

How Can I Better Implement Differentiated Instruction in My Classroom?

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Research Report

Throughout my first four years of teaching, I continually find that I am asking myself the same question day in and day out. How can I better implement differentiated instruction so that my students are focused, on task, and learning at their individual level? This question is the one on which I have decided to focus my action research. Typically, I have about 130 students per marking period, half of them fifth graders and half of them sixth graders, over six 36 minute periods. Commonly, about three students per class are functioning above grade level, while three to eight are below grade level. It is these two groups of students that have given me difficulty thus far in my career.

Because my curriculum is skill based and my class project based, I find it difficult to give the advanced students extra work that they don't perceive to be busy work, furthermore, sometimes the additional activities I assign them prove to be distracting to those functioning below grade level. On the contrary, I find that most of my lower level students fail to complete all assigned projects, and that for many of those projects which they are completing, they lack understanding of skills and how they would again apply what they have learned, leading me to question if their learning in my class is in fact valuable. I have tried in the past and continue to offer to these students alternative projects, many which are website based, but I often I find that these websites have so many things moving, blinking, and flashing, which in turn proves to be distracting to the advanced students. Ultimately, I find myself asking the following sub-questions: Do I have all students attempt every project and activity? At what point do I implement scaffolding? When do I exempt a student from an assignment altogether and offer an alternative activity? How can I further the learning of highly proficient students when they complete a project, but do not yet know enough to move on to the next? In asking myself these

questions, I also cannot help but think, do I always for every student have enough assessments to make my summative grading justifiable and defensible.

As I am finishing my fourth year as a computer teacher, I honestly believe that I am a good teacher, but that is not good enough. I want to be a great teacher, for me, and for my students. Being able to differentiate instruction in my classroom is what I believe will bridge that gap between good and great. Throughout my undergraduate schooling, practicum experience, and student teaching I found it easy to differentiate instruction, as I was planning lessons for general education settings in which many subjects were taught. Now, I find myself challenged to meet the individual needs of all of my students because the skill set that I teach is dictated with such specificity and is intended to be acquired by all. In the past, I often pondered, to no avail, how I could possibly appeal to the different learning styles and the individual needs of all my students when I have so many of them, and each of them for only 36 minutes for 45 days.

My first mistake was that the definition of differentiated instruction, as it applied in my computer lab classroom, was offering students choice, so that they could pick the project that most appealed to them, to prove that they had learned the skills that they were taught. Now I realize that there is more than just student choice. “Differentiating instruction means that you observe and understand the differences and similarities among students and use this information to plan instruction.” (Robb, 2008) I now understand that it is not choice that I must provide, but a positive learning experience through which my students’ skills further develop and their learning is optimized no matter what their proficiency level. According to Tomlinson, “At its most basic level differentiating instruction means “shaking up” what goes on in the classroom so that students have multiple options for taking in information, making sense of ideas, and expressing what they learn. In other words, a differentiated classroom provides different avenues to

acquiring content, to processing or making sense of ideas, and to developing products so that each student can learn efficiently. (Tomlinson, 2001, p.1)

In beginning my research, I was faced with the following question. What should my differentiated classroom look like? Tomlinson (2001, p.2) says, “Effective differentiated classrooms include purposeful student movement and some purposeful student talking. They are not disorderly or undisciplined. In reflecting upon this thought, I envisioned my room being filled with students working on a variety of projects, some individually and some in groups. I hoped to hear excited chatter as students shared newly attained knowledge and skills, and I looked forward to seeing kids moving about my classroom to share, peer tutor, and collaborate. In taking the differentiated Instruction class offered by RTC/TCNJ, I now more deeply understand differentiation, how the environment should appear, and the criteria for differentiation to be effective. Throughout my research, I did in fact see much of what I envisioned.

The three criteria for differentiation are that differentiation: “is proactive, not reactive; considers that there are different learners in the room with individual needs; and focused on helping students learn essential concepts.” The principles of differentiation dictate: “the curriculum is meaningful and relevant to all students,” the curriculum is “based on state/national standards,” and that “key concepts/generalizations are articulated and used as the basis for instruction and assessment.” Further, the principles demand content is taught in the following ways: “instruction is respectful – tasks should be equally interesting, equally important, and equally engaging to all students, there is a balance between student-selected and teacher-assigned tasks, instruction reflects student differences, and instruction integrates critical/creative thinking.” Finally, the principles require that learning is measured in ways that make:

“assessment inseparable from instruction (pre-assessment), assessment is used for ongoing classroom planning, and assessment measures essential knowledge.” (Wilk, n.d., p.11)

After reflecting, defining, and exploring the criteria for, and the governing principles of, differentiated instruction, the next step in the progression was for me to identify strategies and techniques that I could implement in my classroom. The strategies I believed would work best in my classroom were: agendas, exit cards, anchor activities, and scaffolding and tiering. I looked forward to testing these techniques with a small group of students. My thought was that if they worked as I had hoped, I would begin implementing them, as early as this coming September, those that work best.

In researching learning agendas, I discovered that agenda tasks may differ according to student needs, not only giving students choice but also guidance. By having students use a learning agenda, they are able “to visually track the work that needs completing and the activities they have finished. Students using agendas, therefore, can develop management and organizational skills,” (Kluth, n.d.) skills that I feel many of my students are lacking. Moreover, those students who need more practice at a particular skill will have greater opportunities to practice, while giving those students who are highly proficient the opportunity to prove their knowledge and then move on to a different activity, exercise, or project that may prove to be more beneficial and challenging, and offer them more maximized learning. Due to time constraints, I did not have students use agendas during this study, but I did discuss the concept with a few of them, and they seemed to like the idea. I plan on having all of my students, no matter what their level of proficiency, use agendas next year, as a way to continue this research.

