

## What Happens When I Use Differentiation to Design Multimedia Projects?

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### Author Note

I would like to dedicate this research to the inspirational people in my life that have encouraged me to continue my education. My family, friends, students, and colleagues, they made this journey a reality; I could not have done this without their support. Correspondence concerning this paper should be addressed to: Riana Bucceri, Email: [rianabucceri@gmail.com](mailto:rianabucceri@gmail.com).

## Abstract

Is it possible to engage all learners in one single classroom? I have found that each year the students come from many different backgrounds, various readiness levels, learning profiles, and interests. There is a struggle to meet the needs of so many variances in one class period day after day. I implemented differentiation strategies into the design of my curriculum to increase engagement, intrinsic motivation, and ownership of projects. My action research project involved eighteen students at Coronado High School, a public school located in Coronado, CA. The research involved one animation class spanning the course of twenty two weeks which included various skill building exercises and two large final animation projects. The students in the class were introduced to differentiation by using their individual learning styles to design their own projects based on background, interest, and skill level. The students provided feedback through exit cards, interviews, drawings, reflection books, and simple animations. The data from such was evaluated and I was able to conclude there was a growth in student motivation, project quality, engagement for content, and pride in the final product. We are not reaching all students through a one size fits all mentality classroom. To meet the needs and effectively engage and challenge all students in the classroom implication of differentiation is a must.

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## *Introduction*

As the new school year begins I look over the computer lab anxiously awaiting the students' arrival. The bell rings and the students begin to file in. I do not interfere with the seating arrangements and I watch as the usual patterns begin to occur, girls sit by girls and the boys rough house and joke around with each other until the final bell rings and then find a seat. The energy and excitement of the first day is upon us. The students are already asking, "Can we turn on the computers? May I get on the Internet? What are we doing today?" It is hard to believe how excited they are over the use of computers every year regardless of which class it is, animation, photography, graphics, etc.

But as the school year moves on some students seem to become distracted, unmotivated, and disconnected to the class material yet others are continuously challenged and motivated by the course content. As I look around I have come to the realization that various types of groups tend to form as a result of this:

***I'm here because I have to be not because I want to; my schedule forced me into this class:***

"Why do I have to do this? What does this mean to me? When will I need this again? Do I have to?"

***The non-technological student, always in need of reassurance:***

The computer hates me! I will never be able to do this; I'm not smart enough! Help, Help!

***All in moderation student do just as much as I have but when I feel like it:***

"I'll get it done by the due date, no worries Miss B. What exactly do I need to get an A? Is this enough?"

***The advanced media student, I get everything done in a big hurry:***

“This is boring, what can I do next? You’re not finished yet, don’t you get it? I already know how to do this! Can I work on other assignments/go to the library?”

***Technological superstar picks up and executes new things with ease:***

“What else can you show me? Have you ever heard of this? Check this out Miss B? Can I come at lunch and work?”

The classes and student interests, cultures, backgrounds, etc. vary from year to year, but one main trend has stayed the same, a variety of technological levels and learning styles in the classroom. The challenge of serving so many students’ needs is continually progressing, especially with the increase of technology use outside of school. It seems nearly impossible to individualize instruction for so many students and to keep them all equally motivated in such a diverse environment.

I have used various teaching strategies, created an array of assignments over the years hoping to motivate and interest more students, tried to adapt to students learning styles, and also keep up with emerging technological advances. Although these processes have kept my classes flowing and students learning to a point there seems to be much more to do to increase students’ motivation. I want the students to ultimately see themselves as effective creators and problem solvers of multimedia. Therefore I feel they need intrinsic motivation and challenge to reach this goal.

The school year is now coming to an end and as I sit back for a brief moment and these reoccurring thoughts submerge:

- How many students were left behind or felt left out?
- Why was one project more motivating to the students than the others?

- What would have kept them further intrigued with other assignments?
- What can I do next year to further engage more learners (there are so many levels in one typical classroom)?
- How do I make the curriculum design and delivery more captivating to all students?

So many questions but where do the answers reside? This brings me to my research question I would like to further investigate, “*What Happens When I use Differentiation Strategies to Design Multimedia Projects?*”

I would like to study this research question through student surveys, newly developed projects involving differentiation, analyzing student feedback, collecting student artifacts, journaling activities, taping classroom interaction, and field observations.

## *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:**

	<b>Creative Learning Style</b>	<b>Analytical Learning Style</b>	<b>Practical Learning Style</b>
<b>Photo Restoration</b>	<b>A.</b> 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>B.</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.	<b>C.</b> 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.

## *Chapter 2: School and Classroom Setting*

### *School Setting*

My research was conducted at Coronado High School (CHS), a public high school located in Coronado, California. CHS is part of the Coronado Unified School District (CUSD), a very small district that consists of two elementary schools, one middle school, one high school, and an academy high school for challenged and/or struggling youth. At CHS the special education classes are held within the school day and the students attend classes amongst the other students in various classes including academics and electives. There is no admissions requirement for Coronado High School, other than being an active resident, except for admission into the Coronado School of the Arts program, a conservatory arts program at CHS. The average class size has changed in recent years and is slowly on the rise increasing to 30:1 or more.

Coronado High School has long been known for its rigorous academics. The high school has won numerous national Blue Ribbon School and CA Distinguished School awards. The academic expectations are high at CHS, yet there is a laid back vibe that runs throughout the high school. The assistant principal and principal can be seen hanging out with other teachers or kids at the lunch table, and the teachers and kids wearing flip-flops, surf gear, and Hawaiian shirts are also a common scene on campus. The personal connections that the teachers have with one another and with the students is one of the school's greatest strengths: there is a definite sense of community. The student body is also actively involved in sports, an abundance of clubs, Reserve Officers' Training Corps (ROTC), Coronado School of the Arts (CoSA), and other activities related directly to school.

The community is small and involved with the school at a personal level. The district communicates with parents, students, and staff utilizing an online grading, attendance, and informational system that can be accessed from a computer anywhere. The CHS staff has a rotating meeting schedule that meets weekly for 1.25 hours. The meetings are rotated weekly so that areas of professional development are practiced, all staff meetings and activities are executed, and also individual departments are given time to collaborate.

The demographics of the school vary from year to year. As a whole, CHS and the district population are not as diverse as the San Diego Unified School District, which is one of the largest surrounding districts to CUSD. See chart below:

***2008-09 District and School Enrollment by Ethnicity***

Data provided by California Department of Education: [dq.cde.ca.gov/dataquest/dataquest.asp](http://dq.cde.ca.gov/dataquest/dataquest.asp)

<b>Schools</b>	<b>American Indian or Alaska Native</b>	<b>Asian</b>	<b>Pacific Islander</b>	<b>Filipino</b>	<b>Hispanic or Latino</b>	<b>African American</b>	<b>White (not Hispanic)</b>	<b>Multiple or No Response</b>	<b>Total Enroll.</b>
CUSD	18 (0.6%)	97 (3.2%)	21 (0.7%)	93 (3.1%)	478 (15.7%)	64 (2.1%)	2,147 (70.6%)	123 (4.0%)	3,041
CHS	8 (0.7%)	31 (2.8%)	6 (0.5%)	34 (3.1%)	191 (17.1%)	19 (1.7%)	785 (70.5%)	40 (3.6%)	1,114
SDUSD	686 (0.5%)	11,802 (8.9%)	1,372 (1.0%)	8,717 (6.6%)	58,740 (44.4%)	17,471 (13.2%)	33,468 (25.3%)	0 (0.0%)	132,256

There are some outside factors that do play into the demographics at CUSD. Within CHS exists a school within a school that focuses on various art forms: the Coronado School of the Arts program, also known as CoSA. Within the CHS 1,150 student population approximately 200 are involved with the CoSA program. CoSA is a conservatory arts program for students in

grades 9-12. The departments in CoSA consist of dance, digital media, instrumental music, musical theater, technical theater, and visual art. The program reaches out to all students of San Diego County and invites them to apply for admission. I feel this program is important to the population of students at CHS because it brings in a diverse mix of students. It also adds to the creativity of our current student body and allows students to access an elite arts program not offered elsewhere. The admission process consists of a portfolio review or performance, interview with department instructors, a written student essay, grade evaluation, and most of all, student interest and dedication. Students apply from all over the county and are subject to a waiting list when the high school has reached full capacity.

The CoSA curriculum is connected to real world projects, practices, and industry professionals. The average CoSA class size is 20:1 or less and allows for advanced instruction in specialized arts career areas. The four year curriculum allows for in-depth exploration and execution of the subject matter in a conservatory extended school day program.

### ***Classroom Setting***

The basis of my action research project was how using differentiation affects student's learning and motivation for class content. At CHS we have digital media electives within the general student population and within the Coronado School of the Arts (CoSA) program. The digital media classes are made up of Digital Photography, Animation, Yearbook, Video Production, and Electronic Music. The digital media department consists of four instructors including myself and we educate approximately 350 students. The media classes I teach are a mix of general school electives and CoSA digital media classes: Animation, Digital Photography, Visual Communication II-IV, Multimedia II-IV, and Design in New Media III-IV.

In the digital media department we have built in various projects that require traditional art methods and digital techniques. Therefore the classroom is a not only a lab environment but a place where various art mediums take place simultaneously amongst digital forms. We have a philosophy that the computer is only a tool as is a paintbrush and the foundations and practices of traditional art forms are key, conceptualization, problem solving, critical thinking, and exploration of self.

The classroom environment consists of 23 IMacs, desks with ample space for drawing, a small cubby space with a kitchen, drawing tables and relaxation stations in the front and back of the room, and extra storage spaces for traditional art materials and supplies. The walls are covered with student artwork, posters, etc. and changed regularly so all students have many chances to display final projects. My classes engage in a variety of mediums but one thing is consistent, the emphasis and passion for exploring and learning new things regardless of the tool used.

I have chosen to focus on students from one animation class at CHS to conduct observations, surveys, interviews, and focus groups. This class tends to have the most varied skill level and diverse students. I introduced my action research project to the students at the beginning of the year and it was clearly evident and agreed upon by the students, parents, and administration before the final execution of this project.

### *Chapter 3: Data Methods and Analysis*

#### ***Data Methods***

**Surveys:** In the first week of class I administered a general survey to eighteen students, in my multimedia animation class. The survey was a very important part in assessing students' overall technological skills, how often and for what purpose they spent their time using technology, if they had access to computer use outside of class, if they knew what multimedia was, were motivated overall in school, at home, and how they felt when learning new software material (Appendix A). Following are sample questions from the initial survey:

**1. Do you have access to a computer outside of school?**

- A. Yes, all the time
- B. Sometimes, limited use (library, relatives, etc.)
- C. No, not at all

**2. Rate from the following from 1-4, 1 being the lowest score. What computer activities do you spend the most time doing?**

- \_\_\_ Playing games
- \_\_\_ Visiting social websites (Twitter, Facebook, etc.)
- \_\_\_ Doing something creative (video editing, photo manipulation, animation, etc.)
- \_\_\_ Basic surfing, email, and homework

I also administered various surveys throughout the course of the action research project that targeted student interests and learning styles. For example I administered Sternberg's intelligence survey to determine students' mix of creative, analytical, and or practical learning styles (Appendix B). I was able to learn more about the individual students and their particular intelligences that fuel their processing. I then created projects that reflected their individual interests, skill level, and learning styles. The class named their surveys so that I was able to

assess the overall ability of each student along with their individual learning style. From this data I drew out my focus group students.

