1.3.h

Elementary Case Study Example (EDU 340) and Lesson Series Example (EDU 303)

1.3.h

Case Study-Part II –Literacy Analysis
EDU 340- (ACEI 2.1-early reading skills and 4.0-assessment)

For an A	B	C	D
In-depth exploration/data collected about student's speaking ability ✓	Fair exploration/data collected about student's speaking ability	Shallow exploration/data collected about student's speaking ability	No exploration or data collected
In-depth exploration/data collected about student's listening ability ✓	Fair exploration/data collected about student's listening ability	Shallow exploration/data collected about student's listening ability	No exploration/data collected about student's listening ability
In-depth exploration/data collected about student's writing ability (letter formation and spelling) ✓	Fair exploration/data collected about student's writing ability writing sample to support	Shallow exploration/data collected about student's writing ability	No exploration/data collected about student's writing ability
In-depth data collection/exploration of: Phonemic awareness ✓	Fair exploration/data collected about phonemic awareness	Shallow Exploration/data collected about phonemic awareness	No exploration/data collected about phonemic awareness
In-depth data collection/exploration of Phonics	Fair exploration/data collected about ~~student's speaking ability~~ ✓ diphthongs	Shallow exploration/data collected ~~about student's speaking ability~~ phonics	No exploration/data collected about ~~student's speaking ability~~
In-depth data collection/exploration of reading comprehension ✓	Fair data collection/exploration about reading comprehension	Shallow evidence data collection/exploration about reading comprehension	No data collection/exploration reading comprehension
Complete and thorough evidence provided to support ideas ✓	~~Complete~~ Fair and thorough evidence provided to support ideas	~~Complete~~ shallow and thorough evidence provided to support ideas	No evidence provided to support ideas
Effectively used variety of appropriate diagnostic assessments	Needed at least one more assessment to support ideas ✓ Could retest Reading comprehension to double check	Two assessments missing to support ideas	Multiple assessments missing
Evidence of critically thinking and analyzing evidence collected ✓	One area lacking evidence of critical thinking and analyzing evidence collected	Superficial thinking about data and evidence provided	Analysis of data not based on evidence
Thorough detailed plans provided for interventions	Missing details on interventions ✓ ~~MAE~~ ~~data~~ on longer passage pre made questions	Missing numerous details and handouts for interventions	No plans for intervention provided

Theory Documented to support ideas from variety of sources (assigned readings, class discussions, textbook, naeyc /ira resources)	Limited use of citations	Very few citations used in document	No citations used in document
All Interventions are Developmentally appropriate according to norms established for group	Most interventions are developmentally appropriate	Multiple Interventions not developmentally appropriate	All interventions not developmentally appropriate
Student's literacy level for reading/writing correctly identified and supported according to guidelines in literature	Identification of reading/writing level but no support from literature	Misidentification of reading/writing level	No identification of reading/writing with connection to literature

- One other test is to measure fluency - # words/minute.
- digraphs?

Excellent Job!

A

Case Study Assignment:

Assessing Early Literacy Skills

EDU 340

Fall 2012

EDU 340
Case Study Assignment
Fall 2012
ACEI 2.1-early reading skills and 4.0-assessment

Your case study should focus on one kindergartener and his/her literacy development. Your goal is to assess the student's literacy level, collect data and document information collected on the child's four literacy areas, analyze the data to look for common trends and develop a plan for further literary development.

Guidelines:
In consultation with your mentor teacher, identify a child. Inquire about how parents should be notified about this project. Note: no names will be used and confidentiality is crucial.

Observe the child in small group, large group and individually.

Assess the students to determine their literacy level. Include speaking, listening, reading and writing. Use the following instruments to assess literacy levels:

Fluent Reader: IRI-running record (errors, speed-word/minute, reading comprehension, fluency)
San Diego Quick Assessment Inventory (word lists)
Decoding skills (simple and complex)

☆ Non-reader/beginning reader: letter recognition
Reading Assessment inventory (pictures for beginning/ending sounds)
San Diego Quick Assessment Inventory
IRI-running record (errors, speed-words/minute, reading comprehension, fluency) (page 138 in text)
Decoding skills (initial, final, medial vowel sounds, phonograms, chunking, long vowel, blends)

☆ All students:
Analysis of book reading (p. 260 in text)
Samples of writing/journal → write name or write heart words.
List of words student can spell- CVC words → when I grow up, I would like to be...
ask them if they can come up w/ rhyming words. ← Rhyming words
Observations of speech patterns
List of sight words can read
At least one other test to establish reliability and validity of analysis (appendix B and C in text and other assessment instruments available on-line and in class resources)

Paper: estimate length 10 pages-

An introduction to the child and the school setting

Observations and data gathered related to the child's literacy development- include test results, lists, copies of student work, all evidence gathered

Analysis of how this child fits into the norms and expectations of literacy development (citations from text and NAEYC position statement *Learning to read and write* from website)

Develop a detailed plan for this student regarding the next steps in literacy development. Use the viewpoint that you are an expert in reading recovery or are planning intervention groups. Be very

detailed in the plan and focus on future lessons that should be planned for the child. Include sample worksheets, activities and stations.

Case Study-Part II –Literacy Analysis
EDU 340- (ACEI 2.1-early reading skills and 4.0-assessment)

For an A	B	C	D
In-depth exploration/data collected about student's speaking ability	Fair exploration/data collected about student's speaking ability	Shallow exploration/data collected about student's speaking ability	No exploration or data collected
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In-depth exploration/data collected about student's writing ability (letter formation and spelling)	Fair exploration/data collected about student's writing ability	Shallow exploration/data collected about student's writing ability	No exploration/data collected about student's writing ability
In-depth data collection/exploration of: Phonemic awareness	Fair exploration/data collected about phonemic awareness	Shallow Exploration/data collected about phonemic awareness	No exploration/data collected about phonemic awareness
In-depth data collection/exploration of Phonics	Fair exploration/data collected about student's speaking ability	Shallow exploration/data collected about student's speaking ability	No exploration/data collected about student's speaking ability
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EDU 340 Fall 2012
Dr. Debbie Hanson
December 6, 2012

Case Study: Kindergarten Literacy

I have been observing in Mrs. Brandon's kindergarten classroom every Wednesday this fall semester. After completing my interactive read aloud, I began my case study on one particular student to test literacy skills. After conversation with my mentor teacher, Mrs. Brandon, we decided on one student in particular that may be interesting to work with. The student that I decided to work with is a Kindergartener who is currently reading at about a 3rd-4th grade level. Mrs. Brandon thought it would be neat for me to study this student to see what things he is still struggling with and to just see how incredible it is that you will have this wide range of students in your kindergarten classroom. Something really unique about the student that I observed is that he was actually labeled as a "failure to thrive" baby when he was in preschool but has made absolutely incredible progress since then and now his literacy skills are way above the Kindergarten level. In my conversation with Mrs. Brandon, my mentor teacher, she told me that in her kindergarten teaching career she had only ever had one other student who was at the level that this student is at. I became very intrigued in this student's story which made this case study even more interesting for me because working with this student was something that I have never experienced before and it was a really unusual case for a kindergartener. After testing with this student for about 3 days and gathering sample work and test results from Mrs. Brandon, I found a lot of interesting information about this student.

