

How do Preservice Teachers Differentiate Instruction?
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Question in Context

The College of New Jersey has a prestigious School of Education and is known across the state as producing some of the most qualified teachers. As students in this school, we decided to look into the preparedness of preservice teachers, especially in regard to their differentiation practices. In the School of Education, students begin taking practicum courses in their sophomore year, and depending on whether they are four-year or five-year students, have four or five classroom experiences before they graduate with a bachelors or masters respectively. At least two of these experiences require students to write full lesson plans and implement these lessons. As Urban Education majors, we are interested in how preservice teachers incorporate the social justice framework in their lesson plans. During the previous semester (spring 2012), a group of urban education students created the website “Teaching 4 Change” in order to assemble a database of lesson plans that include themes of social justice, as well as a resource for understanding social justice. Our goal for this website is for it to become a resource for teachers and preservice teachers to help them incorporate social justice in their lessons. Through the creation of this website, we broadened our understanding of social justice as an all-encompassing framework that can be incorporated in lesson plans across disciplines.

This semester (fall 2012), we decided to look into the differentiation aspect of social justice. In our personal experiences, differentiated instruction has been taught as a vague way to teach to a variety of learners. Before researching this topic, our understanding of differentiation was designing lessons that included a variety of activities that reach visual, auditory, and kinesthetic learners. We found ourselves wondering how the experts define differentiation and how their understanding is incorporated into preservice teachers’ lesson plans, if at all. Expanding the website to include a wider range of lesson plans was also a priority of our study.

These two goals seemed to fit, in the sense that we could add lessons to the website while evaluating them for social justice components and specifically differentiated instruction.

Through this research, we will answer the question: How did preservice teachers differentiate their instruction compared to what the experts suggest?

Literature Review

In order to obtain a more thorough understanding of differentiation we researched the definition and best practices as described by the experts in the field. Carol Ann Tomlinson describes differentiation at the most basic level as “the efforts of teachers to respond to variance among learners in the classroom” (Tomlinson, *Differentiation of Instruction in Elementary Grades*). Tomlinson goes into detail to define differentiated instruction as having four components: content, process, product, and learning environment. Differentiating instruction according to each of these components requires teachers to make sure the content and process by which the content is learned is appropriate for all learners. In addition, the finished products or culminating activities of the unit should be varied for different types of learners. This involves providing students with a variety of options so they can complete the assignment that is best suited to their learning style. Finally, the learning environment needs to have clear rules and routines and be set up in a way that provides space for different types of activities to go on simultaneously. Furthermore, Tomlinson preaches the importance of ongoing assessment, the creation of respectful activities that accurately assess content, and flexible grouping so students can see themselves in a variety of settings. In the article, “Mapping the Route to Differentiated Instruction,” Tomlinson discusses three teachers and their practices. The first teacher uses a teacher-centered approach. She points out that while the second teacher varies activities and gives students multiple options for projects at the end of the unit, different activities do not equal

differentiated instruction. Instead, Tomlinson explains that differentiated instruction requires clear goals and specific accommodations based on students' needs. The third successful teacher Tomlinson describes in the article provides a list of terms covered in the unit, essential questions, and flexible grouping among class assignments. Finally, in the article "Deciding to Teach Them All," Tomlinson urges the reader to let differentiation "liberate students from stereotypical expectations." She sums up the best practices for differentiating instruction as: good curriculum, tasks that respect the learners, teaching up, using flexible grouping, ongoing assessment, and focusing grades on growth.

After we obtained a general understanding of the best practices for differentiating instruction, we looked at specific issues experts found with differentiation. John Holloway concluded that many teachers feel ill prepared when it comes to meeting the needs of all students. Holloway suggests that teacher-training programs do not provide enough courses to adequately prepare preservice teachers for differentiating instruction. Furthermore, "Preparing Teachers for Differentiated Instruction" concluded that preservice teachers did not receive enough support from their professors and supervisors in differentiating instruction.

Differentiating instruction for English Language Learners (ELL) is also of paramount importance and often overlooked. ELLs tend to miss a lot of content because instruction is not appropriately differentiated for their language needs. In the article, "Striking a Balance," Susan Ferguson Martin and Andre Green suggest the use of centers to involve all students in learning and investigating content. They also assert that centers are a great way to assess students while making accommodations for differing learners.

Finally, we read two articles that address the limitations standards and standardized reading programs place on teachers. In the article, "Differentiated Reading Instruction: Small

Group Alternative Lesson Structures for All Students” the authors discuss the reading program “Reading First” and its lack of differentiated instruction for reading. Teachers using this program need extra support to meet the needs of their students, especially because many schools using the program are falling behind in reading. Furthermore, the article “Differentiated Instruction and Educational Standards: Is Détente Possible?” discusses the conflict between meeting the goals of No Child Left Behind (NCLB) while differentiating instruction for all learners. The authors, Jay McTighe and John L. Brown encourage teachers to use different paths towards reaching the standards rather than the generic curriculum they are provided. By creating their own paths towards reaching standards teachers can make material more meaningful and differentiate their instruction, although they may need additional resources to accomplish this.