***Journals /Exit Cards/Reflection Books:*** These three methods were a great tool for gathering student reflections about project choices, motivation for content, and involving them in shaping the course structure. Below is an example of how I used each:

*Journals:* Each day I wrote in my journal about my daily experiences, interactions, and questions that arose from my class. It was important to note students' behaviors, how they were talking about their projects, or ways they interpreted a given project. I also noted the way students were behaving to see if patterns existed in motivation, effort and execution of assignment, and peer conversations about their multimedia projects.

*Exit Cards:* The exit cards were used to check for student motivation and create necessary changes in the curriculum to increase their enthusiasm, explain a memorable project from their past, and give an overall sense of their project progression as individuals and as a class. The exit cards were written, drawn, or animated (Appendices C-G) and used in designing our projects, assessing what they needed as individual students and what changes I needed to make to the curriculum, and a way of getting further input from the class as a whole.

*Reflection Books:* At the end of the second project I gave each student a reflection book that asked questions about their motivation level, connection to the assignment, strengths

and weaknesses, if they felt involved with the project (Appendix H). The students' could respond in any manner they felt appropriate, written, sketching out the answer, utilizing cartoon figures, and any other desired way of responding.

***Interviews/Focus Groups:*** The interviews and focus groups consisted of five students that either met with me all as one larger group, individuals, and or smaller internal groups selected from the main focus group. The students were interviewed primarily after completion of each multimedia project to get a more in depth analysis of how each felt about the design, implementation, and execution of the assignment. This process allowed me to get the specifics of why the students chose to do what they did, how the flow of the assignment went, if the project was motivating, if the student was motivated, how their background affected their choices, and what makes a memorable project for them. Following is a sample of interview questions (Appendix D):

- 1. What types of projects have had long lasting effects on you? Describe please.***
- 2. What types of elements challenge you when given a class assignment?***

***Audio Recordings:*** The audio recordings were used to analyze student behavior during class hours and for interviewing individual students. The recordings allowed me to knowingly to the students talk about their projects, listen to how they interacted with one another, and record interviews. I was able to recognize patterns of motivation, interests, skill level, and background. These recordings were used primarily at the start, middle and end of a project and allowed me to relate the students' behavior directly to what I was hearing.

### ***Data Analysis***

**Surveys:** When analyzing the initial surveys I coded and analyzed the data in order to define students' motivation level, experiences with technology, previous multimedia use, and main purposes for using technology. I then was able to separate the data into categories and sub-categories (see below) and create a graph of the students' responses:

<b>Technology</b>	<b>Motivation Level</b>	<b>Primary Purpose Using Technology</b>
Skill Level	At School	School
Access	Home	Games
MM Definition	Learning new things	Socializing/Blogging
	Sports, Hobbies, etc.	Shopping/General Use

### **Journals/Exit Cards/Reflection Books:**

**Journals:** My personal journal was used to observe student behavioral patterns and conversations. The journal allowed me to quickly record any questions or comments I had about individual students. I also monitored how students were using technology and the questions they asked their peers or me during our class time. The field notes were summarized and analyzed into data that allowed me to look for repetitive and or changing classroom behaviors as the action research process unfolded.

**Exit Cards:** Exit cards were used as a quick assessment to check in with students' weekly motivational level, any personal challenges, and relevant thoughts/questions. The exit cards were framed in short reflective answers; quick scaled responses, drawings, simple

animations, and or multiple-choice questions. They gave me insight on the overall direction the class was heading and to what extent it would help me to alter instruction and increase motivational strategies if necessary.

***Interviews/Focus Groups:*** The interviews were transcribed and logged into various sessions; motivation, project choice, technological background, and future changes. This data was coded for repetitious quotes, responses, and comments that need to be addressed further. The students' insights helped me to understand their view of motivation and what the driving force was for learning the course content. I have compared my findings with other main areas of my analysis to see if they coexist and if an overall pattern had occurred. The focus group guided me in a way that increased motivation and challenge for all within the classroom.

***Audio Recordings:*** I utilized the audio recordings to see if various behavioral patterns existed within the classroom. The recordings were transcribed and logged accordingly. I noted my observations of the students' behavior variances, conversations regarding the given assignment, and quotes that were relevant to motivation, student choice, growth in content language, and technology. Also I involved my focus group students in identifying their own key behaviors throughout the recordings and what they felt at that given time.

## *Chapter 4: Findings*

***“You know the nearer your destination the more you’re slip sliding away...”-Simon and Garfunkel***

Prior to the new school year starting I was developing my curriculum and I thought deeply to myself, “What are my expectations for all these students?” How do I better meet the needs of the diverse population of students that I meet with everyday? Am I just developing and implementing projects to keep students busy regardless of their skill level? Was I a project pusher? One project comes down the assembly line and here comes another and then another and another...Oh my, the horror!” I knew I had to find a new destination with my students that would take us to a magical place not found in many classrooms at my school.

I was anxious yet nervous when I implemented my newly developed curriculum. I hoped it would address issues such as increasing students’ motivational level, easing technical skill level problems, and connecting individual learners to the course content. Was I ready to let go of my traditional means of teaching? Let the old slip away and the new...well who knew?

What I found while trying to get at the hearts and souls of my students was I had to allow them access to mine. I had to be willing to meet all of our needs that were apparent, e.g. skill level, computer use, and creativity, and the not so apparent, e.g. background, interests, culture, and goals, of the individual learner. I found I had to challenge, change, and incorporate new ideas that involved the opinions and mastery of my students. I used their knowledge and needs to shape the curriculum and strengthen our classroom community. I set aside class time to reflect on our developed content and I gave students freedom to change it.

The students were able to integrate their own needs for learning and engaging themselves. Although reaching our unknown destination was sometimes a windy, stormy, rocky road and it did not come without challenges along our path, when we saw the sunrise along our journey the light in our eyes was never brighter.

*No one ever said letting go is easy-*

“Does anyone ever fail this class? What do I need to do to get through this?” –John

I wanted students to know that this multimedia elective was more than just getting a grade. I know that my elective classes contain a diverse population of students in that some of choose to take the class based on interest, others because it might have been a second choice elective, and still others who are placed by schedule demands and/or credit needs regardless of interest or choice.

As the students filed into my room I waited with excitement to see what students would be involved in the action research project class, the pioneers. I was also nervous because the enrollment numbers were low, ten students, of which two I knew would be moving to another class. How would this affect our class community? I had plans! I decided to go ahead with the preliminary background survey about each student’s individual technology skills, and did this for each entering student regardless of entry date. The initial survey data showed me the variety of skills and backgrounds that the students have.

There were many students who were already advanced, and I needed to find ways to nurture and challenge them. I also needed to know who would need extra help or would be able to create a blog or website for the class. It also helped me to get some background information on what they are most interested in doing with technology. Chart A shows the percentages of 15 students and their basic computer skills. I also asked what the students spent most of their time

doing on the computer and shockingly 50 percent (8 out of 15) stated they did creative activities.

I assumed it would have been socializing, game playing, or surfing. Chart B shows responses related to the amount of time the student spends on the computer and for what purpose.

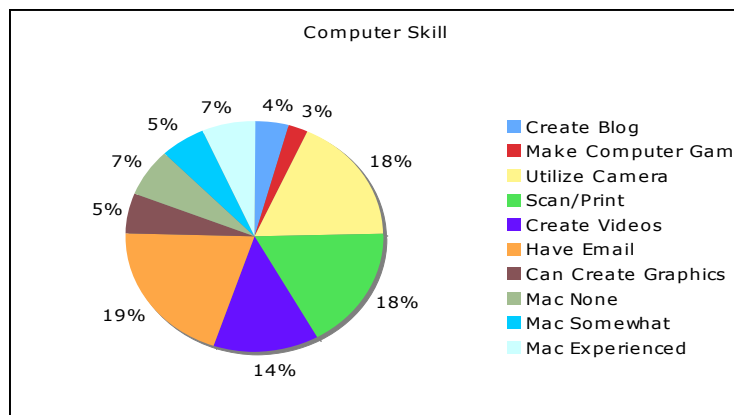


Chart A-Student interests on computer

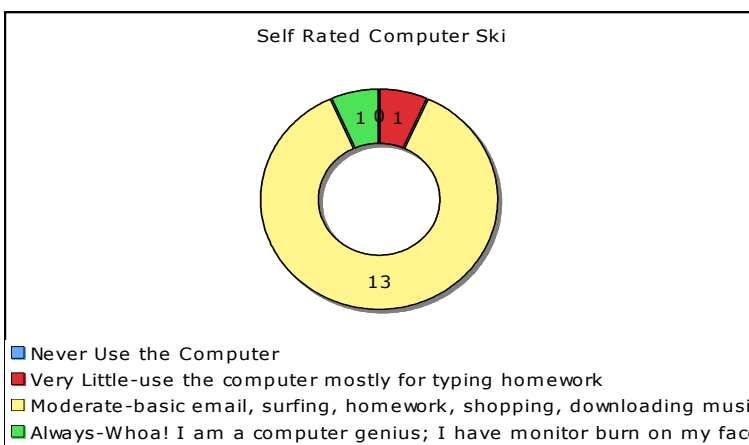
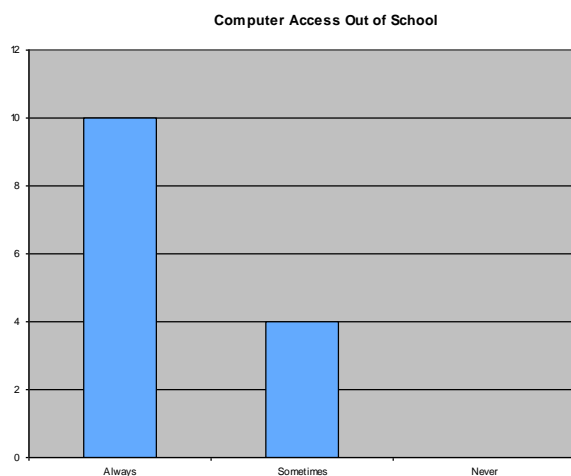


Chart B-Time spent using computer

The next question I asked the students was about their access to computers outside of school, Chart C. I found the answers to this question particularly interesting. It revealed that some students did not have regular access to a computer outside of school. At my school I believe most teachers (me included) would expect that all of the students have regular access to a computer outside of school. We assign work that assumes that students have regular access to technology. It was a bit eye opening four out of fifteen students did not have computer access. It makes me wonder how many other students still don't have regular access to technology outside

of my classroom and how they feel about that. What does this mean on a larger scale to the student population?



*Chart C-Access outside of school*

As the weeks progressed the students changed and the numbers grew to a steady core of fifteen. There was quite a mix of entry points, skill levels, and backgrounds. It was time to give out Sternberg's Triarchic Learning Styles surveys to the students, and discuss their involvement with the action research project. I used Sternberg's learning styles survey to decipher the individual student's learning styles. Sternberg's definition of human intelligence is "...a mental activity directed toward purposive adaptation to, selection and shaping of, real-world environments relevant to one's life" (Sternberg, 1985, p. 45). Each learning style has its own strengths, various ways of problem solving, and how to preserve learning new information.

After the survey I was surprised to see the number of students who resided in the creative spectrum of the Sternberg survey, Chart D. The survey in Chart E was part of the preliminary technological skills survey given at the beginning of the year before the Sternberg survey. When I compared the two I found that most of the students answered that they enjoyed

doing something creative on the computer and after the completion of the Sternberg survey it showed that most of the students had creative type learning styles. At this point I felt I had a starting point to design projects that coincided with their learning styles.

