

Teaching Narrative for Full Professor **Gabriel Matney, Associate Professor of Mathematics Education**

Philosophical Foundations of My Teaching

My teaching and learning philosophy developed through the interaction of my own teaching and learning experiences, the theories of Whitehead, Dewey, and Heidegger, and education research conducted by myself and others who seek to understand the complexity of our profession and overcome its challenges. The endeavor of teaching is foremost an activity of human *being* for human beings. Heidegger's (1996) intricate notions of *Da-sein* and *authenticity* continue to weave a resonating fabric from which I make my own teaching. As noted in the research narrative, the foundations of my research are in *designing spaces of authentic learning in mathematics* (Matney, 2004) and the research I have done informs both my teaching and my service.

Engaging others in learning and thinking, with authenticity, is a complex task. By doing so you are asking them to challenge some part of their *being-in-the-world*. In this sense, the learner is one who accepts that their being and world are interconnected and incomplete. The world that is understood is that world which is lived with, learned with, engaged with, and authentically connected with. In moments of authenticity we find ourselves learning through our temporality. Through this learning we know more about ourselves, our world, and our incompleteness because we have made the connections through our own being. By our very being we have become a *clearing* that reveals. Learners, being as such, make problematic the notion that one has control of knowledge and understanding. Each learner has a temporal-being and hence the resonant emergence of authentic knowing cannot be prescribed as if there were some direct linear causality.

Though some wish to reduce teaching to a set of pre-decided curricular activities or a logical sequence of well-developed expositions such reductions miss the shades of meaning for being. Each learner is already a being-with-world. To treat them as dissected from it is to take away what they have to say in the moment of authenticity. The philosopher John Dewey once said that "There is all the difference in the world between having something to say and having to say something" (Dewey, n.d.). The one who is coming to know things authentically has something to say. Creating dynamic classroom environments and engaging students in spaces that allow them to generate and pursue the "having of a voice" streams through all of my teaching.

It is by these means that my end-in-view for teaching seeks to perturb thought and action from each student asking them to consider in each moment of *being* the danger of our modern instrumentalist tendency toward *inert* ideas. Though Whitehead (1967), among others, warned long ago about the dangers of *inert* ideas, human beings find themselves perpetually at the very doorstep of inertness with knowledge. We wager in each moment of life whether to "receive [ideas] into the mind without being utilized, or tested, or thrown into fresh combinations" (pg. 1) or to refuse the path of apathy and deal with the ambivalence through all aspects of our *being-as-resolute*.

Engaging learners in this way overcomes traditional either/or dualism of practice that continue to ensconce our educative policies. As *Da-sein in-a-with-world* our classroom community engages in thought about educational and mathematical spaces. Through my teaching, I seek to give learners opportunities to authentically "have something to say" about mathematical ideas, mathematics teaching, other cultures, and being.

Evidence of Teaching Effectiveness

I have been working to improve my teaching since 1997 and prior to my arrival at BGSU in 2011 I had already established a reputation for good teaching. In 2004, I received the Teacher of Year award from the largest district in the state of Oklahoma for my work with students as a high school teacher. Six years later, I was honored again as teacher of the year for my teaching as a professor. The University of Arkansas Fort Smith gives the Excellence in Teaching award to one professor across the entire university. In 2010, I was nominated by my fellow faculty members and students for the award. This began a competitive process through which each nominee submitted a substantial portfolio binder (equal in size to BGSU tenure and promotion portfolios) and video records of teaching. A committee of UAFS students, faculty, and administration reviewed the submissions and selected the winner. It was awarded to me in 2010. The evidence I provide below will further elucidate the way in which I build upon research in designing spaces of authentic learning in mathematics and take care to put those ideas into practice through my teaching.

Artifact #1 Course Evaluations: In this artifact I will further explain how reflection on these course evaluations is guided by my desire to design spaces of authentic learning in mathematics. To be authentic, students' voices must become part of the course and their voices can help drive design, implementation, and learning. I will also explain how perspectives of "passive absorption" instead of "personal thinking" work against authenticity.

BGSU uses a five point rating scale with students responding to questions about the professors teaching with a range from strongly disagree "1" to strongly agree "5". From the table provided in this artifact it is easily seen that this same scale was used in every semester except Fall 2011, which was my first semester at BGSU where a similar four point scale was used instead. Students rate my teaching highly giving me scores above the mean for every course, except one in the spring of 2012. During that semester we had difficulty with our evaluation system in STL and data from only four of my 28 students came through. Still yet, my mean computed from the four students is within one standard deviation of the academic unit mean. While always being above the mean is a supportive statistic, I tend focus my teaching on the ethic of "care" more so than numbers. As such I pay very close attention to both the praise students give me and the concerns they raise. I have included all the students' comments in this artifact.