As preservice teachers, we noticed a disconnect between what our research recommends and what is actually going on in the classroom. In our experience, teachers usually teach whole-class lessons. While there are some different activities during the lessons, we have seen little small group instruction or centers. Few accommodations are made for learners with differing abilities or ELLs. For example, students who take longer on work are sometimes labeled as lazy, while the early finishers sit around and wait for the rest of the class rather than completing an engaging activity to occupy their time. In our experience, teachers did not alter materials at all for ELLs and expected them to complete the same assignments as their peers. This often lead to ELLs copying work and becoming frustrated, as they were not fully aware of the teachers’ expectations. While we agree with the definitions and strategies described in the articles, we wonder if they are idealized, fairy tale versions of teaching. Neither of us has witnessed differentiated instruction to the extent it was described in the articles. We think this may be due to a lack of focus on differentiating instruction in general-education methods courses.

Methodology

This project began last semester (spring 2012) when the website “Teaching 4 Change” (Appendix 1) was launched. The website synthesizes research on social justice to provide a resource for preservice teachers to use in their lesson planning. Furthermore, it includes sample lesson plans found online and scored using a social justice rubric designed by the urban education students who started the website (Rubric, Appendix 2). The rubric included the following categories on which lesson plans were given a score of 1-3, 3 being the highest: inclusivity of multiple perspectives, link to real world problems, differentiation, agents of change, connections to students’ lives, and lesson assessment. We believe each of these aspects is important to incorporating social justice in lesson plans and the plans posted on the website are scored using the full rubric.

For the purposes of this paper, we are looking specifically at the differentiation component of the lessons. We decided to focus on differentiation because it was lacking in our education methods classes. We felt that our own lack of understanding on the topic could be representative of a broader issue within the School of Education. For us personally, the research did not match up with our classroom experiences and concrete methods were not provided. To find out if other preservice teachers were having the same issue, we decided to look specifically at the differentiation component of lesson plans.

In order to acquire lesson plans for the website, we visited education methods classes to share our research with preservice teachers. We visited about 18 classes and gave a 5 minute presentation about the website. At the end of the presentation we invited preservice teachers to submit their lesson plans to us via email for publication on the website. We tried to sell this as a

great opportunity to publish work as an undergraduate or graduate student. We also assured students that they would have the choice whether or not to publish their lesson plans after they received the score. This way, if they were worried about receiving a low score they would not have to publish. The feedback we received from preservice teachers during our visits varied. At the earlier classroom visits, students were extremely apathetic to the idea of submitting lesson plans. By the middle we fine-tuned our sales pitch and thought we were really communicating the benefits of submitting lessons and the students seemed genuinely interested in getting published and helping us.

Despite our seemingly convincing presentations, we only received six lesson plan submissions. Although three Call for Submission e-mails were sent out to the School of Education, our message was not fully received (Call for Submissions, Appendix 3). We decided to move forward with our six plans and compare what these preservice teachers did with the recommendations the experts shared in the articles we read. We scored the individual plans separately using the rubric. We then met, discussed the lesson plans individually, and agreed upon one score for each lesson to be posted on the website (Scores, Appendix 4). The differentiated instruction aspect of the rubric is as follows:

	3	2	1
Differentiation	The lesson includes methods that engage a multitude of diverse learning styles and modifications for students who require further adjustments to instruction in order to meet the objectives	The lesson includes methods that engage a multitude of diverse learning styles	The lesson does not include methods that engage diverse learning styles

Findings

Differentiation was not a key component in any of the lesson plans we scored. Instead, differentiation was an after thought. A majority of the preservice teachers made the mistake that Tomlinson warned of, they confused different activities with differentiated instruction. Only two out of six of the preservice teachers earned a score of three for differentiation. The remaining four earned a two for differentiation. The two preservice teachers earned threes because their lessons included separate sections or comments throughout that specifically explained the modifications they would make for individual students during the lesson and activity. The other four lesson plans lacked specificity. Although they did include different activities that catered to a diverse style of learners, they failed to address how they would accommodate specific students that need increased support. Overall, there seemed to be a misunderstanding in that the use of different activities is not necessarily differentiation in its entirety.

Our findings lead us to believe that preservice teachers have a vague sense of differentiation. The preservice teachers at TCNJ understand the importance of varying activities for multiple learning styles and this strength cannot be overlooked. Lessons included many of the attributes the experts suggested including ongoing assessment, respectful activities, and grouping. For example, in the lesson “Making Ten to Subtract,” students received direct instruction, worked in pairs with manipulatives, worked independently, and were up and out of their seats doing “jumping math.” While we recognize the importance of this wide variety of activities, the lesson lacked specifications for different students. Part of the issue here is that preservice teachers are differentiating their instruction to cater to specific students on the fly, rather than planning specifications ahead of time. For this lesson, a differentiated instruction section could have been as simple as a contingency plan for students who were struggling or a challenging extension activity for early finishers. While this plan included on-going assessment

and flexible grouping, it lacks the specifics that are required. (“Making Ten to Subtract,” Appendix 5)

The lesson “To Kill a Mockingbird: Pre-reading” is another example of an exemplary lesson that lacked a differentiation component. This lesson also incorporated a variety of activities, connected to students’ lives, and incorporated meaningful material. While this lesson includes many aspects advocated by Tomlinson, it is lacking the focus on differentiation. For preservice teachers it is of utmost importance to have a plan of action. This includes preparation for students with different needs and abilities. While the experts talk a lot about the importance of meaningful assessment, grouping, and respectful activities, they also recognize the importance of individualizing instruction. Contingency plans for students who fall behind or finish before the rest of the class are imperative. Preservice teachers are taught to plan lessons for the middle of the class; they should also prepared activities for the lower and upper extremes of the class. The fact that the inclusion of differentiated instruction in lesson planning is not a priority among preservice teachers demonstrates a broader problem within the School of Education. (“To Kill a Mockingbird, Pre-reading”, Appendix 6)