First I tested this student's letter recognition because I knew that this particular student could read very well, but I wanted to see if he could recognize all of his letters, both lowercase and uppercase. So, after making flashcards and then going through them with him, I found that he could recognize all of his letters, both lowercase and uppercase and he did it remarkably quickly. It was nearly as fast as I

could recognize a letter; he just flew through them and actually began to get antsy and bored once I reached the end of the testing. Also, it is important to note that these letters were not in alphabetical order; they were in a random order. This showed the students ability to actually recognize the letters instead of just memorizing their order. As a future teacher, I realized that letter recognition was definitely not a problem which made sense since he is at a 3rd-4th grade reading level. Then, I decided to test him on his sound-letter recognition. So, I showed him pictures and I said the word of the picture aloud. I asked him to tell me what letter he heard in the beginning of the word. Again, this was an easy task for the student and he did it very quickly. He even wanted to move ahead and keep going, not at the pace that I was going at, which again showed me that I was testing him on stuff that was not on his level because he had surpassed this level easily. This student successfully named all of the pictures with the correct letter except "quarter" which he said he thought he heard the letter "c". Even this one mistake is very logical and makes sense because the "q" here really does make the hard "c" sound. Therefore, his thinking was not completely wrong. After seeing that he did not recognize the "q" sound, I showed him flashcards with "q" words on them. For example, I made flashcards that said "quack," "quarter," "queen," and "quake." He could recognize this "q" sound just fine and he properly pronounced and recognized all of these "q" words. I did this further testing to see whether the student could recognize "q" words if they were written out for him, instead of seeing the picture and he proved to me that he could read and pronounce the "q" sound accurately if the word was actually written out. Therefore, after doing this testing I concluded that maybe when the q sound is heard in a word, he just thinks of it as another sound (such as "c" or "k") instead of realizing what the spelling of the word actually was. Further, since I tested him on other "q" words that were written out and not spoken to him, I think that he may have just been trying to go fast in the sound testing when I said quarter. I definitely think he was rushing through them because it was very easy for him so he didn't really take time to think that it could have actually been the letter "q". This is a likely conclusion, in my opinion,

- too easy

— Safe assumption - also smart

- yup!

because when he saw the word "quarter" written out on the flashcard, he was able to accurately read the word and make out the right sounds. However, I cannot make the assumption that this is what was happening. I would just have to keep monitoring how he does with the "q" sound and seeing the letter "q" in words. This testing that I performed where I just had letters and words written on cards is a form of "written language assessment" because it involves the students having to "identify alphabet letters written on cards (McGee and Richgels p 25)." After this testing, I decided to give him a list of his heart or sight words and also color words to see what he could recognize. Again, he recognized all of these words with absolutely no struggle. It was almost an immediate response for all of them. This testing was important too because the school expects for kindergarteners to learn their "heart" words by the end of the year and so obviously this student has already learned all of his sight or "heart" words so he is past the kindergarten level. As a future teacher, I looked at this data and I considered that he was great at letter recognition and sight words but then I wanted to see whether he could identify other types of words and whether he could pronounce them correctly or whether he had to sound them out.

definitely surpassed these entry level assessments

Therefore, my next thought process for testing was a little different since he could obviously recognize sounds, letters, and sight words. I decided that I would test this student on different words with some unique phonemic sounds in them. For example, I tested this student on words with blends, digraphs, and then also I tested him on words where vowels are added to see if he would notice that a vowel was added which would change the sound of the word. Typically, these phonemically challenging words would be pretty difficult for a kindergartener, especially since it is still only half way through the year and they still have room to progress and continue to grow a lot. I tested the student on words with blends such as "front," "spring," "flow," "scare," "plum," "bread," "tree," "slow," "bland," and "claw." I tested him by just making flashcards with these words written on them. This student knew all of these words with blends and he knew them without any hesitation; again, it was an immediate response to read them. In fact, he took the flash cards himself and just went through them. Then, just to see if he

could catch on to other phonemically challenging words or patterns, I tested him on digraphs such as "know," "chair," "whole," "while," "phone," "short," "know," and "gnome." This was the first time that this student struggled a little bit in my testing. He did not seem to understand the digraph "wh-". He would just say the "w" sound instead of the "wh" sound. So, the word "whole" sounded more like "wole". Using this knowledge, as a teacher, I would consider that digraphs were a little bit more challenging for this student, and even more specifically, the "wh" digraph. A kindergartener struggling with this type of digraph makes sense because they are at the stage where they are trying to sound out every letter but when you say the "wh" sound, you do not hear the "w" at all, you only hear the "h". I would use this knowledge to work with him on digraphs, and specifically I would focus on this digraph. Further, he did not know the word "gnome" which is really difficult and the "gn-" phoneme is one that is very unique and scarcely used so I was not as surprised that he struggled with this because it is not one that would be seen often. As a teacher, I would definitely address that this student was unfamiliar with this digraph and I would teach him about this specific one and try to find other examples, if there were any. I wouldn't really worry as much about this specific digraph, just because it is really very rarely used but it is definitely something to acknowledge and make sure he knows. Moving right along, I then tested him on adding vowels. For example, I had a flashcard that said "ran" and then a flashcard that said "rain" and another example was having the word "sad" and "said" or "hat" and "hate". The sound and meaning of these words change just by the addition of a vowel, such as "e" or "I". This can be very tricky for some students because it looks so similar in spelling, but it changes it completely. The student that I was testing knew all of these words easily. He did not seem to have any problem understanding that by adding the vowel you make the first vowel a long sound. For example, by adding the "e" to the end of "hat" you change the "a" from making the short sound to then making the long sound. I was intrigued by this because this seems like it would be a little more complex, but he did not struggle at all, and I was sensing that he was really not struggling much with word creations, phonics, letter recognition, sound

recognition, etc. Just to test another area of phonics, I decided to test this student on middle sounds. All I did was take CVC words and change out the vowel in the middle to see if he could recognize the change and pronounce it correctly. He was able to recognize every single one of these again, with no problems. For example, "bad" and "bed" or "hat" and "hit". The student did not miss a single one. Again, I was beginning to realize that I needed to find something new to test this student on. As a future teacher, I began to think that maybe I could test him on more challenging and lengthy words that would be recognizable by 3rd, 4th, or 5th graders. Using this knowledge, I progressed with my testing. All of these tests were "valid" because they "actually measure the concept intended to be measured (McGee and Richgels p 25)." Using these valid assessments, I could come to many conclusions from my testing with this student.

not surprised.

perhaps?

