Karl Werner

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EDTECH 592

The Road Goes Ever On and On

Dr. Mary Ann Parlin

Introduction

I am a lifelong learner and explorer of the world. For the past eleven years I have made three different countries my home. Along the way, I have taught students from all over the world and enjoyed sharing my passion for music and technology with them. I remember some of the earliest days at my first school when I magically turned a whiteboard into a smartboard using two Nintendo Wiimote controls, an app on my computer, and an infrared light pen. My students were absolutely floored by this use of technology and I could not help but notice how much more attention I was getting from them. After that day, I started searching online and found the Masters of Educational Technology degree at Boise State.

During my studies I learned more about making sure technology was driven by more than just student amazement. I came into contact with theories like the Multimedia Principle and the Student Centered Learning Environment Model. Invariably, I would then be tasked with applying these principles to a project that I could use in the classroom. I appreciated all of the exposure I got to new technologies and managed to teach myself HTML and CSS coding along the way. Today I regularly design websites of my own for my professional and private use.

The biggest change in my thinking occurred when I realized that I am not the most important part of the classroom and that giving up control can be liberating for everyone. This new perspective allows me to observe more closely what is going on in the learning environment and fulfill my new role as a guide-on-the-side rather than the sage-on-stage.

Lesson One: Reflections on Learning

Educators have always struggled with the concept of how students learn. Recent history has brought us objectivism and constructivism: two seemingly incompatible ideas fuelling vigorous debate

in educational circles. The more traditional views held by Objectivism contend that the mind, like a computer, manipulates and interprets symbols to acquire meaning from an external and independent reality (Bednar, Cunningham, Duffy, & Perry, 1991). On the other hand, Liu and Matthews (2005) inform us of a competing set of ideas known as Constructivism, which holds that "knowledge is not mechanically acquired, but actively constructed within the constraints and offerings of the learning environment" (p.387). These two learning theories have had a profound effect on the way I think about learning. As I progressed through my MET studies, I employed both constructivism and objectivism in my lesson designs. However, towards the end of my degree I made increasingly more attempts to reconcile these two learning theories.

Before starting my MET degree, my lessons were mostly based on direct instruction. I would stand in front of the class and dictate knowledge as the sage-on-stage. At the time, I did not realize that direct instruction was a form of objectivism, and I was ignorant of most learning theories. Despite my pedagogical shortcomings, my initial bias towards objectivism has produced useful educational material over the course of my MET studies. One such example is my *Play the Blues* resource from Edtech 506. The goal of this resource is to help students play the twelve bar blues. The task is broken down into four sections (plus an introduction) with each section offering text, graphic, and video learning support. The student is directed to read the text, look at the graphics, and imitate the video. I have used this objectivist based resource many times in the classroom and seen students from all over the world use it to master the 12 bar blues. However, despite my initial fondness for objectivism, I became increasingly comfortable creating resources based on other learning theories like constructivism.

I deeply respect the ideas put forth by the proponents of constructivism and its conceptual progenitor, such as the Student Centered Learning Environment. In Edtech 504, my Synthesis Paper allowed me to explore the past and present of SCLE philosophy. I became familiar with ideas like

self-directed learning and authentic problems. Later, in Edtech 542, I applied these principles while constructing my [Student Driven Performance PBL](). This project asks students to produce a performance based on research into various performance practices from around the world and across time. Students are split into teams that each have to produce a product or service for the final performance. The role of the teacher is to facilitate student ideas and ensure that teams and individuals are on track to meet their goals. Although I have not had a chance to implement this project design, I am looking forward to assuming my role as the guide-on-the-side rather than the sage-on-stage.

As the evolution of my thoughts on objectivism and constructivism continue, I cannot help but notice the connections between these theories. As a music teacher, I see how the acquisition of a skill acquired through direct instruction can scaffold the independent expression that is central to constructivism. An excellent example of this progression can be seen when a student finally does complete my *Play the Blues* resource. After learning how to play the 12 bar blues the student is finally free to improvise off of its structure which is a key component of the blues style. I look forward to continue my exploration of learning theory well after my MET degree is complete.