The “Body Outlines” lesson plan is a science lesson for a kindergarten class. The preservice teacher clearly states her plan for differentiation in this lesson plan. She writes, “I want everyone to be able to participate, but if some of our friends cannot handle using chalk, I have paper and pencils for them to trace their hands instead. Let’s follow directions so that we can all participate!” This demonstrates the preservice teacher’s understanding of differentiation and careful planning for accommodations. She knows her class and realizes that some behavioral issues may arise. Instead of making children sit out of the activity, she planned an alternative that may be more suited to students who decide to misbehave during the lesson. Not

only is her lesson meaningful and varied, but it is also inclusive to a variety of learners with differing needs. The inclusion outlined in this lesson is missing from 4 of the other lessons.

(“Body Outlines,” Appendix 7)

The data we gathered shows a gap in preservice teachers’ knowledge base. Four out of six of the preservice teachers who submitted lesson plans did not have a full understanding of how to include differentiation in their written plans. While these teachers may differentiate their instruction while teaching, they do not create carefully thought-out and research-based plans ahead of time. The findings of our research did not entirely match up with the experts’ suggestions. Some of the aspects the experts suggested were present, especially ongoing assessment and flexible grouping. However, tasks were not necessarily respectful of all learners because they were not catered to all learners. Instead, the tasks were planned for the middle of the pack, while the students on either extreme were expected to fit the mold.

Since preservice teachers are expected to differentiate instruction in a more specific manner, there needs to be explicit instruction on how to do so. Even in the literature that we reviewed, strategies for differentiation seemed fairy tale like and at times unattainable. Differentiation strategies need to be incorporated in all methods teaching courses in the School of Education. Preservice teachers understand the aspect of differentiation that relates to varying activities, assessment, and grouping. They need help in planning for specific students and making accommodations so activities are appropriate for all learners.

Implications

Conducting the research and creating the website has most definitely impacted the way we will approach our lesson plans in the future. Before doing this project, it seemed acceptable to just include a variety of activities and accommodate students individually as the lesson

developed. However, our research proves the importance of explicitly writing plans for individual students. When differentiation is planned thoroughly and purposefully, every student benefits. We know that all students learn differently so it is only right to design our lesson plans accordingly. Writing a lesson plan without providing any kind of differentiation component is only going to benefit the students in the middle. Consequently, the students that are ahead and the students that are behind will suffer because the instruction is not tailored to their needs. Our research has inspired us to remember that we are not just teaching one student, but we are teaching a whole group of students and our lesson should reflect that. Every child deserves the right to learn no matter what his or her level may be. It is unfair for some children to feel involved while the others are left feeling confused or bored. It is our job as teachers to pay close attention to all of our students so that all students, not just some of them, meet the learning objective. Although we may need to take some of our students on a different path, every student deserves to reach the finish line.

These realizations have allowed us to reconsider how we would implement differentiation more effectively into our own classrooms in the future. First of all, we want to make sure that we always have a plan for each student individually before starting any lesson. Having a variety of activities is not enough when it comes to differentiation. Instead, it is better to include a separate section within the lesson plan that states specific modifications for students x, y, or z. The plan should be all encompassing in that it includes thoughtful and explicit details for that student during every aspect of the lesson. For example, if working with an ELL student that is still developing conversational English, the plan would include a list of adjustments just for that student. A worksheet that required drawing pictures instead of writing words would be helpful to check for comprehension as well as setting aside time to work with the student one on

one. Secondly, finishing early or taking a long time to complete an activity seems to be an issue in most classrooms. Every student works at their own pace so it is important to have a plan for students who finish ahead of the rest of the class. It is easy to just tell the student to wait until everyone else is done. But by doing that, we are failing to keep the student engaged in his/her learning. As teachers, we hope to address this issue by always having a backup activity that some students can work on while they wait for the rest of their class. Whether it is being a “teacher helper” by assisting their classmates who need help or working on a packet of worksheets, it is necessary to keep the students busy and learning at all times. By comprehensively implementing differentiation in our classrooms, we will be more effective teachers overall.

Although all of these ideas are wonderful in theory, the research fails to provide concrete strategies as to how to differentiate effectively amongst all of the pressures in today’s limited education system. Teachers are faced with so much pressure on a daily basis when it comes to reading programs, benchmarks, and standardized tests. There are so many things that need to be completed during the school day that it can be easy to forget about differentiation.

Differentiating can make a lesson longer and many teachers may find it easier to just teach to the whole class so they can move on. Today’s teachers are feeling the pressure and because of this, they are forgetting about giving the children a quality education that is individualized and inclusive. This being said, we would love to implement the best practices of differentiation into our future classrooms, but we have a feeling that it is going to be much harder than it looks.