Since this student was so easily able to recognize sight words, I decided to test this student using the San Diego Quick Assessment from LaPray and Ross. This has lists of words and if the student makes 3 mistakes, that list is too hard and so you know to stop at this list. I did all of these lists with the student and he was able to read all of the words in Pre-Primer, Primer, 1,2, and 3 and then in list 4 he missed 2 words and then finally in list 5, he missed 3 words so I stopped testing him at this point. While doing this word list testing, he started to want to give up towards the end when the words were getting more challenging. As a teacher, I realized that when things were too easy, he was more than willing to participate, even though he got antsy and bored, but when things got complicated and he started to not know words, he wanted to give up instead of try to sound anything out. This was interesting to me. I sort of felt like he liked the praise and reassurance of knowing a lot of words and then when it was something he didn't know, he just didn't even want to try. With this data, I would consider this student to fall into the "Conventional Reading and Writing" category which is "the final phase of learning to read and write (McGee and Richgels p 24)." These students "have already mastered alphabet recognition and know most letter-sound associations (McGee and Richgels p 24)." Further, I decided it was time to test

on another area of literacy. I decided to have the student read a book to me and so I could see if he had trouble with any of the words in the book and then after the book was read, I asked him to tell me what it was about. I wanted to test comprehension after reading because I knew that the student could identify words and probably read very fluently but I did not know whether he understood what he was reading. The student had no problems with the words in the book. He read aloud to me the book titled "Wimberly Worried" by Kevin Henkes. The only words he did not know were "Wimberly" and "Petal" which were names in the book. But, when the student came upon these words, like I said before, he just sort of gave up and said "I don't know that word" instead of trying to sound it out. I then asked him to sound out the word and he just said "I don't know." But, every other word, he knew and could easily read. He read fluently and accurately, with correct directionality. This book says that it is for ages 4-9. I think that my student is 5 years old and so he falls in this range, but he successfully read the entire book which was very impressive. Something else to note is that while he was reading this book, he read incredibly fast and barely looked at the pictures. I began to wonder if he was paying attention to the story or if he was just reading it to show me that he knew all of the words. So, after reading the book I asked him if he could tell me what the book was about and his only response was, yet again, "I don't know." So, then I asked him again if he would tell me what it was about. Again, he responded and said "I don't know." So then I decided that I would ask him questions to see if he could answer them with some guidance or with someone prompting him. I asked him who the main character was and he knew it was "Wimberly" but then I asked him what Wimberly always does and he said he didn't know which is interesting because the word "worry" or "worried" was in the book on nearly every single page and that was the main purpose of the book. The intent of the author was to talk about a student that worried all the time and it was obvious that the student I was testing did not pick up on this idea. Then I asked him if he remembered the name of Wimberly's doll and he said he didn't know but then he asked to get the book from me and he looked through the pages and then he told me that the doll's name was "Petal".

directed questions is a good idea

This was really interesting because he was able to know that he could look back through and find the answer to his question. This was practicing good reading skills but it was still obvious that he did not really seem to comprehend what he was reading and instead was just reading for recognition of words. All of these types of testing were mostly "screening assessments" which are "short and are designed to be administered quickly (McGee and Richgels p 26)." Later, I will address more of the "monitoring assessments that I completed in this case study.

Mrs. Brandon also gave me some records of testing that she has done with this student so far this year. With these documents, I was able to learn more about the progress of this student from the beginning of the school year and from about a month or two into the school year. Also, there were some tests that Mrs. Brandon did that I didn't do and so I was able to gather even more data on the student which helped me to analyze more about the areas in which this student succeeded and areas in which he struggled. Her test results were similar to my findings in that he could correctly identify letters, sounds, and phonemic words that were challenging but she did not test comprehension. Mrs. Brandon also made observations of behavior and math ideas and he succeeded in these areas too. For literacy, one of the documents that she gave me was the Parent Report for the student based on the STAR Early Literacy test. The student was first tested on August 16th and was labeled a Transitional Reader with a scaled score of 782. On September 28th he was tested again using this same program and scored an 816 which made him a Probable Reader. This testing showed that even in just a month this student already went up significantly on the scale and quickly went from being a transitional reader to a probable reader. According to this report, this student "is using more complex strategies to decode words and access the meaning of grade-appropriate text. He or she understands that many grade-level words can have similar or opposite meanings. He or she understands that words have different functions. He or she is increasingly able to select books that interest him or her, to monitor his or her own reading, and to self-correct as needed. Matthew is probably able to locate key details in text to answer literal and

inferential questions. Also, he or she is able to read aloud some easy texts with accuracy, fluency, and expression." I did not get the chance to really work with this student enough to say whether all of these things are true or not, but when I did work with him I definitely concluded that he was able to know the difference between different words and he greatly understands different types of words and words that have different functions. Additionally, he does know how to locate ideas in the text and how to self-correct when he messed up on a word, which are both great reading strategies but I do question when this testing says that he can answer literal and inferential questions because from the data that I collected, he could find these answers if he went back and looked but could not just address them right off the spot. Further, he read aloud to me and he was accurate and fluent but did not always show a lot of expression. He did however show a little expression which was interesting to me because it showed me that he understood the structure of the sentences and what types of grammar stands for what type of expression. Also, this STAR Early Literacy Program suggested that further things that the teacher could do with this particular student would be things such as word games or asking questions that require him to voice an opinion or an idea based on what he read. After reading with him, I think this is an accurate suggestion for the student because he needs to work on being able to retell a story and also, he could have some word games dealing with the digraphs that he missed. Additionally, Mrs. Brandon gave me results from testing that she did one-on-one with the student. According to her results, the student needs to work on long vowel sounds. However, I did not see much of this which may mean that since her testing, this student has greatly improved on long vowel sounds because her testing is not the most recent. All of the test results that Mrs. Brandon gave me copies of were very helpful because they reassured me in what I found while testing him and also gave me more opportunities to see things that the student is struggling or succeeding in which gave me a lot of information about this child's literacy abilities.

