding the heart of why and how to solve problems. The major idea that I took from the class was that of teaching math to students in a way that helps them master new objectives without the fear of failure that their gaps may bring. A great example of what I learned was when I was trying to teach my middle school students how to solve specific equations. The problem was not that my students did not know the steps or did not know the concepts of the problem. The problem was that they could not do the simple calculations because they were not proficient in

multiplication and division. TE 855 showed me that you need to adapt what you are doing in order for what you are doing to be relevant and at the level of your students. In the case of equations, in a normal problem such as: $(3x + 7 = 12)$, I would rewrite all of the equation problems so that the numbers that the students would have to multiply and divide would be those that they could calculate easier. In the case of the equation above I would rewrite it as: $(2x + 5 = 10)$. I would use numerals that were easy to calculate such as: 2, 3, 5 and 10. The class reminded me that when I teach equations that I need to make sure that my students are learning equations and not stumbling over their common mistakes in multiplication and division. I never could get a "true" representation of what my students did or did not understand in equations because I was not setting them up for success. By changing the numbers in the equations to numbers that were easier to multiply I could really see which of my students knew how to solve the concept that I was teaching. I was shocked to see such a big turn around in what my students were capable of doing and because they were successful in their work each student began to grow more confident in their selves. TE 855 along with teaching me about meeting students where they are and setting them up for success also taught me that as a math instructor or any instructor of a subject for that matter that you need to make sure that you are going back and helping students gain in the areas that they are not successful in. In the area of equations, I could have just changed the numbers in the equations to easier numbers and have been done with fixing that area. Instead in my course it taught me that if a student does not have a strong foundation then you need to go back to that foundation and recreate it. That is just what I did in my class; I went back and helped students master their multiplication facts so that they could become better at what they are doing and have more success in the future. I taught mini lessons (another concept that I gained in this course) where I would go through and play games and use flash cards to help these students memorize their facts. In doing so I helped create a new stronger foundation and as the year progressed we reintroduced equations with random digits and because of all the hard work on the mini lessons my students could now solve equations with minimal difficulty because they now had the skills to do so. TE 855 truly helped me when I felt like there was no hope in sight and because of that I had students who found success because of the tools and skills that I gained from this course.

As I continued to take classes at Michigan State I took an amazing class which really has helped me in my new position in teaching. I was offered my dream job three years ago teaching in the elementary school that I went to growing up. I was a little worried going in though because I was transitioning from middle school to a first grade classroom. While I was

teaching first grade my district purchased a new Science curriculum through National Geographic which was inquiry based for us to use in our classrooms. To be truthfully honest I really have never heard of the word inquiry and was not sure how inquiry based teaching took place. I chose at that time to take TE861B because this class revolved around the idea of using inquiry in teaching science. This class taught me so much about inquiry and about as a teacher the biggest mistake that you can make when you are teaching using inquiry is getting in the way. This idea of letting students explore and find answers on their own was very difficult for me. I was used to being a huge part in their learning and showing them the way. In this concept students need to inquire about why something is the way it is and then from their question they experiment and search to find the answer. I doubted this concept at first because here I was in a class of 28 first graders and in the back of my mind all I could picture was mad chaos and explosions and failure. I took inquiry small step by small step and started to hand the trust over to them. In my class we read an article about a group of students and how they were using inquiry based learning to find the answer to why certain plants in the classroom were growing at a better rate than others. I decided that this same concept was going to be the backbone of what my first true inquiry based project was going to be about. I bought all of my students notebooks that they soon found out would be their "Discovery Logs". I explained to my students what the main concept for the lab was going to be about and then I had them write and draw the question that they wanted to explore. I was shocked when I saw the questions that were generated by my students and overwhelmed that they were actually doing what my class said that they would be doing. As the experiments continued my students really took this concept very seriously and through the many days of watching and observing questions that my students had asked such as: ("Will a plant grow faster in the bathroom?" and "If you feed a plant a Monster Energy drink will it grow faster?") started to be answered. My students learned more through these experiments than anything that I could have told them in front of the class or what they could have read from a textbook. TE 861B showed me that in the area of Science students can gain more knowledge from asking questions and doing experiments than from any other resource that I can provide. I have continued to grow in the development of inquiry in my classroom and even now that I teach third grade my students and I as well have grown leaps and bounds in the area of science and I have my professor in TE 861B and all of the great readings to thank for that.

When I chose my focus areas for my Master's in Education I decided that I was going to choose technology as one. I chose this area because I have been to countless professional development seminars

that were about using technology in the classroom. I was engaged in this concept of technology in the classroom but just like inquiry I was not very familiar with it and to be honest I was not really good at using technology on any front. While taking my courses in technology I came across TE 831 and I would have to say that this class by far is my favorite class that I have ever taken. This course taught me so much about technology but the main focus was on how to use this new found knowledge and using it in your teaching. In the course I learned how to make Weebly's, websites, online discussion boards and so many other online sites that can help in the classroom. All of these new technologies were amazing but the main thing that I took away from the course was the use of video creation in the class. In the course we were asked to make a "picture" movie about something that we as teachers teach our students. At that time in science we were focusing on the life cycles of animals so I decided that I would create my video on the life cycle of a frog. With the help of my husband who is a very good artist; we created cartoon slides of a funny story of a frog and the journey that he went through from being an egg to becoming a mature adult frog. It took a long time to make this video but when I was done I was shocked at how awesome the video was. I started the unit on life cycles with this video and my students loved it and because of it they were so excited to start the unit and find out how different creatures like butterflies go through their life cycles too. I decided that because my students loved the video so much that I would create more and more of them for other things that I would be teaching. Along with videos of that nature I began to create videos of my students presenting reader's theaters, reading books to show their fluency and voice, and other events that they were involved in. Our third grade team now has their very own Youtube page that we post videos to on a regular basis so students can re-watch lessons and also show their parents and families what they have learned. Because of TE 831 and also CEP 816 I have gained a new confidence in the area of technology and have also gained many great tools and resources to help me as I continue to use technology in my classroom to teach new ideas to my students.

I have learned tons of ideas and concepts in my years at Michigan State and can not believe how far I have come with the knowledge of using Math, Science and Technology skills in the classroom. Even though I am no longer a middle school math teacher I still use what I learned in my classes in all of the subjects that I teach now as a third grade teacher. I work on building up my student's weaknesses to ensure that they are set up for success. I look for gaps in all subjects and when I find them I come up with ideas and ways to fill them. That is what is so great about the knowledge that I have gained from Michigan State. It is not one dimensional and does not only apply to one area of my career. The

knowledge that I have gained can be used cross-curricular and because of that it has made me a better teacher in more than just math and science. Also, I would have never thought in a million years that I would be using technology in the way that I am now. I have gone from a person who was reluctant about using technology to a person who is an advocate for technology in my district and has pushed for more and more integration. I never thought before my first course that I could learn so much, but I am glad that I was proven wrong and that I can use my new knowledge to help create an environment where my students will gain so much and want to become life long learners like myself.