Exit cards are another strategy with which I looked forward to working. I felt as if I got my students’ opinions about what they were learning and why, I would be provided with

valuable information, allowing me to tailor my instruction to my students' needs, and also enabling me to immediately intervene for any and all struggling students. "The beauty of the exit slip is that it puts the learning in the students' hands. It's also empowering for them when they see what they have shared influences what and how they are taught the next day." (Alber 2012)

In the past, I had already attempted to use anchor activities in my classroom, but more reactively than proactively. In further exploring anchor activities I have gained the knowledge I need to make these activities more beneficial than they were in my classroom. Instead of being reactive, I have planned and I now know I need to continue to plan "tasks that students move to automatically after completing assigned work, are essential to student learning - not just time fillers, may be generic or specifically linked to a topic of study, and provide opportunities for all students to use anchor activities." (Rex, n.d.)

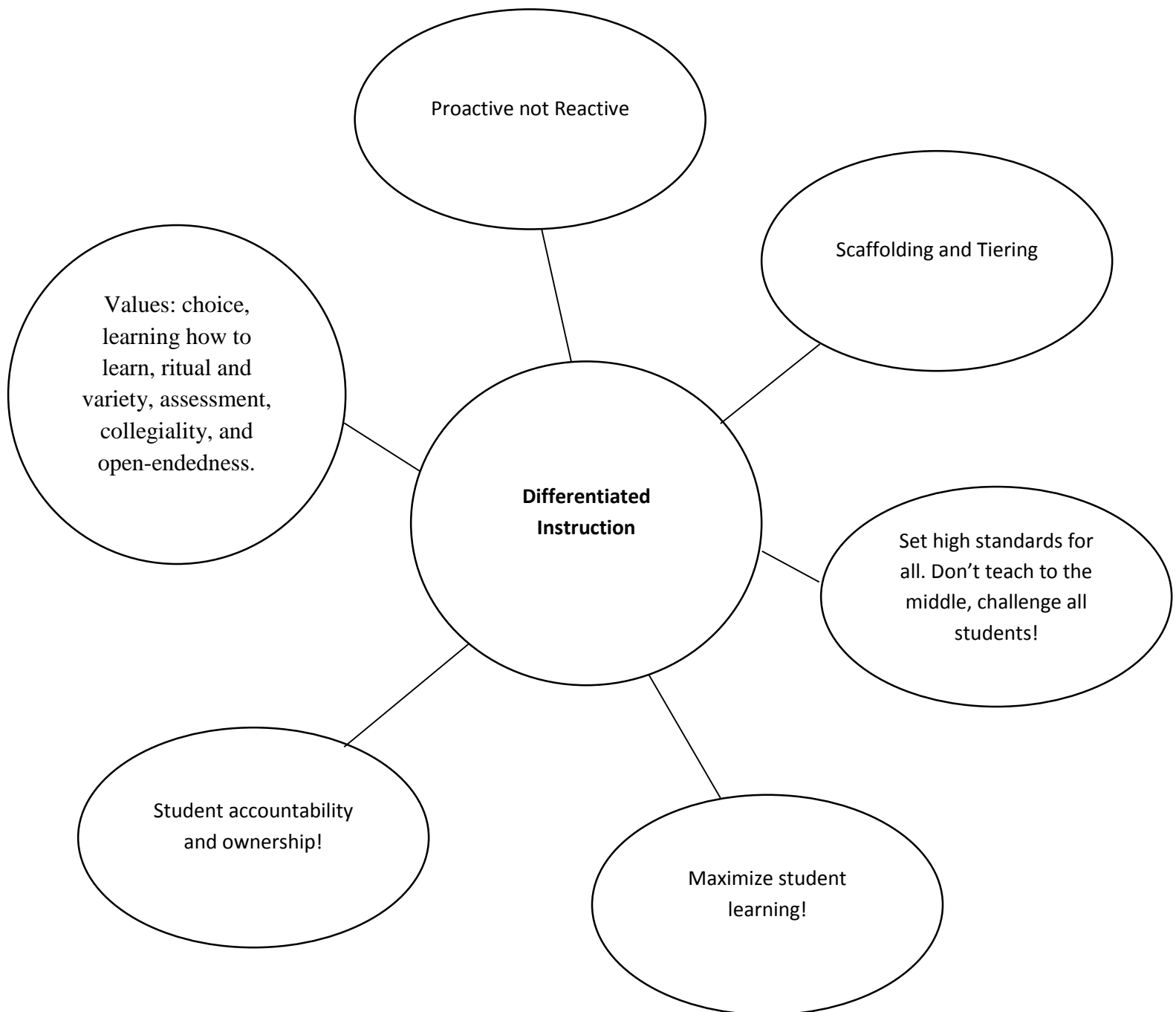
Like anchor activities, I had already used scaffolding and tiering in my classroom, but only for one project. My goal for the future is to create tiered requirements for all projects, so that I can immediately intervene for struggling students and appropriately challenge those who are proficient and highly proficient. "If done appropriately, tiering instruction provides a challenge to every learner, develops habits of lifelong learning, and encourages respect for individual differences." (Pigott Robinson, n.d.) I feel, once mastered, that this will be an effective way for me to meet the needs of all of my students, as well as suitably challenge them. However, I still question how I can scaffold and tier assignments so that students don't feel that I lack faith in them or have given some the "easy way out."

Differentiating instruction has proven to be the single most challenging aspect of my four year old career. Through actively researching differentiated instruction, I feel that I have gained the knowledge to better myself in the area. It is with passion and excitement that I look forward

to continue attempting and implementing the above mentioned strategies, and reveling in the success in which I believe they will bring year in and year out, as did the strategies that were implemented during my study.

Literature Review

In exploring several resources, I have deepened my understanding of differentiated instruction and felt that I was better prepared to take on my action research project, so that the results generated were valid and useful to my future instruction and student learning.