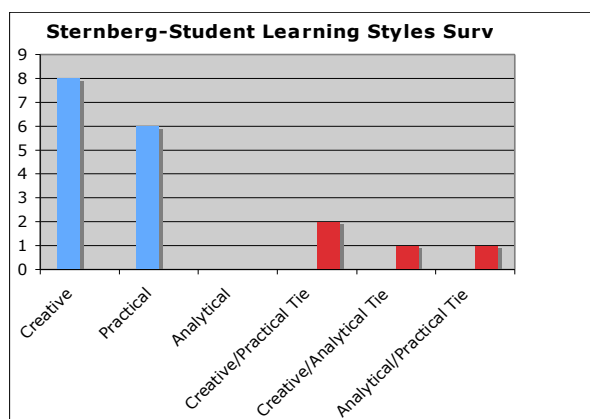


Chart D-Student results-Sternberg Survey

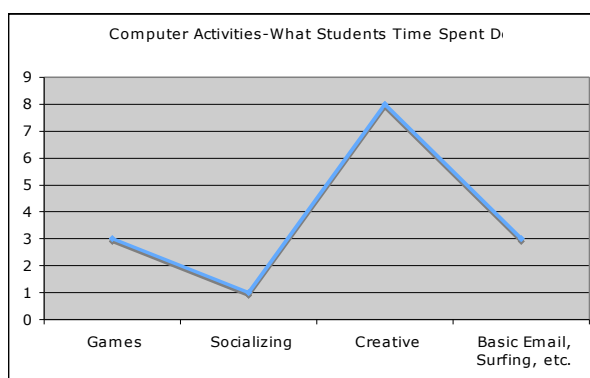


Chart E-Computer activities enjoyed by students

***It's so quiet you could hear a pin drop-***

*I don't even know that students name over there? Hi, what's your name?"-Amy*

The initial core group of students was so quiet I could hear my shoes squeak as I moved about the room. I knew I had to get them involved with each other and soon. Interaction was not limited but encouraged but when they did speak to one another they whispered. I was perplexed. How would I ever connect the minds of these students? What would break the ice? We had done a pair-share getting to know you activity, I had put them into flexible groups to discuss

animation stories yet there wasn't a sense of integration amongst the students. I practically had to push their chairs closer together. In past years the students could not wait to get near each other, talk, and share ideas, and it wasn't a change in project or content, quality of student work on the assignment, the environment, or lack of integration activities. As I continued to roam about the silent room you could hear my mind click, click, click...trying to search for an answer, idea, or spark to get the students interacting with one another, not by force but by choice. Click, click, click.

The next project was the first that I had designed with the students' learning styles in mind, hoping they would make connections with the course content, each other, and their individual interests. "If I Were a Cartoon Character/Figure What/Who Would I Be?" was not well accepted by the mostly introverted class (Appendix J). They had to think about their own personality and traits and develop a cartoon character, some sort of life form, or figurative thing that depicted themselves. They had to draw, color, and execute the cartoon character. Once complete the students then wrote why they created their type of character, what personality their character had, and included a written short story that talked about the developed drawing. As I introduced the assignment I felt like the students thought I was crazy—the look in their eyes varied from I love it; to fear and shock; to no way I'm doing this! This class was a tough sell! Click, click, click...was it going to work?

Unfortunately I had to leave for a meeting once they began and release the reins to the substitute. I hoped it would go well seeing that I was not going to be there for most of the class period. When I came back from the meeting I was in utter shock at the noise and laughter I was hearing even before I could see the students.

When I walked into the room the student activity was incredible, was I in a dream? I observed the students laughing, telling, stories to each other, and passing their cartoons around. The reactions were surprising and I enjoyed seeing the excitement and the buzz that was circulating throughout the room. I couldn't wait to hear more from the students! I was excited that the class was so into the project. At first glimpse walking around the room this is what I saw:



- Karen-her personality definitely shows in the drawing-Image A
- John-Plays sports, confident, I can see this in the drawing-Image B
- Tara-created a more reserved type quiet character yet-fits her personality-Image C
- Brian-great character, include his so called “elf” ear and developed a story around a personal piece of himself-he now has a laser ear-Image D

I couldn't wait to read the stories they wrote to accompany the drawings. I was interested in seeing how these connected with and or revealed some parts of their personality and or traits.

Here are some student-generated snippets from the above, talking about their characters' story/personalities:

- Karen-Image A-I chose this type of character because she seems to portray myself. I don't necessarily think about candy or float on a cloud, but sometimes I feel like my personality is like that. I am really easygoing and in some ways I see myself as childlike.

The character's personality traits include: staying above the influence of becoming part of something disgusting and dead. And she sees happiness and beauty in the world around her. She offers comfort and lifts others up.

- John--Image B--...named JB...who was out in the woods one day...got stabbed by a porcupine in the foot. When he was angry he made an amazing discovery, he could control fire. Once he found out he could control fire he decided to use it to set terrorists

houses on fire. So JB went to Iraq and began wandering around in bad areas....Eventually JB set all of the terrorists on fire and ended their bad deeds permanently.

- Tara-Image C- My Character-I choose this type of character because it's my style of drawing, also it's the way I think I would look if I were to be drawn as a character based on what's on the inside.

Its personality traits are she's very lazy and doesn't do much, but when she does she's a very hard worker, she has a zipper over her mouth cause she doesn't really like to talk, she is super strong mentally and physically, and she doesn't like it when people judge one another.

- Brian-Image D- I chose this type of character because I have always wanted to fly and be a super hero. I always wanted to help those in need through my powers and abilities to be great. Super Hero's are something all kids can relate to, everyone has a role model or hero; and I've always wanted to possess those qualities. The character possesses traits of leadership, the ability to fly, the ability to spring up in the air, a laser ear, and an afro that attracts electro-magnetic waves from lightning to use as his laser and for his springs/jumping ability! He's incredible and can do anything he sets his mind/afro to! 😊

The students were engaged, interacting, and learning all at the same time, the way it was “suppose” to be in my classroom. But what had really happened? What was the trigger? Why now? The self-proclaimed character, sharing a personal story with others, being able to integrate their own interests into the drawing and story? These were all traits of differentiation, motivation, and including personal interests, but I needed more, much more. Maybe it was just a fluke—only time and execution of the next phase of the assignment would tell the truth. One thing I knew for sure was somehow our class dynamics had shifted from introverted to extraverted, and it was never the same.

### **Lights On, Lights Off, Lights On, Lights Off...**

The next piece of the “all-in-one project” would integrate the previous character drawings, align the students' individual learning styles, integrate personal ideas, and provide an

opportunity for the class to help in the creation of the proposed assignment. We would utilize Sternberg's three learning styles, creative, analytical, and practical, to shape the overall design. I put together prompts that connected their learning style and scenarios for the next animation assignment. See below:

***Practical:*** The day in the life of my cartoon character-pick one situation from daily life and put your character in the situation. What will they do? How do they react to certain "real world" situations? Storyboard and create the final animation.

***Analytical:*** Develop a story in which your figure is showing someone how to do something-the process of creating a peanut butter and jelly sandwich, making a robot, how to solve a particular problem etc. Storyboard and create the final animation.

***Creative:*** Refine the story from the previous assignment and storyboard a 30 second animation that you will later create or devise a new fictional story in which your cartoon character will be involved in, storyboard and execute the final animation.

Each student received a handout along with his or her learning style circled and a provided space for feedback (Appendix K). Once complete the students turned the feedback sheets back in and I eagerly set out to read them, recreate and finalize the scenarios for the next day. Some examples of the proposed feedback included:

***Ivan-Creative-***This story should be very impossible (super powers, etc.) and not ordinary. It should be unpredictable.

***Alan-Analytical-***Not just processes, but also a logical situation where the figure must do something but logically, such as in a building on fire and a person is trapped, and he has to figure out how to get them out.

**John-Practical**-I feel like this would be easy to relate with and make it easier to make a story out of it because you already have a skit.

The students' thoughts were invaluable and provided me with further insight and ideas to add to the designed project. I made sure to point out the changes I made from the previous day and how and where I included their responses. For the practical learner most seemed happy with the way the project was, the creative learner wanted more of an outlandish storyline or prompt, and the analytical students opened my eyes into how to incorporate the problem solving skills.

The changes (the before is mentioned above):

**Practical:** None

**Analytical:** Show some type of problem solving ability: getting something/someone out of a complex situation (something trapped and you have to analyze how to get it out). Your character might create a machine that invents crazy and wild products that can solve things like global warming, the gas crisis, environmental issues, etc.

**Creative:** Create a new fictional story, in which your cartoon character will be involved in some type of super natural situation, has special powers, can see into the future etc.

The class asked if they could join characters and stories into one animation and form groups. I did not see a problem with this at the time since I was allowing them to oversee the project design and providing them with choice. They were eager and excited and very social with one another, a definite change had happened with the creation of this cartoon project. I really thought I had found the connection! I really did!

We started working on the project and all seemed to be going well given the varied levels of skill we now had as a whole. This was the first larger animation project we were working on I was excited to see how it would evolve. The students were loud and social but seemed to be

mostly on task throughout the first week or so. But as we moved on into the end of the third week of the project I began to notice some behavioral and motivational changes. Some students were spending too much time socializing, doing other tasks, and not really motivated to work on the assignment. There was the core group that is always working like, Karen, Tara, and Rose. They always completed their work on time, but I even noticed that they were checking out by putting their heads down or drawing in their sketchbooks. What was I going to do with the students? I designed the project to “fit” their learning styles, and they were eager at the beginning. What had happened? These were students who had the skills to complete the project. I was glad to see that the class had a sense of closeness and community—they were accepting of one another and enjoying working together—but I did not want to let it interfere with the progress of their work.

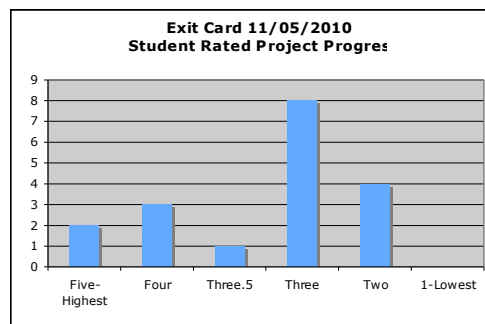
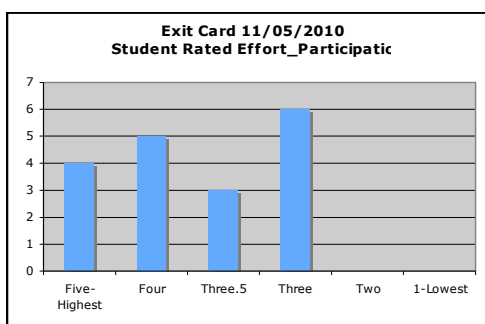
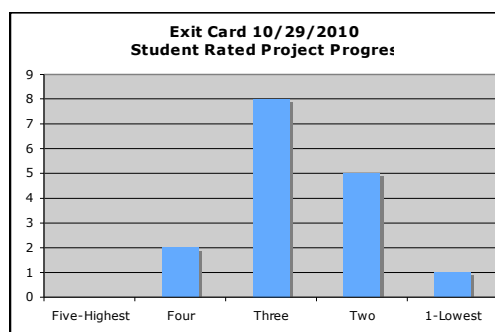
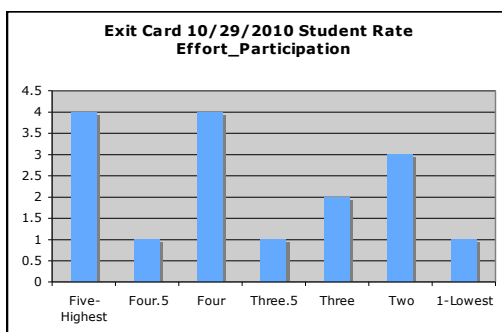
I decided to generate exit slips that might provide me with some insight on their progress and motivational level. It would allow the students to rate their own progress, performance, and state some goals they had for the next week or next steps. I explained that it was not part of their final grade and asked them to be honest. I was also hoping that the exit cards would bring some self-awareness about their projects and the work they may have put into it or still needed too.