Obstacles

Over the course of the semester, we encountered several obstacles along the way. Our first problem was getting preservice teachers interested in our project. Most of the preservice teachers we reached out to seemed very apathetic and it was slightly discouraging going into all

of the classrooms. We tried our best to advertise the benefits and that it would be a great resource for them to use, but our hard work did not really pay off in the way we were hoping. Our dream was to create a database of lesson plans that would be a resource for all TCNJ students to use when developing lessons for their classroom experiences. The ideal lesson would reach across all disciplines and it would be extremely easy and accessible to any user. However, by the deadline at the end of October, we only received four lesson plans. We were very discouraged at first because it was not the turnout we were expecting. We added two of our own lessons to bring it up to six but it still did not seem like enough to make the website effective. The more we thought about it, though, we realized it was not as bad as we thought. Because there were fewer lessons, we would be able to devote more of our time to scoring each of them thoroughly. We were also encouraged by the fact that our contributions were only the beginning and that our website will continue to grow as the years go on.

We also struggled with the integrity of the rubric. The rubric seemed great at first, but when we started scoring the lesson submissions, we experienced some difficulties. The lessons we were reading were exemplary lesson plans full of variety and creativity. However, when we scored them according to the rubric, a couple of the lessons did not receive good scores. For example, the math lesson entitled “Making Ten to Subtract” was a seemingly well-designed lesson but it only scored eleven out of eighteen according to the rubric. It scored low on a couple of the social justice components such as “link to real world problems” and “agents of change”, but the lesson also got a low score on the differentiation component. Although the lesson involved a variety of math activities that incorporated the use of manipulatives and other hands-on materials, there was nothing on the plan that stated how she would implement differentiated instruction to a given student. There seems to be confusion amongst preservice teachers,

ourselves included, that differentiation is all about variety. And while that is not entirely incorrect, there is so much more to it than that. We were not expecting there to be such uncertainty about how to implement differentiation explicitly into every lesson plan. The obstacles we came across throughout our research proved that we are certainly missing the mark when it comes to differentiation instruction in the classroom.

Emerging Questions

We hope that our contributions are just the beginning for a new class of highly enlightened preservice teachers. As the years go on, it would be nice to see the project grow into what we imagined it to be – a resource for preservice teachers and working teachers to use as a means of implementing the social justice framework into their daily practices in the classroom. As the website develops and grows, so will its message. It is important for all teachers and teachers-in-training to know that social justice, differentiation included, is not a special topic that we talk about once a week. Rather, social justice is a mindset and a philosophy by which all teachers should entwine into their lessons every single day. This being said, our research has eluded to an overwhelming confusion amongst preservice teacher about what differentiation is exactly. This shows that teacher-training programs are not preparing students enough to address the needs of all of their students. Differentiated instruction should be given special attention because without it, we are not being effective teachers. Preservice teachers should be given concrete, specific instruction on the meaning of differentiation, how to differentiate, and how it can make a major difference in the classroom. It is easy to ignore something we do not know, but that is not an excuse. When given the proper support and tools to make it happen, teachers can go above and beyond to make sure every student is getting a proper education.

They seem to be confused about the social justice component as well. Perhaps social justice should be a course within the teacher-training program as to better prepare students for their future careers. Contrary to popular belief, social justice is more than teaching about diversity and other controversial topics. It is a way of teaching that is all-inclusive to various ways of thinking, ways of life, and kinds of people. By teaching according to a social justice orientation, the classroom itself will be a better place. The children will be more engaged in their studies, there will be a more positive classroom community, and the children will be inspired to take initiative to make the world a better place. Therefore, a social justice component within the teacher-training program will create more effective teachers that will do whatever it takes for every child to succeed.

Conclusion

Our extensive research on differentiated instruction allowed us to compare the experts' ideas of best practices to what preservice teachers are actually doing. We noticed an unfortunate disparity between the realities of classroom instruction versus the way instruction should be specialized for students on an individual level. The research experience was certainly eye opening to both of us. We did not expect there to be such confusion about the topic of differentiation. We expected most preservice teachers to be using it effectively in their student teaching experiences, but what we found was quite the opposite. It can be assumed that teacher-training programs are providing their students with the latest and greatest methods for teaching children. However, there seems to be a disconnect between theory and practice. The main lesson we learned from this experience is that teacher-training programs need to not only teach preservice teachers about differentiation, but also give clear, concrete instruction about how to do it correctly and productively. Although this project did not go exactly according to plan, it

provided us with useful insights the both of us can use in our future careers. Delving deeper into the best practices of differentiated instruction has most definitely inspired us to always remember to advocate for our students and encourage them to achieve at their highest potential.

References

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Appendix 1

Teaching4change.pages.tcnj.edu

Appendix 2

Social Justice Lesson Plan Rubric

	3	2	1
Inclusivity of multiple perspectives	The lesson teaches content from multiple perspectives that accurately incorporate societal diversities (in ability, religion, ethnicity, gender, age, sexual orientation, language, socio-economic status, etc.)	The lesson teaches content from multiple perspectives	The lesson teaches content from a single perspective
Link to real world problems	The lesson exposes students to global and/or local issues and encourages them to formulate solutions to such problems	The lesson exposes students to global and/or local issues	The lesson does not expose students to global and/or local issues
Differentiation	The lesson includes methods that engage a multitude of diverse learning styles and modifications for students who require further adjustments to instruction in order to meet the objectives	The lesson includes methods that engage a multitude of diverse learning styles	The lesson does not include methods that engage diverse learning styles
Agents of change	The lesson encourages students to recognize societal inequities and to consider approaches to addressing such injustices in order to	The lesson encourages students to recognize societal inequities	The lesson does not encourage students to recognize societal inequities or to consider approaches to addressing such injustices

	better their own lives		
Connections to students' lives	The lesson delivers content through the incorporation of individual student experiences	The lesson content relates to the lives of students	The lesson lacks connections to students' lives and experiences
Lesson assessment	The lesson evidences clear student expectations and includes various assessments that reflect the objectives	The lesson lacks clear student expectations and/or varied assessments that reflect the objectives	The lesson lacks clear student expectations and varied assessments that reflect the objectives