The first article I read focused on the values important to differentiated instruction, such as: choice, learning how to learn, ritual and variety, assessment, collegiality, and open-endedness. While no questions were raised, I found the information, although very short at only two pages (single spaced), to be important for my journey. Understanding and valuing the key points of any practice being implemented in my classroom are critical to its success. I believe one of the two most important pieces read were how differentiation opens students' eyes to how they best learn, thus better preparing them for future academic experiences. The other, how differentiated instruction should embrace a more Socratic way of teaching where learning should not always come to an answer, but perhaps lead to more questions. I feel that there is often an over-emphasis on bringing closure to a lesson. While I understand that research shows closure helps to move newly learned material to permanent memory, I want my students continually thinking about how they can apply to the future what they have learned today.

The second article I read focused on the benefits that differentiated instruction offers advanced students. The author quickly quoted Tomlinson, "Differentiation is not an instructional strategy. It is a philosophy or way of thinking about teaching and learning that embraces students as individual learners with individual needs. Differentiated instruction, allows all students to participate in respectful learning experiences that may be different but, equally interesting, equally important and equally powerful." (as sighted in Kirkey, n.d.) This article presented a strong case for differentiation regarding the higher level learner "Emily." I found this to be particularly interesting because it never crossed my mind that an action research study could be effective if completed for only one student. Further, this article presented findings that illustrated benefits for the entire class by making changes to only one student's learning plan. Also, in speaking with colleagues, it seems that the general belief in the need for differentiation,

more often than not, is for the struggling learner.

In reading this article, I kept thinking of three of my students, one past, two I had at the time I read this article, the past a very high achieving student, and the other two, very low achieving special education students. My thoughts were “what-if” type questions. What if I had better tailored the instruction to greater challenge that advanced student? Would she have been less attitudinal? Would she have been less confrontational? Would she still have rolled her eyes at me on a daily basis? Would she have been less disruptive to those who sat in her immediate vicinity? Would she have placed higher value on what she was learning? In regards to her, unfortunately now all I can do is wonder.

In regards to the students I had at the time, this article may have been just what could have saved me, saved them, and saved all of the other students in my period four class! Perhaps, these two students could have been the subjects of my entire project. The marking period was less than 10 days old with 35 left to go when I read this article. These two students were an entire project behind, had had their seats moved, and had generated two complaints from students who sat near them. What if I designed an entire curriculum that just applied to those two, one where they were scaffolded and self-paced, one that allowed them to choose the activities in which they would like to partake? Would this have restored order to that section of my classroom? Would they have gotten a more optimal learning experience? Would those around them have benefited and in turn also have had a better learning experience? While the focus of this article was on the higher level student, the philosophy can easily be adapted for those at the opposite end of the spectrum.

Ultimately, it is my goal as an educator for my students to learn something, no matter how big or small, each day. Additionally, I hope that my students will be able to apply at a later

date what they learn each day. I often see disconnect between the skills learned in my classroom and why they are used, and how they can be applied to different areas and subjects. In questioning students about this, I frequently get the responses, “I forgot,” or “I never thought about it.” The third article I read addressed an action research project undertaken about the retention rate of students when differentiation and choice is implemented. The author did a great job of presenting data and her findings, but I felt her time period was too short to validate her findings. In teaching a cycle class that only lasts 45 days, I am sure that many of my students don’t retain much of what they learn in my class, as once they move on to their next class, they are no longer being forced to continue to practice much of what they have learned. In looking back on my own schooling, I can remember most what I was taught when I can remember what I was doing when I learned that particular skill or content, when I was given a choice in the presentation of what I learned, and when I wasn’t being coddled or treated like a small child. When I felt I was being treated as older than I was, I took the opportunity to rise to the occasion. It is impossible for me to gauge how much my 6th graders retain, as they move on to the middle school, and I see how much my 5th graders forget when they come to me in 6th grade. Is there a way, through differentiation, that I can increase retention? Perhaps, this is another research question all together that may be worth exploring.

The fourth article read, entitled Accommodating Differences highlighted the key point that all classes contain students of varying levels of ability and motivation. The author reminded us to, “set high standards for all,” and to “challenge all students in the classroom rather than “teach to the middle.” He encourages to “hold all students accountable to high standards and a deep level of critical thinking, and to vary instructional strategies to ensure they can meet those challenges.” (Romano, n.d.) Romano also advocates for authentic assessment with Bloom’s

taxonomy in mind when planning. This article was short at less than one page, and offered little insight. It was more of a pep talk than any type of real information. I chose to include it in this review only after re-reading it and noticing in very small print at the bottom read the words “Tips for Teachers Just Starting Out.” This really is my starting point for my new and improved classroom, the classroom that will go from good to great, and I know that many are like myself, and need a word of encouragement and a “you can do it” before embracing change.

The final article I read was written by the differentiated instruction guru herself, Carol Ann Tomlinson. This was a fantastic article with no noted weaknesses. Tomlinson first explained what differentiation is and what it is not. She points out in the “what it is not” section several classroom techniques that many educators misinterpret to be differentiated instruction, such as allowing those who finish first to play games, or giving those students extra work, and adjustments consisting of varying levels of difficulty. Tomlinson is, however, quick to point out the characteristics that are evident in a effective differentiated environment. She reminds us that all students should be given the opportunity to explore all of the key concepts and that they understand the key principles, that this instruction focuses on understanding and application and not retention and regurgitation of information or its parts. Another key characteristic to differentiated instruction is on-going or formative assessment. Flexible grouping is consistently used, and finally, the teacher is a facilitator of learning, so that learning is student centered and that students are learning through exploration and discovery. Finally, Tomlinson outlines “readiness-based adjustments” that teachers can employ to better student understanding and learning. In concluding her article, Tomlinson (1995) makes the argument that teachers should “have a clear rationale for differentiation, prepare students and parents for a differentiated classroom, attend to issues of classroom structure and management as they move toward more

student-centered learning, move toward differentiation at a pace comfortable to both teacher and learners, and plan with team members and other colleagues interested in differentiation.”

