Visual Thinking- "Drawing" on My Sabbatical Experience:
Lecture in Best Practices: National Art Education Association Conference
Fort Worth, Texas

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March 7, 2013

I am not often speaking in front of a group of adults; rather I stand before the adults of our future most mornings. I thank you for coming today and thank the National Arts Education Association for inviting me. It is not every day that I get the honor of sharing what it is that I do and how I think it will work better with people of like minds. Thank you.

My day as a public school Art teacher starts around 6 am. By 7:20 am. I have 9th graders giggling at me. This brings me home around 3:00 pm, just in time for the Dr. Phil Show. Now, I am not usually home in time for Dr. Phil, but when I do get a chance to finally sit down at 3:00 pm. I turn on the television and sure enough Dr. Phil is on at that time. A recent reoccurring Dr. Phil story of the month of February has been relationships and the meat of this recent story is of the sexual relationship in a marriage. As I watched this program I realized what my first story for this lecture would be. It is a Dr. Phil story. He describes sex in a relationship -when all is good in the relationship that is, having about a ten percent importance of the overall relationship. But… it has tremendous power in its absence. These words are verbatim as he explains when sex is absent in a relationship, it becomes of ninety percent importance.

The Arts in Public Education.
I was on a sabbatical for the past two years. It was the best decision I have made and it was partially due to the unresolved feelings about whether anything I did was the reason for the little 12th grader to have left the pottery wheel, gotten in trouble and then went home to blow his brains out. Countless children complain in the same manner that he did before he committed suicide that day.

It was this underlying anger that kept popping up in my attitude every now and then at work. This along with the school board downsizing the art department, the administration questioning my every expenditure, letters to the editor in the community paper about the worthlessness of the public school system, the "core" teachers snubs, and more snubs, the parents calling and texting me at home about public school issues, other teachers going crazy- in public, wondering if I would have a job after the summer and all this while the students burst out of the seams trying to take the classes that I teach. I felt like I was between a rock and a hard place. Our contract was due for renewal – and we all know how that was said to have gone…

there was a constant threat to my livelihood, art education, that made me realize I wasn't prepared.

So, knowing that my attitude was needing to be positive and proactive along with an effort to be prepared, I took a two-half year sabbatical - two spring semesters, to extend the decrease of funds coming into my household. I was approved to study the field of science, with the thinking that I could become dual certified to teach high school biology.

Can I just say to all the college professors and department chairs out there, that if there is ever someone at your door who is trying to make a change… don't -please don't, lock them out due to "pre-requisites". Seriously. I know what you are thinking, it is about integrity of the system but integrity will continue if you just fail the students who don't show up. And believe me we all know that there are those who do not 'show up', even in the online classroom. Because let me tell you that person is taking a step into another world. That step comes with more work and those who make that transition must be prepared to have to prove themselves. Please just take the time to consider them before you lock them out of the tree house.

My previous pre-requisites in science were achieved twenty years ago, I was a single mother then, I really couldn't swing the daycare (or night care) for extra lab hours. So, as limited as these credits seemed they were well fought for and science/math is and always was right up my alley. My transcripts were stellar, I have my MFA from Maryland Institute College of Art – shout out to the alma mater, but that didn't stop folks from stopping me from stepping foot into the graduate level classroom. Thankfully I found my first acceptance online at Penn State World Campus – Master of Education in Earth Science, which by the way is a very well planned online Masters program. By the end of the semester it was suggested that I join the program. But as an environmental artist I needed the big guns. I needed to know the real science, not just the stuff that you teach high school students. I wanted to draw the cadaver. So, I landed a science illustration work-study with Shippensburg University. Working under Professor Dr. Alyssa Bumbaugh and Professor Dr. Marci Lehman, I illustrated lab manuals and created online and visual learning experiences for college level science students.

Regardless of the hours that I put in, time and time again the over arching question that I had to answer was: What does art have to do with science? This was a good indication for me as to the level of seriousness in our profession. This was the reasoning for my unpreparedness and this is where we have come to in the art education field. The art class is viewed as disorderly, costly, emotional and most importantly not pertaining to the standardized test. That is what I realized and because of this, science education looked favorable to me.

Having worked in the science education world for a small bit, as I saw it the science educators have it really good. They cannot be standardized because most of all science is theory, there are only a few laws, and there are meaningful activities that

are required for hypotheses to be tried. Not so fast. As I soon found out, and possibly to the detriment of teaching creativity and thinking skills, science curriculum is being standardized. This was when the switch flipped for me; this is what I couldn't understand. The sciences change very quickly. The content is forever deepening and the concepts are vast. How and why would anyone want to slow this process down with standardization? Really? That's a different lecture.

It made me think of my budget process and about how far in advance I have to budget for something like paint color. For me, I have to know what color my students are going to choose a year and a half in advance. Have this properly ordered, secured in the cupboard so that when Susie decides to spill it (beautifully so, by the way) on her design for a Scholastics National Gold Key prize, successful entrance into college with scholarship and props from the local newspaper…we will have enough for the next year and a half before I get a chance to make real paint color change in my paint closet. Right? But this is just the paint…not the science invention.