Appendix 3

Call for Submissions

Are you looking to publish your lesson plans? Would you like to contribute to a database of great lessons? This semester a small group of Urban Education Graduate students are editing the website “Teaching 4 Change” (www.teaching4change.pages.tcnj.edu). We’re looking for innovative lesson plans from all disciplines. In particular, some of our team will be looking closely at the differentiation components of your lessons. Your plan will be evaluated using this rubric and the best ones will be published on our website (<http://teaching4change.pages.tcnj.edu/files/2012/04/Social-Justice-Lesson-Rubric.pdf>). The lesson should be in the accepted TCNJ format, found at <http://www.tcnj.edu/~educat/documents/Lessonplanformat.pdf>. Students will receive full credit for their work and they will be contributing to a database full of lessons that can be used as exemplars for future students and the larger community.

The deadline for submissions this semester is October 31, 2012. For questions or submissions please contact kelly54@tcnj.edu with the subject “Teaching 4 Change.”

Thank you,
Susan Kelly, Kelsey Martin, and Karyn Unger

Appendix 4

Fall 2012 Lesson Plans

Scores out of 18 points

Julie Conca, Body Outlines

Inclusivity of Multiple Perspectives: 3

Link to Real World Problems: 2

Differentiation: 3

Agents of Change: 1

Connections to Students' Lives: 2

Lesson Assessment: 3

Total Score: 14

Victoria Viola, To Kill a Mockingbird, Pre-Reading

Inclusivity of Multiple Perspectives: 3

Link to Real World Problems: 3

Differentiation: 2

Agents of Change: 2

Connections to Students' Lives: 3

Lesson Assessment: 3

Total Score: 16

Making Ten to Subtract

Inclusivity of Multiple Perspectives: 2

Link to Real World Problems: 1

Differentiation: 2

Agents of Change: 1

Connections to Students' Lives: 2

Lesson Assessment: 3

Total Score: 11

Annie Wickersty, Native American Crops

Inclusivity of Multiple Perspectives: 3

Link to Real World Problems: 3

Differentiation: 2

Agents of Change: 2

Connections to Students' Lives: 3

Lesson Assessment: 3

Total Score: 16

Karyn Unger and Susan Kelly, Tornadoes

Inclusivity of Multiple Perspectives: 2

Link to Real World Problems: 2

Differentiation: 3

Agents of Change: 1

Connections to Students' Lives: 2

Lesson Assessment: 3

Total Score: 13

Kelsey Martin, My Rotten Redheaded Older Brother

Inclusivity of Multiple Perspectives: 3

Link to Real World Problems: 2

Differentiation: 2

Agents of Change: 2

Connections to Students' Lives: 3

Lesson Assessment: 3

Total Score: 15

Appendix 5

1. **Title and Grade Level:** Making Ten to Subtract, Grade 2
2. **Lesson Essential Question(s):** How can making 10 help you subtract from numbers greater than 10?
3. **Standards:** 2.OA.2 – “Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.”

4.

Learning Objective(s)	Assessments
1. SWBAT use the strategy of “making 10” to subtract within 20.	<ul style="list-style-type: none"> - Students will use counters and a double ten frame to model and complete subtraction problems using the strategy of “making ten.” - Students will use drawings to show how they can subtract using the strategy.

5. **Materials:**

Students’ workbooks for lesson 3-5

Baggie of counters for each student pair

Double ten frame sheets

Online Envision Video for lesson 3-5

Digitized Envision teacher’s edition of lesson 3-5.

6. **Pre-lesson assignments and/or prior knowledge:** The students have been learning addition and subtraction strategies over the last month, including 0, 1, and 2 more than/less than; doubles; near-doubles; related facts; and making 10 to add. Every day they also practice basic addition and subtraction facts with math games and/or with non-graded timed quizzes to encourage the development of automaticity. The strategy they are studying in this lesson is essentially the reverse version of the making 10 to add strategy, which I taught them last week using the same double ten frames and counters. They are familiar with the materials and with the concept of “making ten,” but they have not yet deliberately used it to subtract.
7. **Lesson Beginning:** To open the lesson, I will try to get the children to bring their prior knowledge to mind by very briefly questioning the class on the subtraction strategies they have been studying so far this week. I will introduce the new topic of making 10 to subtract, connecting it to their previous experience with making 10 to add. I will provide students with the rationale that they may find this strategy useful because it allows them to break apart a larger problem into smaller, more manageable units. We will gather together on the carpet in a circle, and I will distribute ten frame sheets and baggies of counters to the students so that they are working in pairs with the person next to them. We will do an example problem together, so that everyone is coordinated and I can provide them with a model of how to use the strategy. I will give a problem such as, “There are 12 birds in the tree. Please put 12 counters out on your ten frames. How many should go in the first one? (10) How many do we need in the second ten frame?”