Lesson Two: The Art & Science of Teaching

In education, we are often faced with methods, philosophies, and pedagogy that are presented to us as either-or propositions. Scientific research points the way towards a brighter future based on verifiable results, but some professionals bemoan the abandonment of the more artistic or human aspects of our profession. However, I believe we sometimes forget that the questions we ask frame the answers we seek. The dichotomy of teaching as science or art may not be a choice we need to make. As a music and technology teacher, I routinely witness how tech-based instruction, fuelled by solid methodology, can interact with an artistic pursuit. This interaction and my MET studies have caused me to see the artistic, scientific, and inherent flaws in the dichotomous perspective.

At the beginning of my studies, during Edtech 501, we examined the roots of educational technology, some of the theories driving it, and some of the problems it faces as both an art and a science. In many ways, science-based pursuits in education have been driven by educational technology, starting with the desire for classroom computers in the 1970s. The cost of these new machines drove research into justifying their educational effectiveness, and the results were not what was expected. Many students saw little to no gain from the inclusion of technology as Keengwe, Onchwari, & Wachira (2008) point out (p.78). Fouts (2000) offers clues into how our science could be failing us when he states that "many experimental practices have been allowed to jump from Level I research straight into the professional canon" (p.03). In other words, our desire to embrace these new educational tools outweighed the proper application and understanding of pedagogical technique. Through this realization, it became clear to me that the use of education in the classroom needs a solid foundation in educational theory.

In an effort to properly employ technology in the classroom, I steeped myself in pedagogical theory throughout my MET studies. Soon I became familiar with the research behind Student Centered Learning Environments by producing research based papers, such as my Synthesis Paper and Chapter Summary. After completing this research I felt I had a basis for implementing this theory in my own teaching. Consequently, I redesigned my old M2world classroom website to take advantage of SCLE principles. This new design promotes a student centered approach by providing students with all of the resources necessary to complete the unit goals in an easily accessible, non-linear way. It allows students to work independently on different parts of the unit objectives simultaneously. One student can be reviewing how to count a measure while another is learning about musical form. Each student can tailor his/her classroom experience to fit his/her own learning needs. I have not had a chance to use this newest site in the classroom yet, but I am looking forward to evaluating its impact on student learning. For the time being, I am proud to have put scientifically based SCLE principles into practice.

Although I have gained excellent insights due to the proper application of scientific principles, I have also found my artistic side useful when communicating with students. During Edtech 506, design and interpretation came to the forefront of my MET studies. For this course, I created a series of graphics intended to help students gain a historical perspective on various musical styles that influenced the birth of modern popular music. My [Roots of Rock n' Roll](#) lesson incorporates this design work, and I believe each graphic does an excellent job of conveying the essence of each musical style. This point on artistic communication is particularly true of the *Slavery* graphic. To create this graphic I took a picture of a slave, cut out his folded hands, and ran them through several Photoshop filters until I got the correct black and white effect. I completed the work by adding a blood red gradient to the word 'Slavery.' When combined, the folded hands and title balance each other and help communicate slavery's gravity and brutality. Many students have made positive comments on these graphics over the years, and although my Roots of Rock n' Roll lesson was based on CARP design principles, which has a foundation in researched theory, I found the work in Edtech 506 artistic and highly effective at helping me communicate my ideas to students. Today I use many of the same principles when designing websites and other instructional materials.

I believe the answer to the question of teaching as science or art came to me during Edtech 542 with my [Student Driven Performance PBL](#). The methodology behind Project Based Learning is heavily dependent on the Student Centered Learning Environment methodology. In this project, the students guide their own learning by researching, deciding, organizing, and producing a performance of their own. That independence and focus on the student at the center of education gave me the answer I sought. In the end, I realized that the art versus science debate placed so much emphasis on what was going on at the front of the classroom that the empowerment of students in their own learning was being ignored. Art and Science will always have a place in learning, and the importance

of a good teacher steeped in modern pedagogy and armed with the latest technology is a powerful force. However, we should never lose sight of the power of a student driven to succeed.

Lesson Three: The Design and Evaluation of Instruction

Before starting my MET degree, I had created several designs for instruction but I was not familiar with the formal process of evaluating my designs for effectiveness. Previously, I would create instructional material based on what I felt was appropriate and make adaptations as I observed either the success or failure of my design. While this approach achieved some positive results, it was not the systematic approach that I later became familiar with during my MET studies.