All of these observations that were gained through testing are important for my case study, but I also just watched this particular student to gain more insight into his current literacy skills as a kindergartener. One thing that I particularly noticed is this student's handwriting abilities. This student can write all of his letters, both upper case and lower case, perfectly and neatly. His writing is incredibly structured like students are taught to write and he also is great about using spacing and punctuation. He obviously understands sentence structure very well, and that would make sense because he is able to read sentences properly too. Also, I had the chance to look in his binder at all of the writing/drawing work that he has done this year. It was really interesting to see because at the beginning of the year this particular student could write his letters, unlike a lot of other students but his words were not usually complete. But even at the beginning of the year, his handwriting was very neat and well structured. After looking at his writing, at the beginning of the year, I understood that he seemed to know his beginning and end sounds of a word better than the middle sounds. For example, for the word "ocean" he wrote "on" so he obviously heard the "o" in the beginning and the "n" in the end. This is actually really good for a student who is just coming into kindergarten because he was able to recognize sounds and knew the corresponding letters. Additionally, I looked at his homework and he always got a star on his paper or a 100%. The writing papers that he has to complete every week now had complete sentences with words that were spelled correctly and had all sounds included in them. So from August until now, he has already made vast improvement. He went from just mostly understanding beginning and ending sounds to being able to write out whole words and complete sentences in a matter of months. Further, the speaking of this student is very well developed. He accurately can pronounce and say all of the letters and their sounds, which I gathered from testing him on sound-letter recognition at the beginning of my testing. However, I did not notice this student using big vocabulary words often, but he can clearly communicate everything he needs to say and he seems to know a lot of words that other students don't. His speaking goes along with his reading and seems very advanced. I also had the time to

Maybe not pushed in ZPD w/ vocabulary

just speak with the student a little bit and he is very responsive and usually willing to speak, however he could not voice his ideas about the book that we read together which makes me more curious about his comprehension abilities when reading. He was most comfortable with just saying "I don't know" and not having to answer the question. All of these observations are examples of "monitoring assessments" which monitors "whether ongoing classroom instruction and classroom activities are affecting learning in desired ways throughout the year (McGee and Richgels p 26)." This is because these observations were based off of checking assignments that he was completing in class and out of class and also they were observations based on what I saw in the classroom, as opposed to what I tested him quickly through flashcards or books. Although I did not have enough time to really test him a lot further, I definitely think that learning about reading comprehension strategies would be the next best step for guiding this student and allowing him to be challenged enough, but not too much. Additionally, while learning about comprehension he could learn about speaking about this understanding and retelling the story. This would teach him the importance of the role of language in reading and writing (and just literacy skills, in general). For being at a primary grade reading level, the teacher should be "encouraging children to become independent and productive readers, helping them to extend their reasoning and comprehension abilities in learning about their world. Teachers will need to provide challenging materials that require children to analyze and think creatively and from different points of view (naeyc position statement p 7)." This student needs improvement on the ability to think creatively and from different points of view. Normally, this is for primary grade level students but since this student is already so advanced, this would be the focus for improving or continuing to develop his literacy abilities.

IED for advanced level? Keep challenged

After studying this particular student for several weeks, I was able to gather enough data to come up with some potential ideas for how I would further deal with this student if he was in my future classroom. By "deal" with this student, I mean ways in which I would help him to continue to progress

and develop in his literacy skills. I would classify this student as a "transitional reader" and these readers "monitor whether what they are reading makes sense (is meaningful), sounds like language (has acceptable syntax), and looks right (has the sequence of letters that they expect (McGee and Richgels p 123)." However, this transitional reader has not fully grasped the concept of understanding what he is reading and so eventually, he will hopefully be able "to use several different reading strategies to help them understand or comprehend what they read (McGee and Richgels p 123)." Therefore, I would call him an early transitional reader because he grasps a lot of the early concepts of this type of reader but lacks the ability to read with purpose still so this is the area that he mostly needs to work on. Like the STAR Literacy Program suggested, I believe that this student could further progress through the use of more oral activities. When I tried to discuss a book that I read with this student, he did not want to talk about it and just kept saying "I don't know" to everything I asked him. He could not recall a lot of information from the book we read. Therefore, I think he is very good with letters and sounds and he knows a lot of words and can recognize them but I don't know for sure if he understands the meaning of all of these words and I don't know if he knows how to retell a story. I think that a lot of times he is reading just to read, instead of reading with a purpose. I would have assignments for this particular student that require him to read a short passage and then answer very easy, simple questions. For example, I could have him read a small passage that talks about a boy and his family and then answer questions that ask him who the story was about or where it took place. These would be simple ideas that would get him started on understanding that you have to be paying attention to what you are reading for better comprehension. These worksheets or handouts will be good for this student to practice comprehension but then he will also need to progress the ability to voice opinions or ideas about the book (you will find examples of these types of handouts at the end of this paper—refer to those for better understanding of these activities). For example, as a teacher, I would probably somehow try to have a discussion with him after a read aloud and ask specific questions. I could even

good call

sequencing? fictives?

have the questions written on the board before hand so that he, and the other students, would know exactly what to look for. Having these guiding questions will help show the student the importance of paying attention to certain things in a reading passage or book. It may allow him to realize that good readers read with a purpose. Also, I could send home homework assignments that require him to talk to his parents or a family member about what he is reading. This would be more of a possibility if I was sure that this student has a supportive family that usually helps this student with their homework. Considering his improvement and his high level of literacy skills, I would assume that he has some help at home, but as a teacher I cannot make assumptions; it is something I must know for sure by talking with his parents. Knowing that the parents are involved and supportive is incredibly helpful with the progress of students because having them work on what they are learning in class at home is so beneficial because they are constantly reiterating what they learn, which is wonderful practice for these children. All of these types of interventions would be a developmentally appropriate next step for the student and would allow him to continue to grow in his literacy skills. When looking at the "Continuum of Children's Development in Early Reading and Writing" which is part of the position statement released by the naeyc on "Developmentally Appropriate Practice for Young Children", I could potentially classify this student as being in Phase 4: Transitional reading and writing (goals for second grade). This student can "read with greater fluency, use word identification strategies with greater facility to unlock unknown words, identify an increasing number of words by site, use common letter patterns and critical features to spell words, and punctuate simple sentences correctly and proofread their own work (naeyc position statement p 16)." Using this knowledge, this statement says that the teacher can "create a climate that fosters analytic, evaluative and reflective thinking, teach children to write in multiple forms, ensure that children read a range of texts for a variety of purposes, teach strategies for spelling new and difficult words, and model enjoyment of reading (naeyc position statement p 16)." I think that this pretty accurately describes what a teacher should do for this student and I would really emphasize that

- longer passages also for deeper themes in book

the teacher should create an atmosphere of reflective thinking to encourage and better the students understanding of comprehension and the purposes of reading.