In reading this article, I gained a lot of knowledge as I was preparing to move my classroom in the way of differentiation. It was both unsettling and exciting to think about making this change, as I was then very comfortable with the way things were, but wished to better manage my classroom and further maximize learning. I came out of this article with several new ideas like, but not limited to, “learning contracts, tasks and products designed with a multiple intelligence orientation, and graduated tasks,” and look forward to field testing them with my future students.

After reading these five articles, I realized that I needed to further explore specific action research studies that address differentiation in different areas of the curriculum, so that I can better tailor projects I assign in my classroom. While completing these readings brought to my attention a variety of principles, rules, and strategies, I saw the need to keep my own action research project extremely focused. In reading, my mind wandered as every idea I read seemed like another piece of the puzzle that I could not be without. It quickly occurred to me that if I began to try to incorporate all of the ideas read into my research project that my classroom would quickly become chaotic and student learning would not be maximized. I believed that if I were to be successful, meaning that what I was about to learn from my research would be useful to me and my students in the future, I had to incorporate ideas one at a time and thoroughly evaluate each before moving on to the next. This reading/research was necessary because of the varying levels of proficiency exemplified in each of my classes. It is my hope that in the future all of my students will be challenged and find value in what they are learning. Through completing this action research, I expected to see the first steps in that direction.

Methodology/Research Plan

Differentiated Instruction is currently an education hot topic. Due to the ever-growing inclusion environment, teachers need to continually find ways, by differentiating instruction, to tailor lesson plans, so that optimal student learning is taking place. While many teachers believe that simply changing the difficulty level of questions for struggling students, or giving highly proficient students additional work, or allowing time for games, is differentiating instruction, there is much more to the philosophy. “A differentiated classroom offers a variety of learning options designed to tap into different readiness levels, interests, and learning profiles.”

(Tomlinson, 1995) It is a classroom built upon core characteristics that are built around student-centered activities, grouping, assessment, and is focused on concepts and driven by principle.

Participants

For this study, I have chosen six students, three male and three female – all sixth graders (except one fifth grade male who entered my class typing nearly 70 words per minute and had an extensive computer background), whom during both last year and this, consistently were first to finish with near perfection any project assigned. I have chosen these highly proficient students based upon their work ethic, their attention to detail, and their willingness to see a task through to the end, no matter how challenging, boring, difficult, or frustrating. These students are critical thinkers, problem solvers, and desire to learn as much as possible during each and every school day.

The students chosen were not informed that they were part of a research group or study. I simply told them that I was going to give them a variety of projects that other students in the class would not be getting, and I would be asking them for their feedback on the assignments, as

I was creating new assignments to use with future students. This was true of this action research project; I had hoped from the beginning that the activities and exercises used during this time period would be implemented as early as next year. All seemed excited to having been chosen, and even came to check with me during their LAP (extra help/study hall) period to see if I wanted them to do anything else besides what I assigned in class. I knew I was off to a great start as soon as I saw their enthusiasm.

Type of Data Collected

The six students were given a mix of assignments, some that were required to be completed by everyone in the entire class and some that differed from the “normally” assigned projects, but still aligned to the curriculum and standards. They were then given an ample amount of time at the end of class some days to complete an exit ticket with pre-determined questions asking them the following: Do you feel that your time was well spent in computer class today? Why or why not? Do you feel that you learned anything new today, and if so, what? Do you feel that you got better at something you already knew today, because you got the opportunity to practice that skill, and if so, what? Have you learned anything about the way you learn, and if so what? Could you use what you learned today in another subject, or for another project? If so how, and if not why? When necessary, I briefly met with students for clarification and/or elaboration about answers.

For my students, the purpose of these questions was for them to realize that what they were doing was important and that they were learning rather than doing “busy work,” even though it was not what the rest of the class was doing. Further, having had students reflect upon and evaluate their day-to-day learning aided them in beginning to discover their learning style and showed them that what they were learning was relative and useful. For me, the purpose of

the questions was to provide data that could be used to analyze and ensure that there was in fact learning taking place and that that learning aligned with the curriculum and standards.

Through classroom observation, reflection, and journaling, I further evaluated the learning of the students selected for this study. Each day, at various points, I reflected upon and recorded what did and didn't work in my classroom and why. During my first couple of days of data collection, I was waiting until the end of the day to journal, but quickly realized that I was uncomfortable with the thoroughness and accuracy of my reflections. Day three, I began keeping a pocket notebook on my person at all times. I found this to be effective for heat of the moment thoughts, as well as for those that came to me later in the day, when the students who were the focus of this study were not even in the room. At the end of each day, I then transferred my recordings to a large notebook in which I could elaborate upon or eliminate those notes that I no longer deemed important.

Data Analysis Procedures

In an effort to efficiently and effectively analyze my data, I first organized the information I collected by type: students' answers to exit tickets, important journal notes, journal notes that seemed important when written, but now not so much, and student performance in relationship to curriculum and standards.

Students' responses to exit tickets were entered and organized into a spreadsheet so that I was able identify any similarities and/or differences in students' opinions. I compiled this spreadsheet by sending out the exit ticket via email with an attached Google Form. This was convenient as the software automatically categorized the data in a spreadsheet that it created, and required minimal manipulation on my part. Another convenience offered by Google Forms is that the publisher of the exit ticket can make it so that the one being surveyed has to login to the

form to complete, or he or she can be granted access to the form by simple clicking (and not have to enter a username or password). I chose the latter as I felt it offered the students a feeling of anonymity. However, because not all of the students were in the same period class and they didn't finish at exactly the same time, it proved relatively easy to figure out who was providing which answers, although this was unimportant to me, as these students have been honest and have genuinely cared about their performance since I have known them.