(2) Now, 5 of the birds flew away. What is our subtraction sentence? (12-5) We know that we can take these two away to make 10, so let's do that together. What subtraction problem did we just do? ($12-2=10$) Now, we just took away 2, but 5 birds flew away, so we still have to take away 5 in all. How many more do we have to take away so that we're subtracting 5? (3) Let's take 3 away from 10. What subtraction problem did we just do? ($10-3$) What are we left with? (7!). So to subtract 5 from 12, first we did $12-2$ to make 10, then we did $10-3$ to make sure we were taking away 5," etc. Students will return their baggies and ten-frame sheets and quietly go back to their desks.

8. Instructional Plan:

Video: I will select a student at random (using the jar of popsicle sticks) to operate the computer for the lesson video (a classroom tradition). As we watch the video, I will make sure students are attending to its concepts by encouraging them to respond when appropriate. I will also pass out the lesson workbooks and counters during this time.

First Page: Student pairs will be asked to take out their one ten frame sheet (which they should have in their folders) per pair and reminded not to open their baggie of counters until the first number is picked. I will bring up the interactive version of the lesson workbook on the smartboard so that they can see a model of what they are to do. I will pick students at random to choose from a stack of subtraction fact cards to provide us with the problems on the first page (the lesson workbook leaves the numbers up to the user on this page). Students will arrange their counters to represent the problems (while I represent them with little circles on the smartboard), and we will solve the problems together. Throughout all seatwork, I will be circulating around the room, helping students who need help and ensuring all are on-task. The classroom aide Mrs. B will also be assisting with those who need a little more individual attention.

Guided Practice: Student pairs will work together with the manipulatives as before, and we will solve the problems together as a coordinated group. I will try to encourage the students, through questioning and thinking aloud, to see the usefulness of the strategy, e.g. "16-7. Hmm ... Well, I know how many I need to subtract to make 10. How many is that? (6) And then since I've already taken 6 away, I only need to take away 1 more to make sure I'm subtracting 7. That leaves me with a super easy one-less-than problem --- 10-1!" I will ask the students if any of them thought of a different way of finding the answer, too, because I am sure some of them will simply count back, and it is important for all to understand that the same amount is being taken away whether or not you break up the problem.

Independent Practice: Students will work by themselves on this section. I will collect the counters at this point except for those of students who still want to use them, and encourage the rest to draw pictures to help them solve the problem (as I will have modeled how to do on the smartboard during the previous pages).

9. Closure: (NOTE: Because students take their math workbooks home at the end of the day, Mrs. Pellichero and I must check each page of each students' workbook after each

section of the lesson to ensure that they have done their work correctly, so we will be doing a lot of this as students finish.) I will have students stand up and stretch and move a little, as they will have been sitting for 45 minutes or so at this point. I'll have them tell me what strategy we just learned, and then we will do some "jumping math," doing a subtraction problem aloud and jumping as we count. If there is time left, we will gather on the carpet to play math fact games for extra practice (a Friday end-of-day tradition).

Appendix 6

***To Kill a Mockingbird* Unit**
Pre-Reading
English I Grade 9

Lesson Essential Question(s): How can activating prior knowledge about fairness and morality enhance the understanding of *To Kill a Mockingbird*?

Standards:

- **SL.9-10.1.** Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.
 - Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.
- **SL.9-10.5.** Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

Learning Objectives	Assessments
SWBAT respond to statements and participate in a group discussion about their beliefs	Anticipation guide completion and participation during group response activity. Butcher-block responses to Anticipation Guide statements.
SWBAT analyze and predict what the story may be about based on the book trailer video	Response worksheet to Book Trailer
SWBAT actively read the first chapter of <i>To Kill a Mockingbird</i>	Chapter 1 handout of <i>To Kill a Mockingbird</i> that will be used to practice active reading

Materials:

- Anticipation guide worksheet
- Markers
- Butcher-block paper
- Book Trailer video
- Book Trailer response worksheet
- Computer/overhead projector
- *To Kill a Mockingbird* Chapter 1 handout

Pre-lesson assignments and/or prior knowledge: Students will have an understanding of fairness and morality based on their life experience and beliefs.

Lesson Beginning: 15 minutes

- Teacher will read the lesson objectives and explain the Do Now activity.
- Students will complete the Do Now activity:

- Have you ever been treated unfairly? If so, when and how? What did you learn from this experience?
- Teacher will provide an example of a time when she was treated unfairly:
 - In 7th grade I made the girls basketball team at my middle school and was “benched” the entire season because the coach did not like me. The principal had seen me play and had to tell the coach that I should be a part of the starting 5. Once the coach saw my abilities, she acted as if I should have been starting for the whole season. I learned a lot from this experience, such as keep working hard even when times get tough and in the end it will all work out.
- Teacher will give the students 5 minutes to write their responses to the Do Now prompt.
- Teacher will ask for volunteers to share their responses to the Do Now activity.
 - Classroom management: if students do not volunteer, the teacher will draw an index card with the students’ names on them and ask the student, whose name was drawn, to share.
- Once the discussion is completed, the teacher will move on to the Anticipation Guide activity.

