

Chapter1: Understandings

For learning to take place with any kind of efficiency students must be motivated. To be motivated, they must become interested. And they become interested when they are actively working on projects in which they can relate to their values and goals in life.-Gus Tuberville,

Come One, Come All, Education One Size Fits All! Imagine if the school system was promoted in such a manner! I believe more people would be skeptical about sending their children to such an establishment all day long, five days a week. Students need to feel independent, have room for personal growth, and be able to make connections to their own environments. Students need to be consistently motivated and challenged in a manner that incorporates their individual needs. Brain researchers explain that learning occurs when the learner experiences neither boredom nor anxiety and is neither over-nor under-challenged, (Jensen, 1998). Finding this individualized outlet for all students is challenging. Each year my multimedia classes consist of students that have various technological skill levels, students that are English Language Learners, and mainstreamed special education students. As a result I find myself increasingly needing to individualize instruction in a variety of ways. I wanted to explore how to optimize this juncture of my classroom and it brought me to my action research question, “What happens when I use differentiation strategies to design multimedia projects?” As a result of this project I hoped to have students creating memorable projects that impact, motivate, and challenge each individual student regardless of their entering skill level, background, gender, or learning style.

There were a few areas that I particularly focused on in this action research project. First I utilized differentiation as the cornerstone to vacating the “one size fits all” mentality that is the

general practice of instruction in the public school system today. Differentiated instruction (DI) is teaching with student variance in mind. It means starting where the kids are rather than adopting a standardized approach to teaching that seems to presume that all learners of a given age or grade are essentially alike. Thus differentiated instruction is “responsive” teaching rather than “one-size-fits-all” teaching. A fuller definition of differentiated instruction is that a teacher proactively plans varied approaches to what students need to learn, how they will learn it, and/or how they can express what they have learned in order to increase the likelihood that each student will learn as much as he or she can as efficiently as possible (Tomlinson, 2003, p. 151).

My action research project focused on one multimedia course, the students, and its overall content. Multimedia has been described in numerous ways yet “one commonality among all multi-media definitions involves the integration of more than one media” (Jonassen, 2000, p. 207). Examples of multimedia include, but are not limited to, text in combination with graphics, audio, music, video, and/or animation.

With the implementation of differentiation strategies into my multimedia curriculum I was hoping to see an increase in students’ intrinsic motivation. Intrinsic motivation is a concept described by psychologists as the motivation that comes from within a person to accomplish a task or goal. Intrinsically motivated people are not influenced by external rewards or punishments for their work, such as earning money for doing a job or getting a poor grade on a school assignment. Individuals with intrinsic motivation choose to perform tasks because of the inherent pleasure or sense of accomplishment that comes from a job well done (Jeffress, 2010, ¶ 1).

What a Differentiated Multimedia Classroom Looks Like

There are many myths about the effectiveness of a differentiated classroom. Some of the more common ones are (Benjamin, 2005):

- DI consists of students doing exercises in self-correcting workbooks
- DI is the all-purpose problem solver
- DI means that the teacher does not present information
- DI does not work in classes where students have to master a body of information for a high-stakes test
- DI is mainly for students with learning deficits
- DI means dividing the class into “bluebirds” and “redbirds”

The real truth about differentiating is that it is “invisible” to the students. This means that students don’t feel that they or others are “getting off easy” or made to do “harder work” for the same grade (Benjamin, 2005).

As my action research progressed throughout the year my newly implemented differentiated classroom transformed into a place where strategies were focused on individual learning styles, connections to real world problems and issues, and challenges and assignments that were tailored to fit the needs of all students.

My first step in implementing DI was to modify my current multimedia curriculum. I reconfigured my assignment structure using Sternberg’s Triarchic Theory: creative, analytical, and practical learning styles. Dr. Sternberg's Triarchic Theory of (Successful) Intelligence contends that intelligent behavior arises from a balance between analytical, creative and practical abilities, and that these abilities function collectively to allow individuals to achieve success within particular socio-cultural contexts (Sternberg, 1988, 1997, 1999). Analytical abilities

enable the individual to evaluate, analyze, compare and contrast information. Creative abilities generate invention, discovery, and other creative endeavors. Practical abilities tie everything together by allowing individuals to apply what they have learned in the appropriate setting (Plucker, 2007). I linked Sternberg's structures with Tomlinson's (2001) ideas that state that teachers can differentiate three things: the content, which is the *what* of teaching; the process, or the *how* of teaching; and the product, which is how students *demonstrate understanding* of their learning (Tomlinson 2001).

Assessment of student content and product was also differentiated. Students were evaluated on personal growth based on entry and exit points, peer/self-critiques and evaluation, checking for understanding through various reflection practices, portfolio compilation, and rubrics designed to fit understanding of content. I also provided choice within assignment structures and created projects that offered personal challenges and growth to each individual student.

What this meant to my classroom was establishing tiered assignments for flexibility to meet the different needs of students (content), providing choice in producing the assignment content (process), and assessing the project outcomes in a variety of methods (product). Generally I would create one outline of an assignment and expect all students to follow it by adding their own presumed creativity but not through choice or process. As an experiment I differentiated an existing photo restoration project that now provides choice in the student's process and preference to their individual learning styles. A partial assignment example can be seen below:

Choose and complete one of the project options below:

| | Creative Learning Style | Analytical Learning Style | Practical Learning Style |
|--------------------------|--|--|---|
| Photo Restoration | A. Choose and restore two old photos, add color (to one photo), repair cracks, tears, colors, lighting, etc. to both. Once complete write a one-page (double spaced) story about each photo. This is a fictitious story that you create-be imaginative. | B. Find and scan two old photos to restore. In one of the photos remove five elements; stationary objects, people, animals, nature, etc. In the second photo add five elements to enhance the image you may use color, physical objects, and other attributes as you wish. When finished with both photos describe how and why you removed or added the elements to each. Also explain if your restoration improved the photo once finalized. | C. Restore two old photos repair the color, cracks, tears, etc. Once complete write about each photo and describe the images as if they were from your own photo album. For example you might discuss family life, social and economic issues of the time, where the picture was taken, and any other relevant information that you want to include. |

The introduction of differentiation into existing and future assignments will continue to increase student engagement and motivation for the class material. The importance and power of differentiated classrooms is further discussed in the next section.