My important journal notes were organized and compared, again to identify any similarities and/or differences. Once identified, I then determined to which standards the skills learned apply. These standards were "checked off" and date-stamped to record evidence that the students had successfully fulfilled the requirements of the curriculum. The intent was that all students were given sufficient and appropriate opportunities to meet the set objective with a satisfactory level of proficiency, no matter the activity or project. Further, I compared these notes to the exit ticket answers to see if there was consistency in my feelings and the students'. Most of the findings turned out to be as I predicted, but some were a bit different than I had expected and therefore surprised me.

My journal notes which I quickly began referring to as the discard pile, those that seemed important when written, but not so during the analysis stage were pushed off to the side and later stored in a small box until the conclusion of writing this paper. They were then discarded. I felt as if I kept them that I may continue to look through them trying to find some meaning behind why they were written in the first place. I also didn't want to be moving that little box from shelf to shelf years from now.

In collecting and analyzing these four types of data simultaneously, I believe that I have accurate results that are useful and provide evidence that students selected for this study were

truly getting an optimized learning experience. In utilizing these four data sets together, I feel I was able to mitigate skewing and subjectivity in my results, offering objective and “true” findings.

Findings

I originally began my research project with the intent to explore better implementing differentiation with two groups of students, those who were struggling and those I deemed highly proficient. Quickly, I realized that my focus needed to be on the latter group, because when reflecting upon my approaches and methods with struggling learners from the beginning of my career to the time I began my data collection, I came to the conclusion that I have greatly improved in differentiating for this group. On the contrary, I determined I was less than satisfied with the attention I had been paying the highly proficient group in regards to differentiation, and that I was giving those students “busy work” instead of challenging them or expanding or maximizing their learning. Further, time constraints would have made it nearly impossible to research both group simultaneously.

Students were given a variety of projects and activities to further their learning, some of which, through practice, directly reinforced newly learned skills. Others reviewed skills learned in earlier grades, and a few allowed students to learn through discovery. Here is one example of differentiation in my classroom. For my Google Docs or word processing unit, I had all students create a newsletter, so that they would review inserting WordArt and graphics, and then learn how to work with text boxes, tables, columns, and tab stops. Once completed, the students chosen for my research were told they had to create an original document, using word processing software, that included five of the six above mentioned skills. The choices of documents included instructions on how to do something, a poem, song lyrics, or something that they

thought of that I first had to approve. Another example was I had the fifth grade student selected create a calendar by creating a table using word processing software, as did the rest of the class. However, when he finished, I asked him to create a table that would organize data for him, so that his table would be personally useful. He chose first to create a schedule for his upcoming baseball season and when he finished that, he created a third table which was a times table he was struggling to master in his math class. A third example of my implementing differentiated instruction was during my Google Slides unit, at which time they were creating presentations. When finished, participants were asked to create a Jeopardy-like game to help them review or teach another student material for another class. I also allowed them to explore Prezi and then asked them to compare and contrast the two types of presentation software. These three examples are a sample of the differentiated instruction implemented during the time of the study. There were a few more, some of which are elaborated upon in the remainder of this writing.

Exit Tickets – Exit tickets proved to be extremely useful in conducting this study because I felt that my students' feelings and opinions about what they were learning and being asked to do would help in "fact-checking" my observations. Exit tickets were e-mailed to students on select days. The days chosen were based upon whether or not that student worked on the same task as the rest of the class. If he or she did not, no exit ticket was completed. If he or she did, the direction was to check their email seven to ten minutes prior to the end of class, so that there would be ample time to thoroughly answer the questions.

I felt that the answers throughout the exit tickets were consistent and that most days most students found validity and usefulness in what they were asked to do, and that there was an understanding that it is okay that not everyone in the class is doing the same thing all the time. I did however feel that some days the exit tickets were rushed and answers appeared similar to

days previous. Perhaps, this was my fault in that I wrote open-ended questions and chose not to alter the exit ticket in any way. The questions were always the same:

Do you feel that your time was well spent in computer class today?	Why or why not?
Do you feel that you learned anything new today?	If so, what?
Do you feel that you got better today at something you knew or knew how to do because you got the opportunity to practice it or a specific skill?	If so, what?
Have you learned anything about the way you learn?	If so, what?
Would you have preferred to do something different in class today?	If so, what?
Could you use what you learned today in another subject or project?	If so, what and how? If not, why?

As I expected from this group of students, almost all of the answers were positive. However, in reviewing their answers each day, I couldn't help but wonder if they were being entirely truthful or if some of the students were writing what they thought I wanted from them. For example, one day in late March, a student I have dubbed Male Student One (MS1), provided the following answer to the question, "Would you have preferred to do something different in class today?"

“Not really. I know many other students would rather play games or do nothing, which I don't agree with, as we have to learn something useful. I think the things we're doing helps with our knowledge on the Chrome books. And the projects we're currently working on seem to help boost most of my information of what we'll be using and experiencing next year.” I questioned him and the validity of his response, as the assignment given to him was a similar assignment to one he had just completed using Google Drawing, only this time did not employ the use of any Google apps or a Chromebook, but Microsoft Word instead.

To further this student's skill set and knowledge base, I gave him an assignment that all of fifth grade students had completed last year using Microsoft Word (We have since switched over to the Google Apps suite.). Part one was to complete the task, part two was to write a paragraph, create a poster, or create a song or poem comparing and contrasting the two similar assignments and reveal which software was preferred and why? He had only been given part one of the project when he wrote his answer. It was almost as if he knew what I was going to ask next when writing his response that day.