After teaching at Istanbul International Community School for a year, I knew that I needed to improve the learning environment by improving the band, choir, and strings program. IICS did have these ensembles in place, but numerous problems with how they were being implemented meant that the experience students were having lacked the authenticity that I associated with being in an ensemble. In an effort to improve this situation, I decided to design a pullout model for the music program which removes students from a portion of class time to attend small and large group rehearsals.

I knew that explaining to administration the issues I was seeing in the music program and the proposed pullout model would be a key component for success. However, I was unsure about how to prove my model would be a success. Luckily, I had the summer to plan and happened to be taking Edtech 513 (Multimedia) and Edtech 505 (Instructional Design). Through a combination of the skills and knowledge I learned in these two courses, I was able to design an effective presentation to explain my ideas and evaluate it for successful implementation.

While creating my Pullout Program Presentation, I knew I wanted to avoid the tedious power points I have oftentimes been subjected to in my teaching career. I also wanted to make certain I

covered my proposal thoroughly and allowed viewers to watch it on their own time. After mapping out the information that needed to be included, I consulted my Edtech 513 course text to get a better idea of how I could make my presentation more effective. I discovered The Multimedia Principle which advocates for the use of succinct text and that narration should expand upon what is on a slide without reading out slide text word for word (Clark & Mayer, 2008, p. 56). Consequently, I created my Pullout Presentation with the idea that I would add narration to each slide that expanded upon the bullet points presented. I also unified the color scheme between each slide group to help the viewer know when a new point was being raised. Finally, in order to allow my administrators to view the presentation independently, I placed a video of it online and shared the link in a formal email. After some follow-up meetings with my administrators, I was pleased to learn my pull out design would be implemented the following year.

In preparation for the implementation of the pullout program, I knew I needed to maximize its chances for success so I chose to discover these factors through my Program Evaluation report. I had never done such a formal evaluation before, but as I became familiar with the process, I was taken with a diverse set of skills needed to conduct a successful evaluation. I believe Campbell, Schwier and Kenny (2006) made a valid observation when they stated that instructional design is "an active practice based on community, practical reasoning, personal perspective, and semantic innovation involving memory and leading to action" (p. 15). After going through the evaluation process myself, I agree with this statement completely.

In order to effectively evaluate the success of the Pullout Program, I set out to define what success meant to various stakeholders and the barriers I might encounter. During this stage, I learned a lot about evaluation being an "active practice" through the design of focused surveys and tracking down subjects during the summer months. While interviewing subjects, I gained excellent insight into how music programs fail or succeed. One particular subject warned me that the transition between a

pullout program and a full music class can be difficult. I also gained a better appreciation for the misconceptions some teachers had about the new pullout program. After compiling and analyzing my results, I was able to avoid the problems that normally impact this type of implementation. In the future, I plan to use these skills again to help me better understand the impact and effectiveness of my designs.

Lesson Four: Networking and Collaboration

I have always enjoyed the social aspect of teaching. Interacting with students and other faculty is one of the primary reasons why I became a teacher. However, before starting my MET degree I rarely collaborated with other teachers beyond asking a simple direct question. I also wasn't aware of the various forms that collaboration can take, or the many tools available to facilitate it. As I progressed through my studies, I found that collaboration oftentimes offers up unexpected learning opportunities.

One of my first truly collaborative experiences during my MET degree was during Edtech 505 with my Project Evaluation Report. During this evaluation, my team and I sought to assess six different science websites for usability, content, educational value, and vividness in order to determine the likelihood that they would help create optimal conditions for learning. To communicate, my team and I agreed upon a meeting time and conducted a group skype call so that we could edit our google slides presentation together. Since I was living in Istanbul at the time and my peers were all across the USA, I was struck by the power of the collaborative tools we were using. Since that experience, I have favored Google applications over OS based applications, like Microsoft Powerpoint, because Google's offerings are built with sharing and collaboration in mind.

The collaborative work done on my Project Evaluation Report also allowed me to teach others and learn new skills. As is noted in the *Credits* section (p. 35), I helped design the analysis charts and

conducted training in Google Draw. What is not mentioned are the pointers I received on using Google Sheets from one of my group members and the genuine feeling of collaboration that made building this project a pleasant experience. McClure (2008) confirms my experiences when she states that teachers feel a "greater personal satisfaction when they believed in their own efficacy, were involved in decision making, and established strong collegial relationships" (McClure, 2008).