Now, think of how long it takes for science and technology to change. Did you know that in 2012 a new particle was found that gives all other subatomic elements their mass – it is called Higgs Boson. We placed a vehicle named Curiosity on Mars and pictures are being taken and sent back to Earth as I speak. Rare, uncommon genetic variants are found to be evolving at a higher rate in humans…hmmm. Currently. The complete fetal genome has been successfully sequenced. The quantum teleportation distance record was broken. This means that we have been able to successfully teleport quantum particles, like protons, for fifty miles through open air. XNA was discovered…that's right, not just DNA, RNA but now also XNA, it is a synthetic DNA. No comment. And, the Earths Exoplanet twin has been found. This is just to name a few. All discovered in one year!

By the way, that was an interesting online conversation between the artist and the scientist, whether or not there are other beings in the universe? Are we alone? Like that online conversation where I had to cognitively restructure the stereotypical suggestion of simple differing ideas being of fantasy because it comes from an artistic brain, so is the discussion that needs to be had with our educational system. Why aren' t these fascinating topics being covered in the 2013 science curriculum while every kid has the online capacity to access this information on their phone, under their desk, and against school policy? American teachers are filing book bags with out of date worksheets, directing student knowledge in an effort to provide high test premiums, mostly against their will. Others deserve accolades try participating in making learning with paper polygons. All this while students hide their iPhones to access- just as easily as I did today from Wired.com, simple Google searches to find the Top Scientific Discoveries of 2012. It took me 30 seconds to access those fascinating science discoveries and it took me two semesters to realize that these same topics can and will be discovered, observed and covered within the four walls of my art classroom. As long as the children are allowed to be there.

Make no mistake. I am not teaching science. I am still teaching art that is full of fascinating content and this was the discovery of my year 2012. I am proud to say that I teach art in the public schools. My presence, as is the visual art presence in American education, is only more important ten percent of the time with far greater consequences in its absence. Since back from sabbatical, my students ponder if I will ever teach science in the way that I teach art. I say "yes" and they respond that they would also like to take that class. I am proud of that. Finally, I own my mistake of thinking that the things that are happening in my visual art classroom such as learning, fun, civility, kindness and respect aren't of importance. I don't believe that the people who disagree with me on this topic are my enemy. And, I know that as Aaron Sorkin stated in his commencement speech to the Syracuse University graduating class of 2012, that the first person through the wall is the only one that gets hurt. That wall is fairly high for visual art education in America right now. I have enough band-aids for all of us.

Drawing A Line

In the interest of full disclosure, my art classroom is sometimes disorderly. When my art classroom is overly orderly, creativity is in question. By working this way I am taking ownership in and responsibility for our creative minds. Manuel Lima, senior UX design lead at Microsoft Bing calls this type of thinking or action, organized complexity in RSA animate, *The Power of Networks.* It is essential to form strong, clear networks. Creativity is imperative. My projects are not always costly, but it does cost money to create amazing up to date experiences for students.

I challenge Americans interested in a better education for our children to support this form of analytical creativity. It is where innovation and invention lives and funding can have accountability here it just means that you must attend. Accountability in the Arts requires a human physically being available to view, see, feel and hear the results. I don't think it is too much to ask.

While I am on that topic and as an added disclaimer, when visiting my art classroom and engaging in the student activity (that may seem disorderly) you will find that students are practicing real life situations. These real life situations are vast and you may be surprised as to the nature of what your will find. *Be aware contents under pressure. Some content may be too intense for viewers.* There is no standard emotional response to this connection. *The content of response is in good faith, all rights reserved.*

In all seriousness, student directed learning is work. Work on the part of the teacher means that there is a buy in required on the part of the students, required by the teacher. This is all at a time when our culture is not trusting of teachers and for good reasons. In order to keep this topic on the front burner it must be simple. So, that's why I'm here today and here is my clear and simple spiel.

The Visual Arts

- Brings threshold concepts to light.
- Clarifies Brain–Behavior relationships.
- Encourages further development of more elaborate concepts.
- Provides for evaluation of internal structure of knowledge.

If you ask a student to draw, paint, sculpt the meaning of your concept you will understand what they see. If students are unable to imagine the given concept then the piece will show this giving proof that the brain and the behavior are not matching, only memorization will allow for successful test premiums. Once the brain and behavior matches, transfer of the knowledge has occurred and further development into more elaborate concepts can occur. Standardized test methods do not provide full evaluation of internal structure of knowledge for teachers to know when or how to move forward with instruction.

Visual Art in the Classroom Environment

- The Arts provides for interactivity and practice of knowledge.
- Provides for the transfer of knowledge.
- The Visual Arts are essential for ease in movement from novice to expert.

What this means is that students are likely engaged at a novice level and as long as the teacher continues to maintain control with directed instruction. When the teacher watches, directs, 'the teacher' is engaging. In the visual art classroom the shift is from the teacher to 'the student'. The students are engaged and learning occurs when they are allowed to see through the application of knowledge. Once a student is able to imagine and see the application of learning the practice is complete and the student is prepared to move from novice to expert in a stress free environment.

It's a big deal and it is simple. It is not recognizable until it is absent. It is only ten percent of the picture when everything is working but is a serious issue in its absence. And finally keep them drawing – it is the connection that defines the personal, the thinking and the overall level of engagement.

I have one art and forensic science lesson for you to take with you today. Thank you again for your time.

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