Getting to work with this student for a few weeks was truly a great experience because I was able to learn and appreciate the wide range of children that there are in a kindergarten classroom. There are the students who come to kindergarten not even knowing their ABC's and there are some students, like the one that I studied, who know letters and can write words that have beginning and ending sounds that are acknowledged. Compared to other students in the classroom, this student was far more advanced and developed in his literacy skills. A kindergartener reader is typically need help clarifying the concept of word, knowledge of word or language roles, and knowledge of alphabetic letters and then further, word formation. However, this student knew all of those easily and so he was entering kindergarten at a much higher level therefore the teacher will need to adjust accordingly. "Not all children typically come to kindergarten with similar levels of knowledge about printed language. Estimating where each child is developmentally and building on that base, a key feature of all good teaching, is particularly important for the kindergarten teacher (naeyc position statement p 5)." This is essentially the most important thing that I learned from this case study. Each student will come into kindergarten with different levels of literacy skills and it is my job as a teacher to test and figure out what level they are at so that I can develop plans to help them grow as students. It was so interesting and marvelous to see how incredible this student is and to just see the way he thinks and performs. I love that at this age, students have an urge and willingness to learn and to show off what they have learned; it is pure excitement when they can show you how much they have learned because they are proud and so is the teacher. I enjoyed working with this student and benefited a lot from the experience because I was able to analyze my test results to further realize what I would want to work on more with this student to allow him to continue to progress and develop as a learner.

Works Cited

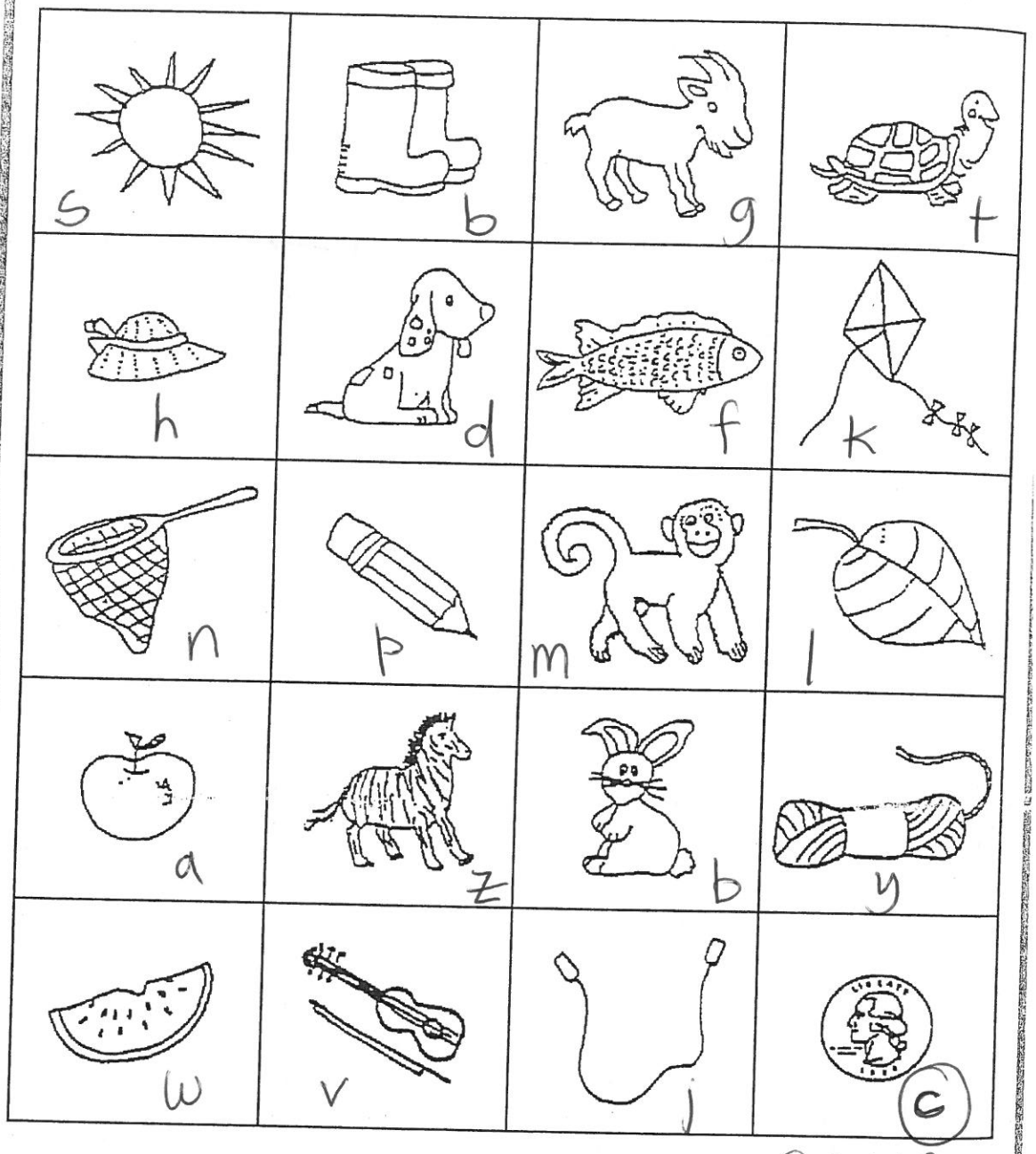
Learning to Read and Write: Developmentally Appropriate Practices for Young Children. Rep. NAEYC, July 1998. Web. <http://www.naeyc.org/files/naeyc/file/positions/PSREAD98.PDF>.