Instructional Plan: 60 minutes

- 5-7 minutes:
- Teacher will hand out the Anticipation Guide worksheet to the students.
- The teacher will explain to students that they are to read the statements on the worksheet and mark whether they agree or disagree with the statement.
- After five minutes, the teacher will explain the next part of the activity to the students:
- 20 minutes:
- The students will be broken up into groups of 3-4, depending on class size.
- The teacher will assign each group a specific statement from the Anticipation Guide.
 - Possible statements: “there are certain groups/people that are better than others”, “a hero is someone who succeeds at whatever he or she sets out to do”, “a model family consists of a father, a mother, and children”, “girls should act like girls, and boys should act like boys”, “its wrong to kill another person”, “all people, regardless of race, gender, economic status, or religion, have equal rights in our courts”, a person found guilty in our courts of a violent crime should be killed”.
- Once the statements are assigned, the teacher will hand each group markers and a piece of butcher-block paper.
- The teacher will explain that each group is to discuss their statement and why the group members agree or disagree.
- The teacher will model for the statement: “A prison guard should kill a convict attempting to escape”.
 - The teacher and co-teacher (when it applies) will model a discussion of agreement and disagreement about the statement.
 - The teacher and co-teacher will write on the butcher-block paper the findings of their discussion.
- The students will have about 10 minutes to discuss and record their findings on the paper.
- After 10 minutes, the teacher will take the butcher-block paper from each group and hang them on the walls of the classroom.

- 5 minutes: The students will then do a gallery walk and read what other students wrote about their statements.
 - Classroom management: if the students get out of hand during the gallery walk, they will be told to return to their seats and the teacher will go over the findings.
- Once the students have walked around the room and surveyed the statements, the teacher will ask the students as a group what common themes or ideas they noticed with the anticipation guide statements.
- Once students have responded to the questions, the teacher will begin the Book Trailer activity.
- 10 minutes
- The teacher will hand out the Book Trailer prediction worksheet and display the Book Trailer video on the overhead.
- The students will watch the Book Trailer video and based on what was seen, complete the worksheet.
- After five minutes, the teacher will ask some students to share their predictions about *To Kill a Mockingbird*.

Closure: 10 minutes

- The teacher will then hand out a printout of the first page of *To Kill a Mockingbird*.
- The teacher will ask the students to read the first page silently.
- After the students have finished reading the first page, the teacher will read the first page aloud to the students.
 - As the teacher is reading the co-teacher (when applies) will model active reading on the board by marking up the text.
 - The teacher will remind students that active reading (like their summer reading assignment) is important for all reading.
- After the second reading, the teacher will tell the students to respond to the questions on the back of the excerpt:
 - Write down as many things as possible that you have learned from this passage.
 - Write down three questions you have after reading the first page.
- The teacher will walk around the room, for support and questions while the students are filling out the first page response.
- Teacher will explain that they must hand in the first page response before they leave the room.
- Teacher will explain the HW: finish reading Chapter 1 and complete the active reading worksheet.
- Once the students are finished with the first page response, they can silently read Chapter 1 for the remainder of the block.

**Full plan with worksheets on teaching4change.pages.tcnj.edu*

Appendix 7

Student's Name: Julie Conca

School Name: Orchard Hill

Grade Level: Kindergarten

Host Teacher's Name: Shannon Carlson

A. PLANNING

Lesson Topic: Body Outlines

Main Concepts: In this lesson, students will review alike and different characteristics by looking at their own bodies as well as their peers. They will draw outlines of one another outside on the playground and discuss the idea of a body outline versus a detailed picture.

Background Information (Analysis of Students' Prior Knowledge):

In the previous science lesson, students looked at their own physical characteristics as well as their peers' and compared and contrasted them. They gained an understanding of the words "alike" and "different" and how they apply to comparing people as well as objects. The knowledge that students gained from the previous lesson- physical characteristics, and similarities and differences between them and their peers- will help enable them to understand the idea that people have varied body types, shapes and sizes. These concepts are all necessary for the comprehension of this body outlines lesson.

References: *Insights: An Elementary Hands-On Inquiry Science Curriculum, Myself & Others*

New Jersey Core Curriculum Content Standards (NJCCCS)

- CCSS.ELA-Literacy.SL.K.1 Participate in collaborative conversations with diverse partners about *kindergarten topics and texts* with peers and adults in small and larger groups.
 - CCSS.ELA-Literacy.SL.K.1a Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).
- [CCSS.ELA-Literacy.SL.K.6](#) Speak audibly and express thoughts, feelings, and ideas clearly
- 5.1 P A. All students will understand that science is both a body of knowledge and an evidence-based, model-building enterprise that continually extends, refines, and revises knowledge. Students understand core concepts and principles of science and use measurement and observation tools to assist in categorizing, representing, and interpreting the natural and designed world.

- 5.1.P.A.1 Who, what, when, where, why, and how questions form the basis for young learners' investigations during sensory explorations, experimentation, and focused inquiry.

Objectives	Assessment
Cognitive: <ul style="list-style-type: none"> • Students will understand that each person's body is made up of the same basic parts, but with variations in body shapes. 	<ul style="list-style-type: none"> • As we discuss, I will take note of which students are actively participating, and which are not able to fully answer the questions.
Affective: <ul style="list-style-type: none"> • Students will be able to partake in independent work and cooperate with a partner and while they are outlining them and being outlined. 	<ul style="list-style-type: none"> • I will fill out the Assessments Chart for each student as they are working.
Psychomotor: <ul style="list-style-type: none"> • Children will be able to outline a partner while including their legs, arms, head and torso. 	<ul style="list-style-type: none"> • As students are outlining, I will take note of which students are able to complete the task without too much difficulty. I will also look at the final products in order to check who is on the right track and who needs reinforcement. This will be reflected in the Assessment Chart.