I read the exit slips and it seemed most students rated themselves appropriately and were honest in their responses: John gave himself two out of five in self-rated progress and effort and in his goals and he stated he doesn't know what his story is? We have been working and planning this project for three weeks. Amy rated her progress and effort high but in her goals section she wrote, “HELP”! Karen stated sometimes she worked on videos for video production class-why not her animation project? Then on the other side I also received responses like Ivan, “Ready to finish”, Karina, “..my goal is to shorten the animation to get finished in time yet stay

true to the story”. I did not feel comfortable with the progress and confidence levels I was seeing in the exit cards.

I still was uncertain how I was going to get everyone to the same place on the project and a finished assignment. We had so many varied entry points that it almost seemed impossible, but I was most certainly going to try my best.

The following week the same students were off track and disruptive. I decided we needed to have a class discussion about work ethic, language use, and behavior and the effects it was having on our environment. They were respectful of what I had to say, and everyone seemed to be getting back on track. Did I give them too much control on the project? Were they taking advantage of the time, or was something else happening? I decided to implement another exit card rating their project progress and effort. But instead of stating goals I asked what they specifically needed help with or tools reviewed. Upon review of the exit cards I found an increased level of student rated progress and effort from the previous week, see the charts below:

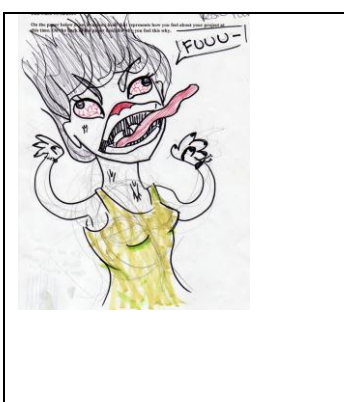
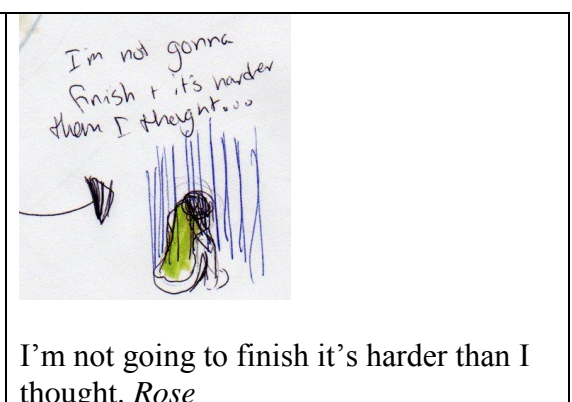
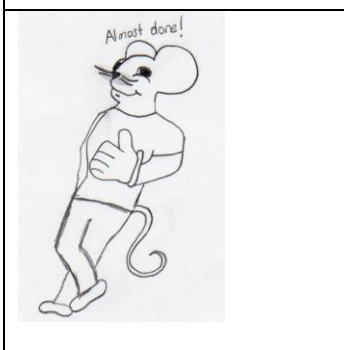
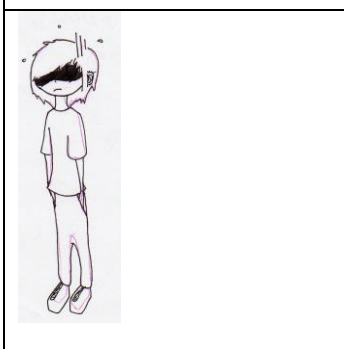
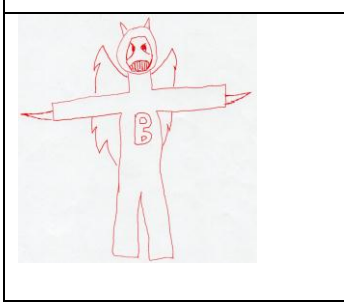




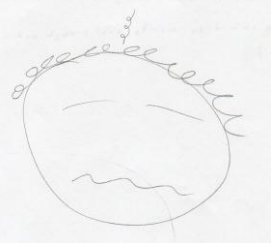


Yet I was not convinced all of the students were at a place where they were going to be able to finish the project and at the quality I was expecting from them. Many were getting further behind and seemed less motivated to complete their work. The response on the exit slips made me realize that a small bunch of students needed more skills or a review, some were in over their heads, their animations too long or complex, others were finished yet did not want to challenge themselves further, yet some were still struggling with the basic tools I had expected them to master by this time of the year.

Also it was eye opening to read, “I really need help, not sure what to do next”, but this student never asked for help during class time. Or on the opposite side I also received comments like, “I love this project the best ever, I don’t need anything!” It started to become very apparent the needs of the individual students in the class. It was clear that many students needed more time working with the software, whether it was because of late entry into the class, not getting the material initially, or simply having forgotten certain skills covered earlier in the year. I thought we had addressed some of these issues when we designed the projects as a class—after all, I had given them individual choice and control.

The next week I initiated a review and brought all the students back together and renegotiated the final due date. This seemed to clear up some of the anxiety I was noticing in the students. The class as a whole had a better feel and outcome this week. The due date was now approaching for the projects (some were even finished) and I sent out one last exit card to check the students’ progress. They were to each draw me a cartoon character about how they felt about their project and write an accompanying sentence about why they felt the way they did. The returned drawings were fabulous. The answers seemed to be more truthful and this process allowed for some personal interpretation about their individual projects. The faces show the

emotions the students were feeling and I could see a connection between the students' work and their progress-check drawing. They also enjoyed creating these exit drawings as opposed to circling progress numbers on a paper or writing about how they felt on paper. Below are some of the student responses:

	 <p>I'm not going to finish it's harder than I thought. <i>Rose</i></p>
	<p><i>Karina</i>-This mouse with a thumbs up, makes me feel like I accomplished something, (something I am very proud of).</p>
	<p><i>Tara</i>-Character I created is stressed out to the max. I've been working hard to finish this by the deadline but it is impossible I can't work fast enough.</p>
	<p><i>Ivan</i>-I feel like this because I am done with my project and helping other people.</p>

	<p><i>Karen</i>-I feel this way because I understand a lot better on how to use Flash and all the tools. I'm done with my project, basically.</p>
	<p><i>Mary</i>-I feel like one half is awesome and like the other half isn't done, so it's half good half bad.</p>
	<p><i>Alan</i>-I fell stressed out in the face because I feel I won't finish fast enough. I don't think I figured how the animation works fast enough and I'm not good enough at it.</p>
	<p><i>Brian</i>-I accomplished my goals in this project in a reasonable amount of time. I hope the class enjoys my work.</p>
	<p><i>John</i>-Because I finished it, and I think it turned out good, so I am happy about it.</p>

Even though all students did not draw as elaborately as some, most gave insightful comments about how they were feeling about their project. It was interesting to see how unconfident many felt about their projects, mostly what I thought was beautiful work for a first longer animation piece. The results varied across the board. Most seemed to be happy with their animation, but some were still stressed about the due date.

At the end of this project and viewing the class projects what I found was not what I expected. The project ran on much longer than anticipated, student motivation and skill levels varied greatly; I had not solved the problem of challenging all of the learners at their own skill level. So what were we going to do next to solve these issues? Did the learning styles and differentiation strategies make any difference?

Before the next proposed project I was still looking for ways to keep all students at an equal place throughout the duration of the assignment and I wanted it to be challenging, motivating, and one that would give each student the feeling of success at the end, something each would be really proud of. As I continued to work with various learning styles and differentiation methods I knew I was going to need to further individualize student instruction that was tailored to match their individual abilities.

***By George I Think I Got It!***

This next assignment was designed to allow the students freedom in designing their own 2D digital animation that involved their individual learning styles. As I began thinking about how to structure the assignment I saw the need to really individualize and differentiate each of their projects. The skill and interest level of each student is vast and I could not see motivating and challenging each by giving them all the same exact assignment, even with various parameters set as I had done previously. I wanted to make the project very special to each

student. Many wanted to move on to claymation animation but I wanted us to create one more 2D digital animation that would really show their skills and create a lasting impression on what they had achieved thus far. They have more skills than they let on to sometimes.

I also had a strong relationship with the students at this time and felt I was able to contribute in designing a project that targeted their individual learning style, interests, and skill level. I knew each lesson had to be prescriptive to each individual student. First I had the students fill out prompts in their learning style and then also write/illustrate the ultimate assignment they wanted to create on the backside of the paper (Appendix L).

<i>Student Learning Style Prompts/Responses</i>	<i>Student Project Brainstorm</i>
<p><b>Practical prompts and responses:</b></p> <p><b>Show how to animate....</b>a background</p> <p><b>Demonstrate your ability to create...</b>multiple tweens</p> <p><b>Based on your experience with animation...</b>show how to layer different props</p> <p><b>Using your knowledge of Flash...</b>learn to pace the timing</p> <p><b>Consider the problem (your choice) and animate...</b>missing the bus and animate two character's adventures to find another way</p>	<p>A sunrise on a mountain with bird</p> <p>Setting sun with surfers and shooting stars</p> <p>Two characters miss the bus and go on an adventure to fix the problem</p>
<p><b>Creative prompts and responses:</b></p> <p><b>Find a new way to recreate...</b>old stories</p> <p><b>Use comic relief to animate...</b>to discuss a problem and make you laugh at the same time</p> <p><b>Take these animation materials to create...</b>a manga story</p>	<p>Animate a person or hero you look up to</p> <p>Animate a dream you had or a dream you remember</p> <p>Create a video game</p>

<p><b>Explain a new way to...make a better story</b></p> <p><b>Connect with an animator...to talk about how they do things and what they like to see</b></p> <p><b>Become a... (your choice) and animate...a person from a story and animate their life</b></p>	
<p><i>Analytical prompts and responses:</i></p> <p><b>In an animation explain why...it is important to be patient</b></p> <p><b>Show (animate) the parts of...a face</b></p> <p><b>Identify and animate the key aspects...of sounds with each action that's chosen to be drawn</b></p> <p><b>Present/animate a step by step...story</b></p> <p><b>Diagram how...an animation is made</b></p>	<p>Become an artist and animate painting a picture</p> <p>In an animation explain why tween animation is more efficient than manual/frame animation</p> <p>Animate the parts of a face</p>

From there I looked at all of the information they provided me, we discussed possibilities together, and then I designed their individual projects, each with individualized specifications, a synopsis of their past work, and a designed scenario(s) for them to create/choose from. I then printed each on a colorful sheet of paper with an enclosed exit card and used colored markers to ink their names on each paper. I thought it was such an elegant way to deliver the assignment and something I had never done before (Appendix M). Examples of each learning style and prescribed student lessons:

***Karen-Learning Style: Practical***

**Synopsis:**

You have done an awesome job so far working with the tools and animation techniques. I like the style of work you have been developing and the creative stories you come up with for the projects. Try to further challenge yourself by animating more of the character and object details. I like your magic eight ball idea but I really thought creating the adventure story of the two characters missing the bus would be a much more fun and creative project for you, seems like you could really expand the story and incorporate some challenges for yourself along the way so I included both project summaries below.