I have learned a great deal from the student evaluation process and have modified both, the ways in which I teach and the ways in which the course assessments are conducted. Although there are clearly many more positive remarks about the experience of learning in my courses than negative, I spend much more time reflecting on the negative so as to creatively adapt the class to minimize these negative experiences. Students very often come to into my courses with the expectation that the only one who should have to think about mathematics is the teacher, namely, me. One of the classroom norms I establish early on is that my courses will turn that assumption on its head. That is, they will be the ones doing the mathematical thinking, they will be doing it both individually and together, and I will be there to perturb their thinking to greater and greater depths. By design, activities and tasks are set in place throughout the course to challenge common mathematical notions the students often think they fully understand. When one is confronted with the experience that he/she doesn't really know what he/she thought was known, it is quite perplexing. Furthermore, a deep seeded knowing does not come from a simple explanation for why it's true from a teacher, but rather from wrestling with the complexities expounding from whence the idea and justification of its truthfulness came in the first place. For this reason I am not surprised when a few students state in the evaluations that at some points

they were not quite sure what the true answer was. The “answer” so to speak was presented at some point, either by me or their peers, but because these students were unable to recognize it (or “get it”) they could not see the answer when it was before them. Instead of “thinking” with the rest of us, they passively wait for someone to say, “Voila! This is it.” By the end of the course these kinds of students end up being the exception rather than the rule. But they still exist, and it spurs me on to think about how to pull them into our student as “thinker” culture rather than a student as “passive and empty vessel.”

Student feedback is always a great opportunity for introspection. Some of the questions I reflect on include: Do I, as a teacher, act fairly toward my students? Do I ask them to think critically about the mathematics they are engaging in so as to inspire meaningful learning and not just rote memory? Do students come to enjoy thinking about mathematical ideas more than they did before? Am I a helpful, caring, and available professor? Can I reasonably account for every negative comment made on student evaluations and if not am I open to change based on those comments? In consideration of these questions I believe the evidence presented in this artifact shines a positive light on my continuing improvement as a teacher.

Artifact #2 Course Observation:

This artifact contains the peer evaluations of my teaching from 2011 to 2016. Each of these were conducted by professors not in the field of mathematics but considered experts in teaching and learning. These faculty provide evidence that my work to *designing spaces of authentic learning in mathematics* is put into action in the classroom here at BGSU. In STL, the professor who evaluates you is chosen by the Chair. Dr. Susan Peet, Coordinator for Early Childhood Education observed my teaching in 2011 and gave me the highest mark of “Excellent” in every category. She highlights the way in which my teaching allows for students to generate a diversity of methods to solve problems and that those student generated ideas are then used within the lesson. This is an important point on the notion of creating space for authentic learning through providing opportunities by which students “have something to say” about mathematics. Another important point she brings up is the way in which my teaching enables students to make many connections, not only within the mathematics discipline, but between mathematics and other academic and life areas. At the end she wraps up with “In all aspects of the classroom, Dr. Matney demonstrated a high level of teaching proficiency.” The same sentiment is revealed by Dr. Nancy Fordham, Coordinator for Middle Childhood Education & Adolescence to Young Adult Programs, as she mentions the skill with which my teaching develops concepts on several levels. I explore this notion with much detail in the narrative for **artifact #5** below. Chris Brown, a lifetime educator and instructor for BGSU, gave my teaching excellent ratings in all categories and went on to say “Dr. Matney not only understands his field of expertise he understands his students and their needs. Dr. Matney spends a great deal of time and creative energy relieving the fear of math many of his college students come into his class with. He knows full well that a critical component to developing a generation of students who can and will think mathematically and feel comfortable solving problems is dependent on a generation of teachers who reflect those same qualities.” Here, Chris is observing my teaching practice and belief that if we are to reach for pedagogies that are authentic then we must understand the spaces that promote our students voices. Emilio Duran, Associate Professor of Science Education, gave my teaching excellent ratings in all categories. In regards to my teaching he observes, “His pedagogical skill forces the student to confront their own knowledge and understanding of the concepts before them. Dr. Matney also employed a variety of techniques (e.g. ‘secret thumb technique’, ‘shoulder partners’ and ‘stealing ice-cream’) to promote elements of effective cooperative learning groups.” These are observations of the

practical instantiations of my teaching philosophy. These elements of my teaching are built upon the research evidence in the field, including my own research about *designing spaces of authentic learning in mathematics*.