An unintended result of this differentiation was when part two came to exist. Originally I just had in mind to further this student's skills by having him apply his previous knowledge (from kindergarten to fourth grade) of Microsoft Word combined with his newly acquired knowledge of Google Drawings. It quickly became apparent that by having him analyze and compare the two different pieces of software, and then having him create a product as a further assessment for understanding, that I was now climbing higher up the ladder of Bloom's Taxonomy. By forcing him to do some higher order thinking rather than just learning the skills, I was therefore better implementing differentiated instruction in my classroom and maximizing his learning experience.

Journal Notes – Observing and reflecting through journaling proved to be the most valuable method of collecting data during this study. At first, I decided I would journal for 10 – 15 minutes daily after school in an effort to record my observations. In two days, I quickly came to the realization that this approach would be neither efficient nor effective. I decided to keep a pocket notebook with me at all times during the day at which I was awake. This proved to be highly effective in that whenever I had a thought about a project or task, a student, an observation, or a way to implement something, I always had the means to jot it down before it could escape me. I then transferred my entries into a larger notebook in an organized fashion for future analysis.

Initially, I thought I would try to record observations about pre-determined categories (to keep myself better organized). While this seemed like a good idea in theory, I began to question what I would do if the categories were not addressed daily, so I decided to keep my journal more in a free-write format, and I'm glad I did. It allowed me to collect data not only regarding this project, but also information referring to other things that have slipped through the cracks, such as the last time I cleaned the air conditioner filter.

In analyzing my reflections, I came to notice four common themes: was it a good day or bad day? Was the differentiated instruction I tried to implement working? Did the students enjoy the task and find it to be valuable? Did I enjoy the task, find it to be valuable, and find that it was aligned to the curriculum and common core standards?

I found that almost every one of my entries (once compiled into the larger notebook) began with, today was a good day, or today was a bad day. Some days there was no elaboration on why or why not, but most were justified more by my mood and that of each class's mood as a whole. I found this to be a very therapeutic way to begin my journaling and a great way to clear

my mind to focus on the question at hand. How can I better implement differentiated instruction in my classroom?

One of the most common entries in my journaling was how the students selected for this study, “appeared to really enjoy having the opportunity to complete activities that were not assigned to the rest of the class. I believe they felt like leaders and really took ownership of - and accountability for what was being asked of them. They worked diligently and accepted nothing less than completion at an above satisfactory level.” Male Student Two (MS2) approached me and stated, “Mr. Tate, this project is so awesome! How come you won’t let everyone do it? You really should because this is kind of the future.”

The project he was referring to was a free online app in which students can select and modify an avatar and then assign it dialogue, either through typing, speaking, or texting, which it will then speak out in the voice the user assigns it. The example that I created to show the student was a very corny comedic approach to a history lesson about Mount Rushmore. I chose an Abraham Lincoln avatar to give the lecture which I had typed. The student chose to discuss his favorite project in computer class (He was allowed to choose to address any assignment in any subject in school as long it was positive.) up to that point in time. In his completing this project, he not only revisited and reflected upon the project, but he also recalled and reviewed (listening to the final product in a variety of voices and accents several times) many of the skills learned leading up to and during the project, all the while practicing his keyboarding and navigation skills. He has since moved on to another cycle class, but still drops in during his LAP (extra help/study hall) period to reminisce about his time working on exploratory projects.

Another common theme in my journal entries was the comparison of my feelings about the lessons learned with that of the students on the exit tickets. There were many days when the

students and I felt the same, but more than I expected when we had differing opinions. For example, Female Student One (FS1), when asked to continue working on one of the differentiated assignments, responded to the question, “Would you have preferred do have done something different in class today, and if so, what?” “I would have liked to have put my head down and gone to sleep.” My journal entry read, “FS1 seemed so engaged and intent on finishing, even though the project was scheduled for three periods. She is focused and has read the directions multiple times before beginning. I am concerned that my average student will not pay as close attention to the directions – perhaps they should be revised in an effort to shorten.” The previous day (day one of the assignment) her response the same question was, “No, this is what I would've preferred to do in class today.” When I met with her later in the day to ask about her response, she told me she didn't really like the project and that even though she said in the exit ticket that she learned something new, she didn't and didn't think that I would pay close enough attention to notice her response (Remember, it was not revealed to students that they were part of an action research project. They were told that they were piloting potential new assignments. I also feel that she have become bored with the exit ticket questions.). She paused and added, “And I had a headache,” in an effort to skirt around the discussion and perhaps not to get in trouble. The lesson learned here for me, as a teacher, is that sometimes my observations are not what they appear, and that students who appear engaged, interested, and happy are not always, so it is important that I evaluate, critique, and adjust my methods of observation as needed, and add variety to exit ticket questions when using them in the future.

Student Performance as Related to Curriculum and Standards – After reading students answers to exit questions and my observation notes and reflections, using a spreadsheet (as a checklist) containing the required curriculum and standards benchmark, I ensured that the

differentiated assignments were aligned and benchmarks were being met. As expected, most were. To my surprise however, I did realize that it would be a far reach to say that two of the assignments created were aligned with the technology standards that I am supposed to be covering. These two assignments indirectly tied in with my curriculum, but were actually ELA standards. I saw and still see no problem with this, as the Kindergarten through eighth grade technology teachers in the district were asked to assist in (as needed) meeting many of the ELA standards, due to the fact that many of them are technology related. In reflecting upon those two assignments, I can conclude that students were practicing or reinforcing previously acquired technology skills while completing cross-curricular activities. I don't believe in any way that this is a bad thing.

I believe that not only was the students' learning experience furthered and maximized, but that their high level of proficiency was demonstrated throughout the majority of the assignments. They were informed that they would not be allowed to move on to other projects unless they could confirm their readiness by proving a level of mastery. I trust that in invoking this in them the students almost felt as though they were rising to a challenge, and that they would settle for nothing short of meeting their goal of moving on. Thoroughly reading directions, paying attention to detail, and with enthusiasm, genuinely desiring to prove their abilities were immediately evident and a large part of their success.