McGee, Lea M., and Donald J. Richgels. *Literacy's Beginnings: Supporting Young Readers and Writers*. 6th ed. Boston: Allyn and Bacon, 2012. Print.

Letter Recognition

Directions: Teacher points to each picture and says its name. The teacher then asks the child to say what letter the picture name begins with.

All correct except quarter



Quarter

(continued)

FIGURE 5.6. Sound–Letter Assessment. Reprinted with permission of the San Diego Unified School District Literacy Department.

Reading Assessment Summary

Name _____ ner _____

Date NOV 14, 2017 (red) Date _____ (green) Date _____ (purple)

Letter Names (Circle letters when recognized) → make index cards

(Capitals) Total 26/26 _____

S M O T P N E X C K R B J

U F G H D I Z W V L Y A Q

(Lowercase) Total 26/26 _____

j u f g h d y a q i z w v

l e x c k r b s m o t p n

Beginning Sounds Total _____ _____ _____

S___ M___ O___ T___ P___ N___ E___ X___ C___ K___ R___

B___ J___ U___ F___ G___ H___ D___ I___ Z___ W___ V___

L___ Y___ A___ O___

Beginning Picture Sounds Total 19/20 _____

sun ✓ boots ✓ goat ✓ turtle ✓ hat ✓ dog ✓ fish ✓

kite ✓ net ✓ pencil ✓ monkey ✓ leaf ✓ apple ✓

zebra ✓ rabbit ✓ yarn ✓ watermelon ✓ violin ✓

jump rope ✓ quarter X ("c")

Word Recognition Total 20/20 _____ - Heart/sight words

A ✓ will ✓ I ✓ can ✓ go ✓ to ✓ see ✓ we ✓

The ✓ not ✓ red ✓ yellow ✓ blue ✓ green ✓ - color words

orange ✓ brown ✓ purple ✓ black ✓ white ✓ pink ✓

FIGURE 5.6. *(continued)*

RUNNING RECORD SHEET

Name: 1 Date: NOV 28, 2012 D. of B.: _____ Age: 5 yrs _____ mths

School: southwestern elementary Recorder [illegible]

Text Titles		Errors / Running Words	Error Ratio	Accuracy Rate	Self-correction Ratio
Easy	Wimberly worried		1:	%	1:
Instructional			1:	%	1:
Hard			1:	%	1:

Directional movement ✓

Analysis of Errors and Self-corrections

Information used or neglected [Meaning (M), Structure or Syntax (S), Visual (V)]

Easy This student knew all words but
~~Instructional~~ 2, so I just took notes on those
words! This book is for ages 4-9.
~~Hard~~

Cross-checking on information (Note that this behaviour changes over time)

Page	Title	Count E	Count SC	Analysis of Errors and Self-corrections: Information used E MSV	SC MSV
cover	Wimberly → just looked at it & said he didn't know and wouldn't try to sound it out.	1		1	
	Petal → This was the name of wimberly's doll. Again, he just looked at it and gave up. He didnt even try to sound it out	1		1	

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Page		Count		Analysis of Errors and Self-corrections	
				Information used	
		E	SC	E MSV	SC MSV

Published in the U.S. by HEINEMANN
a division of Reed Elsevier, Portsmouth, NH

IRI-running record

comprehension - Have students retell a story?

Student ——

Date NOV 28

Book Title and Author Wimberly worried

Check each skill as: (1) weak, (2) average, (3) very good, (4) superior

	1	2	3	4
1. The student comprehensively retold the story	✓			
2. Comprehended the story line and plot	✓			
• Understood the roles played by the various characters		✓		
• Understood implied as well as stated meanings	✓			
• Comprehended author's intention	✓			
3. Understood the major ideas	✓			
4. Understood the minor ideas that built to the major ideas	✓			
5. Brought a background of information to the selection	✓			
6. Analyzed and made judgments based on facts	✓			
8. Retold the selection in sentences that made grammatical sense	✓			
• predicates (verbs)				
• adverbs				
• adjectives				
• phrases				
• compound sentences				
• conjunctions				
• complex sentences				

9. Used a rich and meaningful vocabulary:
   Example: NO

10. Overused, slang, and colloquial expressions:
    List: NO

11. Summary of retelling:
    Comprehension: said he didn't know
    Sentence structure: —
    Vocabulary: —

12. Proposed instruction: ~~wwww~~ this student needs practice w/ comprehension. He is a fluent reader but goes way too fast, barely looks at pics, and can't retell any of story (even when prompted).

FIGURE 5.9. Story retelling guide. This chart will help you in assessing a child's proficiency retelling after reading.

If they make 3 mistakes, that list is too hard. Stop here!

If they make 2 or less mistakes, you can go to next list.

(pre-primer)

Word List

PP	Primer	1	2	3
see	you	road	our	city
play	come	live	please	middle
me	not	thank	myself	moment
at	with	when	town	frightened
run	jump	bigger	early	exclaimed
go	help	how	send	several
and	is	always	wide	lonely
look	work	night	believe	drew
can	are	spring	quietly	since
here	this	today	carefully	straight

Kindergarten

4	5	6	7
decided	scanty	bridge	amber
served	business	commercial	dominion
amazed	develop	abolish	sundry
silent	considered	trucker	capillary
wrecked	discussed	apparatus	impetuous
improved	behaved	elementary	blight
certainly	splendid	comment	wrest
entered	acquainted	necessity	enumerate
realized	escaped	gallery	daunted
interrupted	grim	relativity	condescend

8	9	10	11
capacious	conscientious	zany	galore
limitation	isolation	jerkin	rotunda
pretext	molecule	nausea	capitalism
intrigue	ritual	gratuitous	prevaricate
delusion	momentous	linear	risible
immaculate	vulnerable	inept	exonerate
ascent	kinship	legality	superannuate
acrid	conservatism	aspen	luxuriate
binocular	jaunty	amnesty	piebald
embankment	inventive	barometer	crunch

(continued)

FIGURE 5.4. San Diego Quick Assessment. From LaPray and Ross (1969). Reprinted with permission from the authors and the International Reading Association.

1.3.h

Identification:

5th grade
Gravity

Objectives:
Rationale
The purpose of this lesson is for students to be able to understand and apply their knowledge of gravity, specifically, the center of gravity. Within this lesson students will complete a variety of inquiry activities to help them understand scientific concepts that deal with the concept of gravity. For instance, students will first us their prior knowledge of the Earth, sun and moons orbit to draw a diagram of and act out how the gravitational pull effects these planets orbit. Through this lesson students will also get the opportunity to learn how to use a triple beam balance scale measuring a variety of objects in grams. During this lesson we will discuss the metric system specifically working with the measurement unit of grams as a way to incorporate math concepts within this particular lesson.