Artifact #3 International Course Design and Curriculum Development: One of the things that influences teaching and learning is culture. I believe that culture emerges through a wide variety of human social phenomena; from within small interpersonal interactions, to whole classroom conversations, to entire countries, our developed culture plays an important role in our learning and our curriculums. As such, this artifact represents the development and design of two international courses I created for mathematics educators which I have taught five times (3 in Thailand and two in China). Included are two syllabi, one from Culture and Mathematics Learning in Thailand and one from Culture and Mathematics Learning in China as well as some pictorial evidence from these courses. I developed and taught these courses throughout the fall semesters at BGSU. During the winter break that followed I took the students to either Thailand or China to learn about their education systems, the difficulties they faced, to exchange teaching ideas about teaching, and for us to teach students in their countries. The greatest form of evidence of the results of my work on these courses and the difference it has made for BGSU students likely can't be seen from the syllabus alone. Since I began to offer these courses our students have brought back ideas from these countries and made them reality in Ohio. For example, I have worked beside our mathematics education students as they began Math Camp (an idea from Thailand) at BGSU. Now, these students and their peers have served thousands of local K-8 students inspiring them to enjoy mathematical problem solving. Below are three links to news stories about BGSU students who participated in these courses. These news articles describe their work abroad and their work to secure external funding to make a difference here in Ohio. Additionally, three students from these courses have presented at the Global Engagement Conference and won Glass Awards; Morgan Tucker, Allison Marino, and Maria Nielsen. Another one of my mentee's, Kelly Largent, was one of the students who helped begin BGSU's Math Camps for K-8 students and recently received the university service learning award for her work which began in the Thailand course. These examples demonstrate the connected nature of teaching, service, and learning (see **Service Artifact #3**). Though I will discuss being the advisor of Math Camp in my service documents the service developed out of designing and teaching these courses and then mentoring my students to go beyond the semester long course by taking their learning and making a difference here in Ohio. As I seek to understand authenticity in the learning of mathematics these courses and the things that inspire our students to make a difference in our local and global communities is important. I offer these syllabi and links as evidence of my commitment to teaching BGSU students, both in the classroom and out of it, as I believe any experience can be a learning experience, if we are open to it.

<http://www.bgsu.edu/news/2016/03/culture-and-learning-course-explores-math-education.html>

<http://www.bgsu.edu/news/2016/09/bgsu-preservice-teachers-secure-funds-for-future-math-camps.html>

<http://www.bgsu.edu/news/2017/02/aspiring-math-teachers-multiply-their-learning-with-trip-to-chin.html>

Artifact #4 Teaching In-Service Teachers: Over the course of my career I have had the privilege of teaching practicing teachers new methods to improve their students learning. To do so I have developed curriculum specific to the needs of various districts' teachers and specific to the needs of particular grade levels. Two long term professional developments representative of this work has taken place over the last six years while I have been teaching for BGSU; Common

Core for Reasoning and Sensemaking (CORES) and Common Core for Mathematics Proficiency (COMP). CORES was a three course professional development funded by the Ohio Board of Regents and BGSU. I was PI on three grants that funded the graduate courses for the CORES program for three years (2011-2014). The COMP grant was a three year Math and Science Partnership grant from the Ohio Department of Education for researching productive professional development with teachers. These endeavors show the intersection of my teaching with my scholarship as I write grants that allow me to teach in-service teachers and simultaneously conduct research about that teaching. As evidence of these endeavors I have included the syllabi for the sequence of CORES coursework and a newspaper articles on the COMP grant.

Artifact #5 Learning Outlines: For each course I teach I spend a great deal of time creating *learning outlines* for the students based upon my planned objectives for each class and in alignment to the course syllabus. Students often comment about the usefulness of these in my faculty evaluations **teaching artifact #1**. For example, a student said “The lecture outlines make the material understandable. I am really glad that he takes the time to create them.” In the examples provided one can find that these are mostly major topics followed by large amounts of space to be filled in by the students. They also include pivotal mathematical concepts and problems to be work out, structures for organizing ideas on things such as the Common Core State Standards, as well as definitions and homework assignments. For many students the learning outline acts as a graphic organizer and is used as the basis for their study of course content and reflection of in-class material.

In order to give some perspective of the depth of my teaching I have chosen to focus on one learning outline. The learning outline I have included as an example here can be used as a window from which to see inside my intended design for the lesson, the connected way in which I see course development for authenticity, as well as the intended learning to take place on this particular class day. The artifact provided for this discussion is the first learning outline of the semester for EDTL 3230. In this artifact I provide a rationale for the teaching of the day and its connection to authenticity as well as give the original learning outline as students receive it.

References

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