With confidence, I can state that the differentiated projects provided higher student learning, and performance that was positively aligned to the district's curriculum and the NJCCCS. Some assignments met only the technology curriculum and standards while others intertwined a variety of subject areas. While I will most likely use the majority of the assignments in the future, I am not sure that I will use all, as some revisited skills learned a long

time ago and consistently practiced through already existing activities.

Implications

I have always believed that differentiated instruction starts with the lowest level of learners. Through this research, I have learned that I may be more successful with differentiation by starting with the highest level of learners. In the past, it has been difficult for me to justify differentiating for advanced students, as I more easily found excuses rather than findingsolutions for being successful in this area.

In offering the higher level learners differentiated tasks I found that they were apt to invest more time and effort in the activity at hand, rather than quickly completing an assignment just for the sake of doing so because it was assigned. Instead of completing a project in only two or three class periods, they either increased that time to four or five class periods, or chose to complete a secondary activity reinforcing the same skills and knowledge taught in the first. Further, I believe that because they were more fully vested, their level of comprehension in regards to application increased, and they are more likely to remember newly learned skills and information.

Having the advanced students take more ownership of their learning was not only great for them, but it also freed up my time and proved to greatly benefit those struggling, as I was able to assist those students in learning basics that they should have already had or the skills they should have been acquiring at the time of the assignment. It is too often that the period elapses before I am able to help all of those in need. Sometimes that is because I am explaining projects that are too advanced for highly proficient students to handle without substantial instruction. However, in differentiating instruction at their level, much of that seems to have been alleviated. Other times, the period ends before I can help all those in need because I have so many

struggling learners who need so much assistance that the average and advanced proficient students don't get the attention needed. Through implementing differentiated instruction for the higher level students, they are better getting what they need while requiring less of my assistance.

Limitations/Subjectivity

There were few problems experienced during the course of this research, however the ones that did arise were bigger than I initially believed they would be. Timing was the most prominent, as we were already well into the marking period, work habits were already established and in place, as were my classroom management techniques which needed to change in order to successfully complete this study. Also, PARCC testing and Spring Break interrupted the time frame and made it so that the action research time period was shorter and more disjointed than I would have liked. Another potential problem that came to light was that the exit ticket questions were the same each day they were required to be answered. The physical layout of my computer lab, which I believe causes many of the problems I run into whenever trying to employ any kind of differentiation, was also an obstacle in conducting this study. Timing was the only anticipated of all of the problems.

Timing in conducting this research proved to be challenging during this marking period. Due to the fact that this study did not begin at the start of the marking period, students behaviors and work habits needed to be adjusted, not just those that were participants, but those around them. Students who were not part of the research appeared to be left with wonder and doubt. Those who were not included, the majority, also often wanted to know what the others were doing and why. It was sometimes difficult to explain, as I did not want to tell a child that he or she was not selected as a participant because of his or her proficiency level or lack thereof.

Further, as it always has, differentiation in my computer lab proved to be distracting to others, as everyone can see each other's screen. Unfortunately, there is nothing that can be done about this at this time, due to the fact that cabling for network connections cannot be moved because of the time and cost the district would incur. I believe that if I had the opportunity to move students who were working on something different than what was assigned to the rest of the class to an area where their screens could not be seen, the distraction would be nearly completely eliminated.

PARCC testing interrupted my research period and some of my classes, and therefore some of my students were not in my lab for up to four days in a row. This was beyond my control and simply had to be accepted. It prohibited me from giving four of the participants one of the assignments that I had hoped to, and triggered one of those students to ask, "Why don't we get to do something special this week?" In response, I stated that PARCC was the priority and that I wanted him to continue with the rest of the class. He was unhappy and replied, "That's stupid." While I wasn't exactly thrilled with the response, it did reinforce my belief that the students were happy to be doing the "extra" projects.

Another issue that I believe arose was the fact that every time I asked for the exit ticket questions to be answered, the questions were the same. Perhaps, the students had become bored with them, as towards the end of the study, the answers either became repetitive or brief. In reflecting upon this, I can't help but wonder what the answers would have been had I asked the questions in a way that got me the information for which I was looking, but had been worded so that a fifth or sixth grader did not see them to be leading or monotonous.

I believe that my perspective positively influenced my questions because I have been trying to find the answers to my questions about better implementing differentiated instruction

for several years now, and therefore saw this project as a systematic approach to attempting to solve an actual issue that pertains to my daily life. Initially, I believed differentiation was better geared for lower level learners, so I had to be open-minded to attempt this research as it pertained to higher level learners. In analyzing and interpreting the data, I tried to be as objective as possible, but sometimes found myself being subjective because those selected were “star” students, and I felt that I could push them and they would continue to rise to the challenge. In the future, it may be unrealistic to have the same expectations for other students.

Emerging Questions

Several questions have arisen as a result of this action research project. First, how can I fairly assess students when they do not all complete the same amount of work in a single marking period? Second, how can I make students see the differentiated classroom as a fair and just learning environment in which they all feel included? Third, how can I effectively incorporate anchor activities into my curriculum? Finally, is a self-paced curriculum the best fit for my needs, and if so how do I begin its implementation, and what do I do with those students who complete the curriculum before the end of the marking period?

Through differentiating instruction, it is only natural that some students will have more grades than others, yet I am left questioning how I fairly assign a summative grade to students who complete a fraction of the work that others did. Furthermore, how could I possibly defend a summative grade that is higher than another student’s when it consists of a fraction of the assigned projects? For example, if student a has a total of four completed projects during the marking period and ends up with an average of 92 percent, and student b completes seven projects and ends up with an average of 88, how would that be okay? How could I possibly satisfy the parent of the student with the B if questioned?