**Summary of Your Project:**

Consider the problem of two characters missing the bus on the way to school and what adventures they encounter trying to get there on time.

Using your knowledge of Flash create an animated story about a magic eight ball trying to find a home (currently stuck at the toy store).

**Amy-Learning Style: Analytical/Practical****Synopsis:**

You have been doing a great job this semester learning and using the various Flash tools and animation techniques. I also like the small fun characters you seem to develop for each project. I would like to see you create another animation continuing to challenge yourself in these areas.

**Summary of Your Project:**

Based on your experience with animation create a storyboard and animate a story of a character who realizes why it is important to be patient.

Demonstrate your ability to use tween animation to create a Public Service Announcement that informs about an environmental, social, health, school, etc. issue.

**Tara-Learning Style: Creative****Synopsis:**

I love your style of drawing and characters that you create. You have a really good sense of style and artistic ability. You have done really well learning and executing the Flash tools and animation techniques we have been covering. I know you were a bit overwhelmed with the length of the last project. Not to worry this has been known to happen to many students on their first large animation assignment. It is hard to judge how long something will take you until you have such experience. On the upcoming project try to keep the story a bit more simplified so you don't feel so burdened by trying to complete the animation on time.

**Summary of Your Project:**

Find a new way to recreate old stories. I like this idea in that you could take a piece of any story, poem, short children's book, etc. and make it come to life.



I noticed you also mentioned animating a manga character; maybe you can create an animation from an existing manga character that has not yet been animated?

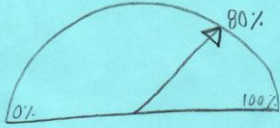

I did not plan on prescribing each student with such an individualized assignment but based on Tomlinson's and Northey's differentiation strategies this particular pedagogy seemed to

align with the needs of my students and the class material at the time. I tried to specifically hone in on the students present level in the class and create not only a challenging piece for each but also one that each would create with confidence and success in the end.

After each student received their individualized projects I created an exit card that asked the students about any changes they would like to make (Appendix N). I also asked them to illustrate what their motivation level was going into this next assignment and why. This gave me an idea about how they were feeling at the beginning of the project and then I would be able to track the motivation, interest, and quality level as we proceeded throughout the project.

Following are some various examples:

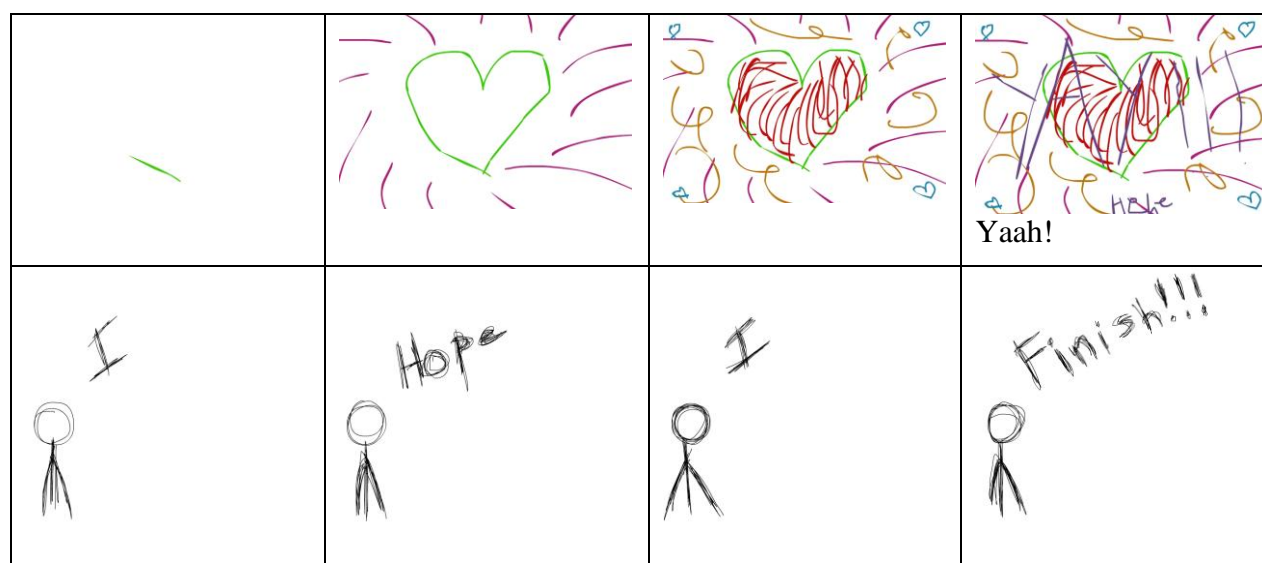
<p>1. After reading your proposed Flash assignment what if any changes would you make to the assignment, length, subject matter, skill level, etc. I love it. no changes.</p> <p>2. Draw your current motivational level for the next animation (on the back explain why you feel this way):</p>  <p>I feel like I can actually really do this well.</p>	<p>Text on Exit Card:</p> <ol style="list-style-type: none"> <li>1. I love it no changes.</li> <li>2. I feel like I can actually really do this well.</li> </ol>
<p>Exit Card 01/05/11</p> <p>1. After reading your proposed Flash assignment what if any changes would you make to the assignment, length, subject matter, skill level, etc. None</p> <p>2. Draw a cartoon that represents your current motivational level for the next animation (on the back explain why you feel this way):</p> 	<p>Text on Exit Card:</p> <ol style="list-style-type: none"> <li>1. None</li> <li>2. Scooby Doo-(on back) excited it's a good idea!</li> </ol>

<p>1. After reading your proposed Flash assignment what if any changes would you make to the assignment, length, subject matter, skill level, etc.</p> <p>i want to be able to create really fun abstract characters for the bus scene</p> <p>2. Draw your current motivational level for the next animation (on the back explain why you feel this way):</p>  <p>i feel this way because i have a lot of ideas but im not that good at drawing so i get held back from doing it sometimes</p>	<p>Text on Exit Card:</p> <ol style="list-style-type: none"> <li>1. I want to be able to create really fun abstract characters for the bus scenes.</li> <li>2. I feel this way because I have a lot if ideas but I'm not that good at drawing, so I get held back from doing it sometimes</li> </ol>
<p>1. After reading your proposed Flash assignment what if any changes would you make to the assignment, length, subject matter, skill level, etc.</p> <p>I wouldn't change anything. This project sounds clear and fun! I'm up to the challenge!</p> <p>2. Draw a cartoon that represents your current motivational level for the next animation (on the back explain why you feel this way):</p> 	<p>Text on Exit Card:</p> <ol style="list-style-type: none"> <li>1. I wouldn't change anything. This project sounds clear and fun! I am up for the challenge!</li> <li>2. Like a soldier waiting for my next mission, ready for action!</li> </ol>

I found that overall the students were excited about starting the next assignment and that they did not make many changes to their proposed projects. When I was talking to students I could see them light up as we spoke about their next assignments, John, “ Really I can do that?”, Tara “ I am so excited to do this!”, Ellie, “I know I can accomplish this and it sounds so interesting”. Over and over I heard the same repeated comments. The students did not mention claymation again and seemed to move right into the storyboarding process. To see their motivation increase made me realize that I had made a connection because of the implementation of differentiation methods, individual interests, and learning styles. The student reactions were positive and I felt that way too. It was now apparent to me what I wanted us to accomplish and what road we needed to travel on to get there.

As we began moving through the first two weeks of the project the class was engaged and motivated to work on the beginning stages of the assignment. They were constantly sharing with

one another, helping each other, and for the most part they were all working on their projects with minimal frustration levels and increased motivational levels. I decided to give out an exit card to see how they were feeling about their projects thus far, because obviously sometimes my own observations were incorrect, as I had experienced in the last assignment. I asked the students to create an animated exit card that was three to five seconds long letting me know they felt about their progress and motivation levels. The students enjoyed creating the feedback in this manner and we all thought it was fun and different. Below are some screen shots from the exit card animations, and you can also view student work at my website @ [www.boots-gloves-hat-scarves.org](http://www.boots-gloves-hat-scarves.org).



*Top Illustrations: Mary, Bottom Illustrations: Rose*

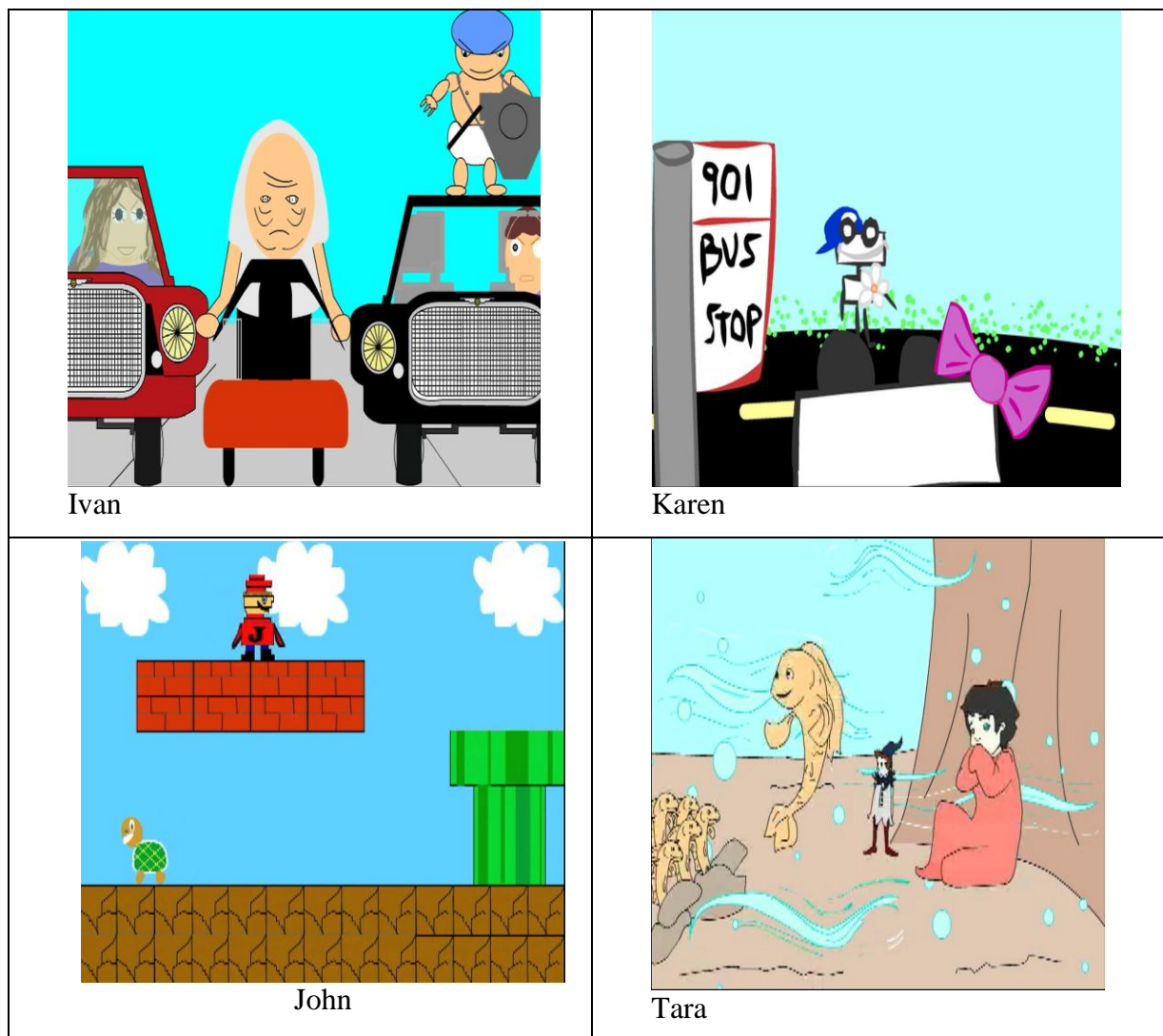
But what I gathered so far from our experiences was much more valuable. Over the past three weeks the comfort and confidence level within our community grew, the quality of student work was increasingly beautiful every week, and the motivational level of the students was noticeably different from the previous project.