Materials

- Science journals
- Chalk
- Poster paper
- Crayons
- Pencils
- Sentence strips

B. PROCEDURE

Motivational Beginning & Activating Students' Prior Knowledge:

- *This morning's "Wakeup Work" is a list of body parts and students will have to fill in how many of each part they have. (For example, 2 eyes, 1 mouth, 2 legs, etc.)*
- *Students will be sitting in stadium seating on the rug.*

- Today we are going to be learning about our body shapes and what make them alike and different.
 - Give me a “me too” signal (sign language) if you have ever heard of the “head, shoulders, knees and toes” song. Sing along with me, and point to the body parts as we say them.
- *Sing “head, shoulders, knees and toes” as a class and include the hand motions of pointing to each body part.*
 - What are some alike characteristics that we all have that this song talks about?
 - What can be different about our heads, shoulders knees and toes?
 - What about the rest of our bodies?
- *I will show the class an outline of myself.*
 - Who do you think this is? How do you know?
 - How was it made?
 - What body parts can you point out?
 - *I will have drawn body part names on sentence strips and will have students come up and label them.*
 - *Discuss why we cannot label the eyes, nose, mouth, etc. (because they are not included in an outline).*
- This is called an **outline**. Which means to only draw the very outside of a person or object.
- We are going to go outside and trace one another in partners to get our own outlines.
 - I want everyone to be able to participate, but if some of our friends cannot handle using chalk, I have paper and pencils for them to trace their hands instead. Let’s follow directions so that we can all participate!

Logistics/Classroom Management

- Timing: this lesson should take about 40 minutes.
- Management strategies:
 - “Sit, don’t stand, raise a quiet hand”
 - “Crisscross applesauce and put your spoons in your bowls”
 - If a student is not listening or paying attention, address them calmly and tell them they need to make good choices on the carpet.
 - If two students are distracting on another, move their seats
 - “Three students in the AM class have assigned seats on the rug.
 1. Maxx: Letter N
 2. Alon: Apple
 3. Harish: Flower
 4. Adriana: Letter K
 - b. In the PM Class, Griffin and Arden will be seated in chairs on the rug in order to help them focus.

- Grouping: Students will sit on the rug in “Stadium Seating,” and will be outside in partners.
- Student roles: Students will answer questions as a class when called upon to do so. They will follow directions as I give them and participate in the activities.
 - Line leader
 - Door holder
 - Lights person

Lesson Steps

- *Students sit on the curb outside and watch demonstration. Pick two students (students who could potentially have a harder time with this on their own) to demonstrate how this should work for the class.*
 - One student will lay flat on the ground, while the other will trace around their partner’s body. [Student’s name] is going to show us how still we need to lay while we are being outlined. While [Student’s name] is outlining, they are trying to keep the chalk off of [Student’s name].
 - Make sure you include their main characteristics: head, legs, body, and arms.
- When I call your name, you will come up to me, get your chalk, and go to an empty space with your partner. After one person is traced, switch and the other partner will be traced.
 - Write your name next to your outline when you are finished, put your chalk back in the bag, and sit back on the curb.
- *After all pairs are done drawing, take a gallery walk around the chalk outlines.*
 - Look at each outline and try to see how they are alike and different.
 - What do you notice about these two outlines? What about this one?
 - Continue until students have looked at all of the outlines.

Curriculum Integration

- While this is technically a science lesson, it also incorporates content from other subject areas.
 - Language Arts: Listening, sharing, discussion and communicating.
 - Visual Arts: Outlining partners
 - Math: Counting body parts

Closure:

- *All students will go back to the rug in stadium seating. I will have a poster with the title “What Did We Notice?”*
- Let’s make a list of some things that we noticed are alike and different about the outlines we drew of one another.
 - *For example, ponytails, height, skirts, shoes, longer legs, etc.*

- We are going to underline the “alike” numbers on our list with a red marker and the different ones with a blue marker.
 - Let’s read the first one. Is this alike or different? Etc.
- Did our outlines include all of our characteristics?
 - What parts did we not include? Why?
 - Could we do “head, shoulders, knees and toes” with just our outlines?
- *Show two real pictures of students in the class and have students say what is alike and different about them.*
 - What is more alike, two people, or their outlines? Why?
 - What is something that all of your outlines have in common? *Draw an outline with the body parts that students come up with as they say them.* (Head, arms, legs, body). *Draw a similar one next to it.*
 - The reason our outlines look more alike than a real picture is because we do not include all of the parts that make us look so different.
- Raise a quiet hand if you can remind us what an outline is.
- Today, we learned about our body shapes and what make them alike and different.

Follow-up/Next steps: The next science lesson involves measuring heights. Students will utilize the concepts learned in this lesson regarding varying heights among their peers. Their ability to observe, participate, and reflect in a lesson are skills that will continue to be used in the future science lessons, as well as other subjects.

Fill out one chart below for every student

Objective	Exceeded Expectations	Proficient	Needs Support
Cooperate well with partner			
Able to outline a partner (and include their legs, arms, head and torso.)			
Participate in discussion: person’s body made up of same basic parts with variations in body shapes			