While studying the effects of collaboration on teacher and student learning, Burton (2015) observed that three common themes emerged during research. These themes include "(1) sharing of common goals, (2) shared ownership in student learning and school improvement, and (3) focus on improving instructional practices" (p.70). While working with my subject matter expert during my Instructional Design Plan, I noticed these traits of positive collaboration.

The Instructional Design Plan (IDP) I completed for Edtech 503 focused on teaching the staff at Istanbul International Community School how to create online resume portfolios. This instructional task was delegated to me and a team of fellow teachers by the IICS administration. The leader of our team, and my subject matter expert (SME), was an educational technologist with several years experience. I began my IDP by developing our goals and making sure everyone on the team was invested by delegating certain tasks. For example, I created a slideshow presentation that was used during instruction. While implementing the educational design, my SME was careful to observe and give me feedback on what he felt needed improvement. One such suggestion was that we needed to add plugins so that teachers could easily embed PDF and Microsoft Word Files. He also suggested that we should avoid trying to teach the staff CSS coding. At the conclusion of this plan, I had a great appreciation for evaluation skills my SME displayed and I continued to consult with him on various educational topics throughout my time at IICS.

Lesson Five: The Research-Practice Connection

During my undergraduate studies I was exposed to few educational theories and some peer edited research. At the time, research papers were a maze of confusing jargon and ideas detached from the reality of teaching. I held these views because the connections between research and practice were never made clear. However, throughout my MET degree I have had several opportunities to explore the link between research and practice through the alignment of learning resources, standards, and assessment.

Current research indicates a positive impact on learning results when resources, standards, and assessments are aligned. In fact, the site District Administration (2004) notes that "An analysis of international studies shows implementing and monitoring an aligned curriculum to result in a measurable impact (31 percentile points) in student achievement" (Administration, 2004).

One of the more straightforward forms of alignment can be seen in my Student Learning Guide from Edtech 542. This guide aligns my Student Driven Performance PBL project assessments with 21st Century learning goals. The alignment ensures a link between the research these goals are based on and the assessments I am requiring. By examining this learning guide, anyone interested can see that success on my assessment will indicate a 21st Century learning goal competency. Furthermore, each assessment task is vertically aligned by building on the previous task to help students achieve the end goal. For example, at the beginning of the project students are tasked with researching a performance practice of their choice in small groups. Their goal is to convince their classmates that the performance practice they researched should be used as a model for the final performance. After this formative task, other assessment tools, such as individual interim reports, help keep students on track while team reports help to focus group efforts. Throughout the process,

students reflect on their experiences in an online journal. With each assessment task tied to a learning goal and vertically integrated, research suggests that the impact on this design will be substantial.

Another example of alignment can be found on my latest music2theworld.net website within The Trout asset plan. In addition to basing my site on the Student Centered Learning Environment Model, The Trout seeks to align all of the unit's resources, tasks, standards and assessments. This type of alignment is advocated for by researchers like Hutchings (2016) when he states that "Alignment requires overarching planning and vision from the top, and resources to enact that vision" (p.11). I implement this "overarching plan" on the The Trout by offering a tabbed menu at the top of the page that gives you an overview of the unit, explicitly states the learning goals, links to required skills, lists all of the unit assessments and states the MENC standards covered. Furthermore, in the *Related Materials* section there is a sortable media grid that contains links to all of the resources, formative, and summative assessments necessary to address the unit objective. Further exploration will reveal that each assessment is vertically aligned and that many of the resources build on each other to teach critical knowledge and skills. I have not had a chance to use this latest version of the Trout in a classroom environment, but am excited to see the impact this type of "overarching plan" will have on students' learning.

Through my MET degree I can now see the connection between research theory and practice. I am looking forward to expanding my knowledge base and putting solid research to work in my classroom.

Closing Thoughts

It has taken me a full seven years to complete my MET degree. I did not plan on such a long road, but in hindsight I am glad I took my time. The extra years of experience have allowed me to look back on my earlier projects and see a real progress in thought process and execution. Now that I am almost done with my degree, I am looking forward to continuing my development as an educator and exploring new techniques, educational theories, and technologies. I also hope to help other teachers

better understand and employ technology in their classrooms by becoming an educational

technologist. Whatever the future holds, I am confident that my Master's of Educational Technology

degree from Boise State University has prepared me for it.

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