Over the following three weeks I tracked the students' progress by gathering their animations and viewing them and speaking with each student individually on Fridays to ensure competency, discuss any problems they might be having, checking for progress and continued motivation for the assignment. This also gave us a chance to further bond and increase our student-teacher relationship and build trust—there wasn't a right answer when it came to how we were all learning. Through sharing, the students became aware that it was okay if their individual projects varied from others in the class. They were addressing their individual strengths and proud of it. I just couldn't believe the transformation I was seeing throughout this project.

***The grass is greener on the other side....***

The final class screenings of the projects approached and I was so excited to see all of them together as a whole. The students were each given a slip of paper to give constructive feedback for each animation viewed. Each student would be responsible for naming one strength in the piece and one element that might have been improved upon. They would then turn in the responses to me anonymously and they would be given to each student afterwards.

As we viewed the animations I was so astounded by the quality, stories, and growth of every student. I thought back to the previous assignment and the before and after of John, Tara, Karen, and Ivan. The work had paid off for all of us, and it showed! Below are screen shots of the finished product but you can view all of the [www.boots-gloves-hat-scarves.org](http://www.boots-gloves-hat-scarves.org).



The students were clapping and cheering for each other, while at the prior project screening this was not so. I collected the student comments and read them before giving them back to the students; they were kind, thoughtful, and insightful. My heart pounding and teary eyed I sat back and thought about the students and their journey with me, how lucky I was to be a part of their lives this past year. How much they had taught me. Did they even know that?

I wanted to end the project with a reflection and ask the students questions regarding the process and feelings about their past animation assignment. I wanted to give them a chance to express themselves in a different way when responding, not just answering questions in a

typed up document. I decided to buy small blank sketchbooks and colored sparkly pencils for each student to respond to the proposed questions I was going to ask of them. That way they would be comfortable. They could draw, write, and create whatever and however they wanted to respond to the reflection questions. The final results were a mix of written, drawn and even one animated flipbook response. I included the final reflection data and images of Karen's book reflections:

**1. At the beginning of this project did you like or dislike that you were part of the design phase?**

1. In the beginning I



that I was part of the design phase

14 of 15 students responded that they liked being part of the design phase.

**2. Did you feel you had control of your own final project, idea, and outcome?**

2. I felt that I did have control of my own project, ideas, and outcome.



15 out of 15 students felt they had personal control of their project

**3. More specifically did the final intended assignment you received involve your interests, skills and learning style (creative, practical, analytical)?**



15 out of 15 said they thought the project involved individual interests, learning styles, and skills.

**4. What was your biggest challenge? Why?**



Responses: Time, drawing, staying on track, became tedious, using the tools, and completing the final on time.

**5. What are you most proud of in your final animation?**



Responses: Story, quality of animation, effort, music score, doing a good job, finishing on time, and creating a message.

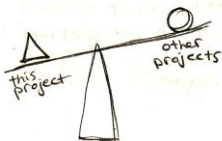
**6. Overall how motivated were you throughout the process of creating your final animation?**



11 out of 15 said they were highly motivated to complete the project and 4 stated they were moderately motivated, 0 stated they were unmotivated.

**7. How did this project compare to others you have done? Any similarities or differences?**

7.



In this one I had to really think about what I wanted to do. Sometimes I need guidance or a little starting push.

Responses: I knew more, put in more effort, liked having my own control, really worked hard at it, and wanted to do more.

### 8. Would you like to be able to help design more projects in the future?

8.

In the FUTURE

I don't think I like starting the design, I like a Prompt.

13 out of 15 said they would like to help design future projects.

### 9. Are you willing to share your final project outside of the class?

9.



12 out of 15 would be willing to share their project outside of class.

### 10. Final thoughts and or feelings?

10.



Responses: Very proud of my work, one month of work paid off, cool class, like animation, enjoyed piecing together the final and seeing the outcome, did my best, and I really enjoyed this project.

Outside of the data about motivation and project design the students' responses allowed me to look deeper into their thoughts and feelings, and the feedback was honest and valuable, beautifully constructed. I was elated to see evidence of increased self-awareness involving intrinsic motivation. The students took ownership and pride, and the vast improvement in overall quality was amazing. Even the three students that responded negatively about their projects produced wonderful animations and made obvious advancements from the previous assignment in skill, motivation, content, and quality. When asked what animation they wanted to contribute to the film and animation festival all three students chose this particular project, so my thoughts are that inside they were actually pleased with the outcome of the project. My golden eggs, every last one of them.

## *Chapter 5: Conclusions and Implications*

### ***Take these broken wings and learn to fly.....***

Every year comes to a close and I find myself reflecting on the good, the bad, and the ugly. The period three animation class has left me but they will never be forgotten. We journeyed through the year together and developed our own individual paths of learning. My goals for my study and class included creating projects that would have an impact, increase motivation, and provide personal challenge regardless of skill level, background, gender, or learning style. Throughout the course of the study I implemented various differentiation strategies and individualized projects, tailored to each student's learning style: creative, analytical and practical. There were some struggles in the development of projects, finding research to match the needs of my class and grade level, and getting the students to understand the benefit of the research. But what did emerge through the personalization of projects was growth in self-confidence and then naturally came the increased motivation, engagement, quality, and ownership.

### ***Break the mold.....***

Trying to break free of the traditional high school project is not easy. We have been programmed to teach and learn in one particular manner and setting. Other teachers and I included are guilty of creating assignments that are a one size fits all mentality and expecting all students to succeed at them. We wonder why we are so disappointed in test scores, why students lack motivation, engagement, and ownership.

Implementing differentiation and learning styles into my curriculum did not come without trials and tribulations; it is difficult to let go of some of the old habits and time consuming

creating new ones. As Tomlinson states it takes up to "...five years to create a fully inclusive differentiated classroom." She suggests starting small, something is better than nothing, then keep adding one new piece of differentiation to the curriculum, or to another class, just keep doing it.

Throughout the study I was able to gather qualitative and quantitative data through surveys, exit slips, animations, and drawings. This feedback allowed me to track motivation, progress, and individual problems, and enabled me to make any necessary on the spot changes in project structure. Once the data was gathered and sorted I was able to identify themes of confidence, ownership, and intrinsic motivation.

The students were involved in designing the animation projects and providing feedback during the study. They were made aware of their learning styles during all phases of the study and gained understanding of how we were utilizing them. Each responded with valuable input that gave me the insight on how to redesign the animation projects. Each time we adjusted the assignments I was ultimately giving the students more control of the project direction and content. I was still meeting my needs of teaching the students the required course information but I was able to implement projects to fit their learning style, skill level, interests, and background.

There were three projects that particularly stood out in my research when I noticed changes in student behavior, community, and confidence. The first project, "What type of cartoon character are you?" changed the dynamics of the class. Students were proud to share their comic created selves and stories, they thought it was funny. But underlying for all of us it was a chance to get to know each other on a safe yet personal level. This project allowed me to find out about the students' personalities, interests, and in some cases background information too. The class

dynamics were never the same from this point on. We had evolved from an introverted class to an extroverted group that was comfortable with one another.

The next animation project, an extension of the cartoon self, was self-designed to fit the learning style of each student. Provided with prompts and scenarios creative, analytical, and practical, they were to choose one and create their final animations. This project started off with enthusiasm but that soon changed. I had not taken into mind the students' individual skills, backgrounds, and interests. I gave them control to create longer projects than they were ready for. Many were not yet at a skill level to achieve the ideas they had, and some were still fairly new to the class. Over time this particular project proved not to be the best of assignments, but it was a learning experience for all of us. I found I needed to take into account the individual aspects of each student; learning styles was only one small piece of the successes I found. Tomlinson states, "We have such a huge range of readiness in classes that not to address readiness and to assume that a focus on learning styles is going to take care of everything, is generally way off base. In terms of both needs of learners and in terms of what research tells us, readiness is where we need to begin and focus, and then we can open things up by looking at those other categories" (Tomlinson, 2011). I found I was only looking at one third of the problem not the whole, so I knew the next part of my study needed to incorporate the other missing pieces and why the current project was not as successful as I thought it would be.

By the second phase of the study, through creative design and various project approaches, I was able to blend what I have come to believe the most important ideas about differentiation; providing project choice, respecting students as individual learners, utilizing learning styles, being aware of skill level and ability, and incorporating interest and background. It sounded like

a lot of information to deal with when attempting to write an animation assignment but I couldn't see not doing it either. I wrote individualized assignments based on each student's needs. The students and I discussed the assignment one on one and came to agreement about theme, content, and interest that would work best for them. I also knew I wanted to incorporate skill standards, content, and their learning style into the assignment. The only way I could see to manage the mixed abilities of the students' necessities and mine was to utilize prescriptive assignments tailored to each student's needs. This strategy turned out to be one of the best things that happened with my experience in differentiation and learning styles. I was able to design a project that gave each student a summary of their progress, a theme designed in their learning style, challenges appropriate for their individual skill level, and a connection to their interest and backgrounds. The students were involved throughout the design of the project. I know that this project was successful because of the students' feedback, collected data, observational practices, and quality of their final animation products.

Through the implementation of differentiation strategies interwoven with each students learning style I was able to provide individualized instruction to not one, not some, but all students. Looking at their learning styles provided me insight in why a student comes up with a great idea and has a hard time executing it. Or a practical learner needs to have a connection to real world uses or becomes disinterested and that analytical learners like to dissect or solve problems. I had doubts during the first phases of the study that used Sternberg learning styles and Tomlinson's differentiation ideas. I didn't feel confident in using the tools that were not particularly designed for my subject matter let alone high schools grades. It was also about letting go of some traditional mindsets and experimenting with something new and it proved to be successful.

Differentiation and learning styles was a of a powerful new way to manage my course content, students, and classroom environment, and it provided areas of change and growth in me, my students, and my curriculum. There were many positive experiences that developed through the use of differentiation strategies and interweaving them with learning styles and personalization. Through it all emerged confidence, pride, community, and respect for individual needs. The students became more independent and frequently asked one another for help, they were excited about their projects and eager to share their progress, and they connected with one another regardless of grade, background, or skill level.