I don't think that the parents will be the only ones questioning the fairness of the differentiated classroom. I imagine students will as well. I can only assume that some students will question why they are doing something different or doing more work than others, and on the flip side, I cannot help but feel that many will feel inferior or left out. I suppose that the resolution to these anticipated issues will only be worked out through trial and error that will eventually build the climate and culture, and eventually lead students to accept it as the way it is. It will be interesting to see this play out, as right now this is something I cannot begin to visualize.

It is my belief that the most efficient and effective way to begin implementing differentiated instruction come September will be to require students to complete anchor activities. Once I assess their previous knowledge and skills, the next step will be to determine how many of the anchor activities will be required in combination with the obligatory assignments that students currently complete. Eventually, I hope to build a repertoire of assignments so that students will have a large "pot" of assignments for each area covered to choose from.

All of this research and the questions that have emerged have brought upon what appears to be a natural progression to a self-paced curriculum. While I don't foresee this happening for at least two years, I can't help but believe that this will prevail. It seems like the right direction for my class to take, but I feel I must work closely with the middle school teachers so that I don't interrupt the scope and sequence of the curriculum that has already been established. Here again, I feel that anchor activities will come into play necessary to prevent such interruption. Furthermore, this again brings me back to the topic of fairness and equity in grading. My questions suddenly seem cyclical with no predicted answers.

Conclusion

When I first started this project, my goal was to find data and results that would say exactly what I had hoped for so that every day would be as perfect as possible. Quickly, I came to the realization that this truly was going to be a journey, and would most likely be one of small steps that would need to be refined often.

There are many interpretations, many incorrect, of exactly what differentiated instruction is and how it should be implemented in the general education setting. In educating myself properly about differentiated instruction and how it can best be utilized in my classroom, I believe that I will now be an even more effective teacher than I already am, making a positive impact on my students, as well as my peers.

Other educators may find my study to be useful. In speaking with several colleagues, I learned many shared my feelings in that differentiation should begin with lower level learners. My findings reveal that differentiation should span across all levels of learners to best maximize student learning and teacher availability. It is pertinent that others realize and understand that the implementation of differentiated instruction is a process, a journey so to speak, that needs to be consistently evaluated and refined, and that the classroom climate and culture must be established and cultivated to be effective. It is not something that will occur naturally, at least not in a computer lab where students are able to see each other's' screens, assignments, progress, and accomplishments.

As hoped for, conducting this study, provided to my students, optimized learning opportunities that appealed to their needs, at their readiness levels, interests, and learning profiles. For me, this study provided a wealth of knowledge that will aid in furthering my

abilities to better meet the needs of my students, through exercising patience and open-mindedness, and reminding me of the challenges that I face every day in my classroom in knowing that success will not always be immediate or play out as expected. I hope to use many of the findings from this project as the jumping-off point to better change my practices in the immediate future.

Implementation

This action research now stands as the foundation on which I plan to build my teaching methods and approaches, my reputation as a great teacher, and my classroom culture. This one question has led to so many more that it is now impossible to just push this research to the side and forget about it. I fully intend to introduce my students to learning agendas next year, with the hopes that all students will be able to “to visually track the work that needs completing and the activities they have finished. Students using agendas, therefore, can develop management and organizational skills,” (Kluth, n.d.) skills that I feel many of my students are lacking. I know have an array of projects that will serve as anchor activities that will be added to what I refer to as my classroom text book, which is nothing more than a binder containing a collection of required assignments. This new section will be introduced to students this coming September, and expectations will be put in place.

It is my intention to continue to explore new possibilities for the implementation of differentiated instruction with the idea, or perhaps even goal, of creating a self-pace curriculum. I am going to continue journaling, as I found this to be an invaluable tool in the design of instruction and reflection upon that design. I will continue to evoke student opinion, but instead of utilizing exit tickets, I may have students begin keeping an electronic journal to record how they feel about their learning, their learning styles and choices, and application of that learning.

References

- Alber, R. (2012, November 8). A Favorite Formative Assessment: The Exit Slip. Retrieved February 4, 2015, from <http://www.edutopia.org/blog/formative-assessment-exit-slip-rebecca-alber>
- Benjamin, A. (2006, September 1). Valuing Differentiated Instruction. Retrieved February 16, 2015.
- Kirkey, T. (n.d.). Differentiated Instruction and Enrichment Opportunities: An Action Research Report. Retrieved February 16, 2015, from <http://oar.nipissingu.ca/pdfs/v833e.pdf>
- Kluth, P. (n.d.). Retrieved February 4, 2015, from <http://www.paulakluth.com/readings/differentiating-instruction/differentiating-instruction/>
- McCarrin, P. (2007, April 7). Does Differentiated Instruction and Student Choice Affect Retention Rate of Students? Retrieved February 16, 2015.
- Pigott Robinson, L. (n.d.). 2 Tiering to avoid tears: Developing assignments that address all learners' needs. Retrieved February 4, 2015, from <http://www.learnnc.org/lp/editions/every-learner/6680>
- Rex, J. (n.d.). Getting Started in the D.I. Classroom. Retrieved February 4, 2015, from http://www.caroltomlinson.com/2010SpringASCD/Rex_LowPrep.pdf
- Robb, L. (n.d.). What Is Differentiated Instruction? | Scholastic.com. Retrieved February 4, 2015, from <http://www.scholastic.com/teachers/article/what-differentiated-instruction>
- Romano, M. (n.d.). Accommodating Differences. Retrieved February 16, 2015, from <https://www.questia.com/library/journal/1G1-295060009/accommodating-differences>
- Tomlinson, C. (1995, October 1). Differentiating Instruction for Advanced Learners in the Mixed-Ability Middle School Classroom. Retrieved February 16, 2015.

Tomlinson, C. (2001). *How to differentiate instruction in mixed-ability classrooms* (2nd ed.).

Upper Saddle River, N.J.: Pearson/Merrill Prentice Hall.

Wilt, M. (n.d.). *Differentiated Instruction*. LAD Custom Publishing.