Arguments for Implementing Differentiation Strategies

Learning can be described as a highly personal process in which each person absorbs and retains information and skills (Dunn, 1984; Teele, 1999; Williamson & Watson, 2006).

Differentiated classrooms support various types of learning by providing individualized pathways for each student to follow, one of the reasons I felt implementing DI would enhance my current course content and increase students' intrinsic motivation.

Tomlinson states, "The opportunity to learn in ways that make learning more efficient is also likely to make learning more effective. Attention to a student's preferred mode of learning or thinking promotes improved achievement." (2001 p. 153-4). Based on this research and tailoring

to the needs of various learning styles I adapted my curriculum as necessary to pay more attention to learners' needs. The benefits for the individual student, the class as a whole, and increasing engagement for the course content is what I expected to establish from the incorporation of learning styles and DI.

Research has also shown that regardless of how they are assessed, students who are taught in a way that is a better fit with their preferences outperform students who are taught in a way that is a mismatch for them. In other words, "They outperform students instructed in conventional ways, even if the assessments are for straight factual memory" (Sternberg & Zhang, 2005). There is some thought that teaching in areas of strength encourages deeper, more elaborate, and more diverse encoding of material than does learning in less preferred modes.

We should differentiate instruction when doing so would be the best means to solve a problem. We should use technology in education when doing so would be the best means to solve a problem. Technology is the best way that I know of to differentiate instruction because technology facilitates classroom management, provides an infinite variety of resources, and affords privacy (Benjamin, 2005). The opportunities in technological instruction in the course combined with differentiated instruction are a powerful tool that evolved from this action research project. I was able to explore new avenues that enhanced not only the students' learning experience with multimedia but also my personal delivery of the course content and connection to the students. I wanted to motivate students to continue to learn and understand what their "best" is, that they can take ownership and pride in their work, and from this arises self-confidence. I also wanted the students to realize that these methods may help them to succeed outside of our classroom and beyond our small circle.

Using Differentiation to Increase Intrinsic Motivation

One of the most frequent failures in education is that students rarely say that they find studying to be intrinsically rewarding (Csikszentmihalyi & Larson, 1984). This is a critical problem. One of the most straightforward conclusions of research from the past two decades is that extrinsic motivation alone is likely to have precisely the opposite impact that we want it to have on student achievement (Lepper & Hodell, 1989). In my classroom I also focused on increasing students' intrinsic motivation for multimedia projects. I did this not only by using DI strategies but also by incorporating learning profiles.

There are a variety of ways to increase intrinsic motivation. I integrated some favorable elements that have been proven to improve intrinsic motivation. Malone and Lepper have comprised a large amount of research on motivational theory into a synthesis of ways to design environments that are intrinsically motivating. They subdivide factors that enhance motivation into *individual* factors and *interpersonal* factors. Individual factors are individual in the sense that they operate even when a student is working alone. Interpersonal factors, on the other hand, play a role only when someone else interacts with the learner (Edward, 2006). In my classroom I infused the DI strategies, content, process, and product along with some of the motivational factors that seemed best tailored to the needs of my curriculum and the individual students.

Following are some examples:

- Challenge- People are best motivated when they are working toward personally meaningful goals whose attainment requires activity at a continuously optimal (intermediate) level of difficulty.
- Control- People have a basic tendency to want to control what happens to them.

- Curiosity-Something in the physical environment attracts the learner's attention or there is an optimal level of discrepancy between present knowledge or skills and what these could be if the learner engaged in some activity.
- Competition- Learners feel satisfaction by comparing their performance favorably to that of others.
- Fantasy- Learners use mental images of things and situations that are not actually present to stimulate their behavior.
- Cooperation- Learners feel satisfaction by helping others achieve their goals.
- Competition- Learners feel satisfaction when others recognize and appreciate their accomplishments.

In order to reap the benefits of intrinsic motivation, individuals must focus their efforts on subjects and goals that they find interesting. Tasks should be fully understood in terms of cause-and-effect, real-life usefulness, and attainability. People who are able to realize their potential and work towards internally meaningful goals are usually able to enjoy long-term success and satisfaction (Jeffress, 2010, ¶ 4). What a profound affect this action research project has had on my classroom and the students. Incorporating the pathway to personal motivation and success, allowing room for personal identity, and implementing various strategies to increase learning and motivation opened many doors to me and my students.

Effects Differentiation Instruction can have on Students Multimedia Projects

In the course of my action research project the impact of DI, learning styles, and motivation tactics have had a great impact on many levels. I expected and began to see changes in the following:

- Students felt successful within the course regardless of technological skill level, ethnicity, background, gender, or learning ability
- The course content became more relevant to the students and they made more valuable connections to it
- Students were able to recognize and utilize various learning styles within the multimedia classroom
- Projects were more memorable, ridding the “trash can assignment” mentality
- Students’ intrinsic motivation for the course content improved over time and so did mine

Starting small and testing the water was an exhilarating and interesting voyage I embarked on during this action research project. The overall implementation of DI was an added supplement to my course that enhanced student’s engagement and motivation for their multimedia projects. In the end I felt that this project was of vital importance and engaged me on a journey that continues to enhance not only my personal growth as an instructor but also that of my students and my colleagues.