Finally I must agree with Tomlinson that is all teachers' responsibility to continue to try to reach all students successfully as we can. I have experienced the power of differentiation and learning styles and the difference it can make. My students and I benefited from this experience in numerous ways. Tomlinson sums it up best, "Differentiation is an instructional approach to help teachers teach with individuals as well as content in mind. Differentiation really means trying to make sure that teaching and learning work for the full range of students, which really should be our goal as teachers. We've often taught as though all the kids in the classroom are wired exactly alike to learn, as though they should come in programmed to learn on the teacher's schedule" (Tomlinson, 2011).

### ***Implications***

Differentiation and student achievement go hand in hand. To engage, motivate, and build self-confidence, teachers need to implement the use of differentiation into their curriculum regardless of course content. As seen in my research, students' level of engagement, motivation, and self-confidence increased and in turn so did the quality of work. I was successful in reaching

not one, not some, but all students. I know that students benefited from the structure and involvement as was seen in my own study and that of the The American Association of School Administrators also believes there are many benefits to differentiated instruction which include:

*Students were motivated to stay engaged in learning.* Students seemed to enjoy learning, showed more interest and motivation, maintained higher energy levels and stayed more engaged in the activities.

*Student needs were being met.* Students seemed appropriately challenged and worked comfortably at their level of ability, resulting in improved time-on-task and behavior.

*Students experienced greater student success and felt learning was more relevant.* Students worked diligently and the quality of their work improved. The teachers provided documentation of higher scores on post-assessments and more frequent successes among low-achieving students.

*Students felt greater ownership of content, products and performances.* In an atmosphere where students were given more options about how they could learn the material and demonstrate mastery of the content, they seemed to actively enjoy learning. There was an improved sense of wanting to share what was learned.

*Teachers gained new insights.* Teachers learned a great deal about how their students work and learn. Many felt challenged to find more creative instructional strategies, even while using a prescribed curriculum, (AASA, 2007).

I was astounded by the level of mastery my students showed when I employed differentiation strategies my classroom. I feel that any teacher implementing differentiation would benefit in the same way regardless of the course content. Reaching more students is imperative as our nation struggles to keep up educationally amongst others. It is not about rote memorization and tests every week which will soon be forgotten. What is important is the long lasting impact the material has on a student and how they are able to apply it to themselves throughout their lives, not for one unit. If this is such, students will be more likely to have the confidence and means to graduate high school and college, be an integral part of their community, and succeed at challenging careers. The implications of differentiation are very clear

and I think more school, students, and communities would benefit if more educational facilities were on board.

### ***Tips for Teachers***

Depending on your individual needs and classroom developing differentiation can be a daunting task. I have included some basic guidelines and tips to keep in mind as you begin your own journey in creating a differentiated classroom.

***Use all main components of differentiation not just one-*** To create a well-designed differentiation project be sure to look at all student facets; readiness, student interest, and student learning profile. Learning profile includes gender, culture, learning styles, and intelligence preferences.

***Trial and Error-*** Don't be afraid to experiment with new strategies. It is ok if everything is not perfect or does not go as planned. This is a way to grow and reflect on the experience. This happened to me but instead of being discouraged I dug deeper and looked to the students for answers. The great thing about students is they will tell you the truth. Be patient—it will pay off in the end.

***Student Voice and feedback-*** I could not have gotten through the year without this student feedback and voice. They provided me with so much insight and qualitative data that was developed through conversation, exit cards, drawings, animations, and reflection books. I would say continue with collection data throughout the year and after because students change, and so do their views, the outside world, etc. This information will also be helpful in the next round of project design and looking at what was effective or not. It is very important to use your students as a tool, listen to them and get to know your students as much as you can.

***Expect to spend extra time developing material-*** This is a new area of study and is unfamiliar to many. Much of the developed material is geared toward academics and elementary to middle school grade levels, definitely not multimedia or animation. I needed to develop and many of my own resources based off of ideas meant for other areas. Once I felt more comfortable later in the year this became more natural in the development of my projects.

***Assessment-*** It is ok to let some assessment become observational for certain skills and topics. Students need not feel pressured into a grade for everything they do. Allow time for practice, trial and error, and success, not relying on a percentage.

***Use topics that students can relate to themselves-*** If students can find a connection with the material they will be more likely to be engaged in it. When a project or assignment means something to oneself it has value and substance, it becomes personal.

***Assignments should incorporate real world scenarios-*** If and when at all possible make a relation to how your topic relates to the real world, whether it is a skill used in the career industry, how the skill is applied outside of class, or how learning that new topic affects them.

***Engage them in various ways—all students are different-*** We are all different and we do not come pre-programmed to learn, take in, or execute information in the same manner. Be sure to give the students various resources in which to find and discover new material that is developed in different formats, learning styles, and needs. Give the students' choice in product and assignment execution and delivery. This will get students engaged with the content based on their learning profile and giving them control and ownership of their learning.

***Let them feel confident and successful about their work-*** By providing a safe community for learning students will be able to give and take constructive criticism. Allow time for feedback and revision so the student has time to take yours and others advice. This will in turn give the students a chance to create higher quality products.

All in all, implementing differentiation is worth the student outcome and achievement.

The amount of change that I witnessed in student confidence, value, and ownership was evident as my research unfolded. Differentiation and learning styles unquestionably have a link but it is necessary to also incorporate all of the differentiation elements; student choice, student interest, and student learning profile. When any human feels a sense of value and pride a positive response comes naturally and that includes learning. One wants to learn more once engaged in material that means something to oneself and others around you. This is when I feel you will see a change in the quality of work, the use of content beyond the classroom doors, and students whom are excited to part of the class community. Should not just one, not some, but all students have a chance to learn?

## *Chapter 6: Reflection*

### *Left out in the cold....*

It was a cold snowy morning and I was off to school, not happily. I looked at my feet, tennis shoes (no boots), my hands (no gloves), no scarf or hat, and a coat that was not fit for such a day. My stress had already begun. I did not want to go to that first grade classroom, especially in the cold winter months. My mind was already scheming how I was going to get out of going outside for recess today.

I was not disruptive nor a problem student. Whenever I asked to stay in for recess, primarily due to the weather, I would express that I would like to stay inside and read; the answer was always no. If I told the teacher I “forgot” my gloves and may I stay please stay inside; the answer was always no. I resorted to writing my own excuse letter so I could stay in inside (signing my mother’s name in first grade); the answer was always no. I did not know what else to do so frequently I would look in the lost and found and use odd gloves that were left behind, returning them after recess. To avoid confrontation with her some days I just went without. Today was no exception and out I went lacking the proper clothing, meanwhile the teacher sat behind her desk and knowingly made me do so.

Didn’t she see me as an individual, someone in need of help and compassion? We were all very different from one another and I recognized this at a very early age. My continuous battle with this particular teacher was frustrating and embarrassing. Now into my adulthood the stinging experience is still with me, a wound that mended but left a scar. How in the world did I ever concentrate on school work or feel a part of this first grade community? I didn’t.

The second grade was not much better for me, I loved to learn but not under the circumstances of humility and shame in who I was. If I had been provided with confidence,

pride, and given an opportunity to feel successful at school maybe “that place” would have become a source of escape from home life. Instead my first years of school lead to frustration, humility, and distancing myself from the classroom community. Fortunately this took a turn before it was too late for me.

Many of us may remember that one teacher who made a difference in us. I will never forget the first teacher who inspired me, she cared about my background, my ability, and she encouraged me to do and learn new things on my own in a manner suitable for me. She believed in me and instilled the confidence that I too was worthy of an education and a safe environment to practice it in, and that being a part of the community is important. There was a path for me, a journey that I hadn’t seen before then.

My past experiences with education have led me to wonder how many of my students come to school without boots, gloves, hats or scarves. How may I better serve their individual needs? Not one, not some, but all? It was no wonder to me that my action research question evolved into, “What happens when I use differentiation to design multimedia projects?” My frustration was fueling from the varying skill level year after year in my multimedia classes. I had been struggling with how to manage classes full of students from various backgrounds, interests, multiple entry points, varied skill level, some students had access to technology yet others still do not. The variance in student skills and needs each year has increased at an alarming rate. This may be due to technological advances and the increased outlets for learning in newly found mediums. I have seen the disconnection of students’ interest and what they value as important not only within my classroom but in many other areas of our school.

I observe students remembering only what they need to at the minute to pass the test, studying minutes beforehand memorizing only the necessities, writing their paper at break,

rushing through a project so they can do whatever else but not working on class content; these are not signs of engagement. The one size fits all mentality simply is not successful. I have been trying to meet the needs of all the students in the past but it never was successful. I made personal connections with students but on the project level I wasn't meeting the needs of the individual learner as best as I felt I could. I was consistently looking for an effective way to deal with the difference in student levels that kept reappearing. I wanted all of the students to be involved with the classroom community and feel the value of the content not one, not some, but all. What was I going to do? The problem would only continue to grow as the years passed by. I could see the need for change but I wasn't quite sure how to get there. What existed? Did anyone else care it was just a multimedia class?

I went on a journey to discover what more I could do to provide further positive learning experiences and interactions for myself and my students. I went through many bouts of trial and error pedagogy and experimentation of projects and still I did not feel satisfied or as successful as I thought I could be. I continued to find myself searching for something to magically answer my questions. It was not until my graduate school program and the support of my peers that I started to see the light. I was so fortunate to have found not only a place that valued my profession and content but was also interested in me as a teacher and a person, and the change that I might make as a leader in my classroom. They instilled in me the belief that it was possible to find the answer to my questions and they guided me towards the answers. I found it wasn't the content I was teaching but the importance of how. I was thrilled to be a part of a group that placed so much value on students and teachers learning alike. We were able to discuss our problems, ideas, and whatever we needed help with all while working as one whole the way I

want my classroom to function. The value of my peers in graduate school cannot be discounted. My students and I would not have come this far without them nor would have my research.

I always had a great connection with students but I wanted to get all of them working at an equally challenging level and increase their intrinsic motivation when learning and executing the course content. Through the course of my study I did achieve effectively engaging the needs of the individual student but it did come with challenges. I came to find out that it wasn't only about getting them to a certain skill level; it was much deeper. If I was going to reach all students and increase motivation for the course content and product there were many facets I must focus on; student readiness, interest, and learning profile.

In the beginning I was primarily focusing on learning styles missing the other differentiation components that are important to learning. I was not focusing on the whole student and it became apparent as I executed various assignments throughout my study. The criteria for each animation project changed based on quality outcome of assignments and student feedback but it took time to realize the missing links. It was then that I saw the importance of student control and ownership, the significance of incorporating the main features of differentiation into my curriculum, and the positive outcomes that would then prevail. The power of the students' voice and showing them the importance and incorporation of it is priceless. The value of sharing, being honest with one another, respecting the importance of the students ideas and voice, and creating a safe community for learning for all made a significant difference in the learning outcomes of the student and myself.

There were many stepping stones along the way to finding my first notable success with differentiation and multimedia projects. The first project showed me the importance of attaining the interests of the students and getting them to further interact with one another, the second

phase of the study proved to me the significance of why not only looking at learning styles was important but talking in the student as a whole, and that the projects are supplements to the real world they live in and should be treated as such.

*I see skies of blue and clouds of white...and I think to myself what a wonderful world...*

The close, now what? How do I continue, my next steps? There are so many other possibilities and avenues that differentiation tools have to offer to me. I know that I will continue to follow through with and use further methods and combinations of theories to evolve my teaching practices to further make connections to students' individuality, personal growth, and create a wholesome learning experience. I want to provide the best of what I have to offer for my students' experience so that they may do the same for me.