Enduring Understanding
To understand the concept of gravity and how it is applied in the real world.

Essential Questions/HOT Questions
What is gravity?
How does gravity work and how does it apply to real life situations?
How do the Earth, moon and sun orbit?
Why do the Earth, moon and sun orbit in a particular way?
How do we measure the mass of objects?
What is the difference between mass and weight?

Misconceptions -how developed? - from literature or from student interviews?
-Some students thought that the sun and moon orbit around the Earth.
-That the moon orbits around the sun and the Earth orbits around both the sun and moon.
-That the moon and Earth orbit together around the sun.
-Mass is measured by Earth's gravitational pull while weight is measured by the amount of matter in matter in the material.
-That mass and weight are interchangeable terms.

Standards Addressed

SCI.5.1.2 2010
Describe the difference between weight and mass. Understand that weight is dependent on gravity and mass is the amount of matter in a given substance or material.

SCI. 5.2.1

Recognize that our earth is part of the solar system in which the sun, an average star, is the central and largest body. Observe that our solar system includes the sun, moon, seven other planets and their moons, and many other smaller objects, such as asteroids and comets.

MA.5.5.5 2000
Understand and use the smaller and larger units for measuring weight (ounce, gram, and ton) and their relationship to pounds and kilograms.

Learning/Performance Objectives:
Students will be able to define gravity using at least one example observed during the experiment.
Students will be able to illustrate how gravity causes the orbit of planets around the sun.
Students will be able to outline that the moon orbits the Earth and how the Earth orbits the sun.
Students will be able to define the difference between mass and weight.

Materials:
-projector
-pictures/ video

scales ?
process

Vocabulary:
Gravity
Mass
Weight
Orbit
Balance

Introduction (Engage)
For this particular part of the lesson I will first ask the students to stand on one foot for 60 seconds. I will have students stand on one foot again and hold their opposite ear. I will then ask the students the difference between the difficultly of these two tasks. Why is this so? I will then give the students a hint by dropping a few items such as a book, pencil, etc. to help them realize that we are talking about gravity. http://www.youtube.com/watch?v=CUexAhUcx_8

Activities and Procedures
(Explore)
For this portion of the lesson, I will have the students explore how gravity effects the orbit cycle of the planets. To help explain this concept I will use and interactive diagram on the discovery education website while explaining the various terms they need to know to learn in order to grasp this concept. To make this more interactive and hands on I will have students volunteer to demonstrate the sun, moon and earth orbit cycle. During this time I will also address common misconceptions people have about orbits.

(pick students event)

(explain video & your experiment)

Show video: Exploring Gravity and its pull (Discover Education)

(Coke Can with water balanced, and coin and dollar bill trick)

Explain:

For the explanation portion of this lesson I will have each group explain the process of taking their measurements and if their predictions were correct or not to the rest of the class. During this time I will also discuss with the students the proper measure units to use for their data and reiterate the difference between grams, kilograms and milligrams. Then each group will get a scale and 3 items to measure the mass of the object. I will first go over how to properly use a scale. During this time students will also be asked to make observations of the objects and prior to measuring the mass make predications on which of their objects will be the heaviest and which will be the lightest.

Elaborate:

In order to further elaborate on this concept I will have the children participate in a few experiments to explore the center of gravity/ mass in order to make a connection to the engagement portion of the lesson. (Coke Can and Dollar Bill Trick) During this time students will work with their desk groups to find the center of gravity of these items. In addition, this portion will be guided inquiry based since I will not show them at first how to complete the tasks. Once the students have completed the experiments I will reiterate to them how mass and weight differ from one another when it comes to gravity.

Assessment (Evaluate)

For the assessment of this lesson I decided to use an exit slip which not only inquired the main concept of gravity but also expanded slightly further, applying to the objectives I have layed out early within the lesson. The question and answers are listed below.

-What is gravity?

-What is the difference between mass and weight?

-Draw an illustration of the Earth Moon and Sun.

Inquiry/ Justification of Level

This lesson was filled with inquiry. Unfortunately, due to my poor classroom management and lack of availability of triple beam balance scales I was unable to have the students move onto the inquiry planed in the elaborate section of the lesson. However, within the

explore portion of the lesson, I had students draw a diagram based on their prior knowledge how they thought the Earth, moon and sun orbited in space. Through this guided inquiry students got the chance to work collectively in small groups to accomplish this task. Before the activity, I only provided the students a question to solve and minimal instruction. In addition, I also let the students physically depict their diagram so that they could act out first hand their thoughts of how these planets orbit. During this guided inquiry I got to see first-hand not only the students thought process but also the misconceptions they have gained through their previous knowledge. This activity was developmentally appropriate due to many factors. For one, students were given the opportunity to work together in groups which is a crucial skill to ensure that the students develop socially for fifth graders. The students were also given multiple ways to display this concept both visually through a diagram and physically through their own bodies. Once the students finished displaying their thoughts within the class I showed students a clip on YouTube which displayed the correct orbit of the sun moon and Earth. I then had a group of students physically act out the correct orbit while the rest of the class drew the correct diagram below on their sheet. This developmentally appropriate activity gave students a multitude of opportunities to see how the moon sun and Earth rotate. This is also guided inquiry due to the fact that the learner was given the opportunity to engage in scientific concepts to answer a central question.

Grouping Strategy/ Student Response

Based on the set up of Mrs. Bohman's classroom I decided to group students based on their assigned seating. In her set up she has four desks facing one another in five groupings throughout the classroom. During the first inquiry activity, students worked within their groups to determine the orbit of the sun moon and Earth. When it came time for the students to act out their thoughts I assigned each student in the group a role. Since there were four people per group one person played the earth, one the sun and one the moon. The final person was the director who placed the students playing the planets in the correct manner and explained to the class their group's theory. The students really enjoyed physically acting out their theories to the class and as other groups shared their thoughts students would either stick to their original theory or adapt their thoughts based on the other group's presentations. During this lesson the groups also participated in a second activity where they predicted and measured the mass of a variety of objects using a triple beam balance scale. Although this activity provided the students with allowed students the opportunity to learn how to use this particular scale and using the measuring unit of grams the students were often off task when their group was not at the scale. Through this experience I learned the importance of classroom management and used this student response to this activity in particular as a lesson for the rest of my lesson series.