I know now what I can do to make a better place for my students to insure a safe community for learning, failures and successes, and a place where individual differences can be expressed and explored without fear or shame. A classroom where we all come together and learn as a whole and as individuals we will feed from each other's experiences, spirits and souls. We will thrive from our journeys together and learn at a pace that is comfortable for all of us, not one, not some, all. That is what I want for the now and future for my students and myself.

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## *Appendices*

### **Appendix A-Initial Survey Exit Card**

Name \_\_\_\_\_

**1. How would you rate your computer skills? Circle one of the following below:**

- A. None-I never turn the computer on unless I have to
- B. Very Little-I use the computer mostly for typing homework
- C. Moderate-basic email, surfing, homework, shopping, downloading music, etc.
- D. Whoa! I am a computer genius; I have monitor burn on my face!

**2. What computer activities do you spend the most time doing? Rate from 1-4, 1 being the lowest score:**

- \_\_\_ Playing games
- \_\_\_ Visiting social websites (Twitter, Facebook, etc.)
- \_\_\_ Doing something creative (video editing, photo manipulation, animation, etc.)
- \_\_\_ Basic surfing, email, and homework

**3. Do you have access to a computer outside of school?**

- D. Yes, all or most of the time
- E. Sometimes, limited use (library, relatives, etc.)
- F. No, not at all

**4. Check all that apply to you:**

- \_\_\_ Can create website or blog
- \_\_\_ Make a computer game
- \_\_\_ Can operate a digital camera
- \_\_\_ Use a scanner and printer
- \_\_\_ Know how to create a video/slideshow of some sort
- \_\_\_ Have an email account
- \_\_\_ Uses some type of digital painting/graphics program

**4. Do you have experience working on an Apple (Mac) computer?**

**5. What are you interested in learning about in this class?**

## Appendix B: Sternberg Learning Styles Survey

### Triarchic Theory of Intelligences - Robert Sternberg

Mark each sentence T if you like to do the activity

- |  |     |
|--|-----|
| 1. Analyzing characters when I'm reading or listening to a story | ___ |
| 2. Designing new things  | ___ |
| 3. Taking things apart and fixing them                           | ___ |
| 4. Comparing and contrasting points of view                      | ___ |
| 5. Coming up with ideas  | ___ |
| 6. Learning through hands-on activities                          | ___ |
| 7. Criticizing my own and other kids' work                       | ___ |
| 8. Using my imagination  | ___ |
| 9. Putting into practice things I learned                        | ___ |
| 10. Thinking clearly and analytically                            | ___ |
| 11. Thinking of alternative solutions                            | ___ |
| 12. Working with people in teams or groups                       | ___ |
| 13. Solving logical problems                                     | ___ |
| 14. Noticing things others often ignore                          | ___ |
| 15. Resolving conflicts  | ___ |
| 16. Evaluating my own and other's points of view                 | ___ |
| 17. Thinking in pictures and images                              | ___ |
| 18. Advising friends on their problems                           | ___ |
| 19. Explaining difficult ideas or problems to others             | ___ |
| 20. Supposing things were different                              | ___ |
| 21. Convincing someone to do something                           | ___ |
| 22. Making inferences and deriving conclusions                   | ___ |
| 23. Drawing  | ___ |
| 24. Learning by interacting with others                          | ___ |
| 25. Sorting and classifying                                      | ___ |
| 26. Inventing new words, games, approaches                       | ___ |
| 27. Applying my knowledge  | ___ |
| 28. Using graphic organizers or images to organize your thoughts | ___ |
| 29. Composing  | ___ |
| 30. Adapting to new situations                                   | ___ |

Transfer your answers from the survey to the key. The column with the most "True" responses is your dominant intelligence.

Analytical	Creative	Practical
1. ___	2. ___	3. ___
4. ___	5. ___	6. ___
7. ___	8. ___	9. ___
10. ___	11. ___	12. ___
13. ___	14. ___	15. ___
16. ___	17. ___	18. ___
19. ___	20. ___	21. ___
22. ___	23. ___	24. ___
25. ___	26. ___	27. ___
28. ___	29. ___	30. ___

Total Number of True:

Analytical \_\_\_

Creative \_\_\_

Practical \_\_\_

**Appendix C-Exit Card 10/29/2010**

How would you rate your effort/participation this week? (1 is the lowest 5 is the highest)

1      2      3      4      5

Progress of your animation in regards to the time limit given: (1 is the lowest 5 is the highest)

1      2      3      4      5

What are your next steps/goals for the project?

**Appendix D- Exit Card 11/05/2010**

How would you rate your effort/participation this week? (1 is the lowest 5 is the highest)

1      2      3      4      5

Progress of your animation in regards to the time limit given: (1 is the lowest 5 is the highest)

1      2      3      4      5

What specifically do you need help with or tools you need reviewed?

**Appendix E-Exit Card 11/12/2010**

On the paper below draw a cartoon head that represents how you feel about your project at this time. On the back of the paper describe why you feel this way.

**Appendix F- Interview Exit Card 12/07/2010**

Do you feel you challenged yourself in the last project? Describe how and why you did or did not.

What would you change going into the next assignment?

**Appendix G- Exit Card 01/21/2011**

Animate in Flash (3-5 seconds) how happy are you/motivated about your project?

## **Appendix H-Exit Card Reflection 02/28/2011-Student Designed Flash Project**

Each of you has been given a reflection book and pencil. I would like you to answer the following questions below about our last assignment. You may address the questions in your own reflection book in any way you see fit. You might draw, write, doodle, etc. as long as you answer the questions in some fashion, and have fun!

I will be utilizing these books to aid my final data collection for the action research project that I have been conducting over the past six months. Also some of you did not sign the release forms for my project and as I am beginning to write about my journey with all of you I need to have signatures to use your quotes, projects, data, etc., it will make my project that much richer to have full participation from all of you. Thank you to everyone for your participation and willingness to work with me!

1. At the beginning of this project did you like or dislike that you were part of the design phase?
2. Did you feel you had control of your own final project, idea, and outcome?
3. More specifically did the final intended assignment you received involve your interests, skills and learning style (creative, practical, analytical)?
4. What was your biggest challenge? Why?
5. What are you most proud of in your final animation?
6. Overall how motivated were you throughout the process of creating your final animation?
7. How did this project compare to others you have done? Any similarities or differences?
8. Would you like to be able to help design more projects in the future?
9. Are you willing to share your final project outside of the class?
10. Final thoughts and or feelings?

### **Appendix I-Interview Exit Card 12/07/2010**

Do you feel you challenged yourself in the last project? Describe how and why you did or did not.

What would you change going into the next assignment?

What would you consider to be a challenging project for you?

Describe a memorable assignment/project?

List all of the ideas you might have for the next assignment in Flash.

### **Appendix J-What Type of Cartoon Character Are You?**

**The following assignment will be based a continuation of developing a story, character and, incorporating elements that make up a great animation.**

You will be developing your self/personality into a cartoon character. Follow the directions below and answer the following:

Think about what type of cartoon figure you would like to be. You may see yourself as a humanoid, super hero, robot, animal, plants, something from nature, etc. Think outside the box!

Once you have a solid idea from above you will be creating a final sketch of the cartoon figure.

Using sketch paper, colored pencils, markers, and or any other elements you want create the final character make up

**Then answer the following questions about the character:**

Why did you choose this type of character?

What are the characters personality traits?

Create a small story based around your character with a minimum of 2-3 paragraphs

## Appendix K-Student {Prompts Following Cartoon Character Project Assignment 6: Story, Storyboarding, and Cartoon Characters

The next assignment will be based on creating your own animation, story, storyboard, and incorporating the self-character figure you developed in the last assignment. The project will provide you with three choices based on your learning style. Before I implement the final I would like to receive feedback/suggestions from each of you on the design of the final assignment. Here is a guideline so far:

<b>Practical</b>	<b>Analytical</b>	<b>Creative</b>
<p>The day in the life of my cartoon character-pick one situation from daily life and put your character in the situation. What will they do? How do they react to certain “real world” situations? Storyboard and create the final animation.</p>	<p>Develop a story in which your figure is showing someone how to do something-the process of creating a peanut butter and jelly sandwich, making a robot, how to solve a particular problem etc. Storyboard and create the final animation.</p>	<p>Refine the story from the previous assignment and storyboard a 30 second animation that you will later create.</p> <p>Create a new fictional story in which your cartoon character will be involved in, storyboard and execute the final animation.</p>

**In the blank areas above provide your feedback for an assignment based on your learning style(s).**

## **Appendix L-Student Learning Style Prompts and Brainstorming Ideas for Animation 2**

**Using each of the prompts below answer the prompts that correlate to your learning style. We will be creating the next Flash assignment based off of class feedback, interests, and individual learning styles.**

### **Practical**

Show how to animate....

Demonstrate your ability to create...

Based on your experience with animation...

Using your knowledge of Flash...

Consider the problem (your choice) and animate...

### **Analytical**

In an animation explain why...

Show (animate) the parts of...

Identify and animate the key aspects...

Present/animate a step by step...

Diagram how...

### **Creative**

Find a new way to recreate ...

Use comic relief to animate...

Take these animation materials to create...

Explain a new way to...

Connect with an animator...

Become a... (your choice) and animate...

**Brainstorm and list all of the project ideas you may have for the next assignment on the back of this sheet**

## Appendix M- Prescriptive Lesson Example

Assignment: Designing Individualized Flash Animation-100 Points

Storyboard-10 Points

Progress Checks-30 Points

Final Animation-60 Points

**Learning Style:** Practical

**Synopsis:** I know that you missed some of the beginning classes but I feel you can get a good grip of the software if you focus on the assignment and follow along with the lectures. I have designed your project based off of the questions you answered. Below are two scenarios as we discussed that I feel you will be able to create comfortably with the skills you have yet also challenge yourself to increase your knowledge of the software.

### Summary of Your Project:

Based on your experience with animation create a TV quiz show. This may be a story you tell about a character on a show or an animated question answer piece that the audience interacts with.

Using your knowledge of Flash create a historical pirate ship fight scene. You could create your own remake of an actual event that took place recently or in the past. You would not necessarily need to create characters but your two ships could act as the main characters and have their own personalities through the animation process.

### Required Technical Aspects:

- **Storyboard:** Layout your final idea in a storyboard with timing, audio, camera angles, short descriptions, etc.
- **Meet with Ms. B for final storyboard approval before beginning your project**
- **Stage Size:** 720 x 480 Pixels
- **Frame Rate:** 30 Frames Per Second
- **Animation Length:** 20 Seconds
- **Required Elements to Utilize in Your Project:**
  - Scenes
  - Frame Animation
  - Tween Animation
  - Layers

### Timeline:

**Week 1:** 01/07/2011: Project specs storyboards due

**Week 2:** Progress Check 01/14/2011

**Week 3 (finals week):** Progress check end of finals day 01/19/2011

**Week 4:** Progress Check 01/28/2011

**Week 5:** Final Presentations 02/04/2011

**Appendix N-Project Feedback Exit Card 01/05/11**

1. After reading your proposed Flash assignment what if any changes would you make to the assignment, length, subject matter, skill level, etc.

2. Draw a cartoon that represents your current motivational level for the next animation (on the back explain why you feel this way):