***Not in full 5E lesson format due to the fact that this was merely an activity during the fieldtrip**

Identification:

La [illegible]

5th grade

Moon Craters

Objectives:

Rationale

This lesson will help students understand impact craters and infer how they were formed and the reason for their differences in size. Through this lesson I hope to use the scientific concepts taught earlier in the lesson series within this inquiry exercise. For instance, the students used the concept of gravity to make predictions on how the height of the marble will affect the diameter of the marbles impact. Within this lesson, students will also get the opportunity to further discuss the difference between mass and weight as a reference to further understand the results they will find through this activity. Within this activity students will also develop further their mathematical skills through measuring height with a yard stick and diameter with a ruler. The students also recorded the data they collected on a sheet ensuring that they correctly labeled with the right mathematical unit.

Enduring Understanding

To further understand the concept of gravity and how certain factors can affect the outcome of data recorded through measurements.

Essential Questions/HOT questions

Compare the width (diameter) of the craters to the height of the drop. How does height affect crater size? Was your hypothesis correct?

Compare the width (diameter) of the craters to the angle of the drop. How does angle affect crater size? Was your hypothesis correct?

How does the concept of gravitational pull learned earlier in this lesson series relate to this activity?

Misconceptions

The main misconception I found through my research was that the, "Earth has few impact craters because the Moon protects it." (NASA talk.com)
http://www.nasatalk.com/blog/article/Blogs/38-Debbie%20Piecka/992-overcoming-moon-misconceptionsstrategies-and-answers-for-educators.html

However, through during my field experience I also found that one group of students did not understand the concept of an inch. Instead of counting the space between the lines, they were counting only the lines on the ruler. There was also quite a few other groups who used the end of their ruler to begin measuring the diameter instead of at the zero.

– why use inches?

Standards Addressed

SCI.5.1.2 2010
Describe the difference between weight and mass. Understand that weight is dependent on gravity and mass is the amount of matter in a given substance or material.

SCI.5.1.1 2010
Describe and measure the volume and weight of a sample of a given material.

MA.5.7.1 2000
Analyze problems by identifying relationships, telling relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.

Learning/Performance Objectives:
Students will be able to measure height with a yard stick.
Students will be able to correlate height and gravity.– how measure correlate?
Students will be able to measure the diameter of circle.

Materials:
-Flour
-Aluminum Pan
-Safety Goggles
-Newspaper
-Meter Stick
-Table/Chart to record information
-Marbles of various sizes

Safety Consideration/ Adaptations:
-Visuals/Manipulatives
-Safety Goggles (optional)
-Gloves (optional)

Procedure (Explore):
1)Divide the students into small groups of 4. Each group will need an aluminum pan, safety goggles, flour, cocoa and marbles.

2) Hold marble at 20 cm high. Measure the width of the crater.

3) Hypothesize what difference the height or angle of the drop will make in the diameter of the crater.

3) Hold marble at 40 cm high. Measure the width of the crater.

4) Hold marble at 80 cm high. Measure the width of the crater.

5) Hold marble at 100 cm high. Measure the width of the crater.

**After each drop students will record on their chart how the diameter of the crater

Inquiry/ Justification of Level

This activity in particular was more confirmation based inquiry since students took their prior knowledge gained earlier in the lesson series and applied it within this experiment. For this activity students used their knowledge of gravity along with the difference of mass and weight to explore how the factors that allow the marbles impact to vary in the flour. Once again each student was given a lab sheet to record their data and make their hypothesis. This activity was also developmentally appropriate due to the fact that students were given explicit instruction on how to measure the height of their marble along with the diameter of its impact. The inquiry used within this activity was structured since I purposed a question and the students looked for an answer based on their collected data. The students were also given a specific procedure to follow. Students also learned through this activity how from their data they can create scientific explanations answer critical questions.

Grouping Strategy/ Student Response

Unlike the density lesson plan, I did not have a particular strategy for this activity. The students just counted off by six. Since there were thirty students this meant that there were five students per group. I did this for two main reasons. One we were in a completely different setting since this was during the field trip. In addition, I also had a few students from another homeroom making it difficult for me just to have students work in the same groups they did in the other portions of the lesson series. Despite the quick grouping, the students seemed to really enjoy the activity. For time purposes, I assigned each group to a particular height and had them play around with different angles and levels of force with that height. If groups finished early I would give them a larger sized marble to experiment with so they could compare and contrast each marbles impact on the flour. The students loved this and overall did a wonderful job making sure that their measurements were accurate.

Identification:

5th grade

The Art of Density

Objectives:

Rationale

This lesson was created to ensure that the students have grasped the concept and formula of density through measuring the volume and mass of liquids. This will be accomplished by having the students complete a lab experiment. Within this lesson each student will have a designated job and work together in groups in order to learn the concept of density. However, the students will not just learn this scientific concept, but also find the actual density of liquids by measuring the volume and mass of five different liquids. Here students will once again get the opportunity to use a triple balance beam scale to find the mass of the liquids and graduated cylinders to find the volume. Once the students have conducted the experiment and have seen the work of density first hand we will then fill out a data chart where the students will record each liquid's mass and volume as well as its density. The students will calculate each liquid's density by dividing the liquids mass by its volume. Students will also learn the proper procedure of a scientific experiment by filling out a lab sheet which will take the students step by step through the experiment process. The students also used their math skills by computing an equation in order to find the density of each liquid.

Enduring Understanding

To understand the concept of density and how it is applied in the real world.

Essential Questions/HOT questions

What is density?
Why is it important to know this concept? How is density used in our everyday life?
How do we calculate density?
What volume mean? How do we measure it?
How do we make proper observations?
What are two central measurements we need to find the density of an object?

Misconceptions

-Many students mistook weight for density during the lesson.
-From the pretest they also thought that density was the pressure on gravity that helps weigh objects down.
-From the posttest I could see that a couple of the students gained the misconception that density's formula is d= g/v since we used the unit of grams to measure the mass of the liquids.

Standards Addressed

SCI.5.1.1 2010

Describe and measure the volume and weight of a sample of a given material.

Learning/Performance Objectives:

Students will be able to define density.

Students will be able to measure liquid using a graduated cylinder. – process

Students will be able to explain terminology associated with density such as mass and volume.

Students will be able to discuss the relation of gravity to density.

Low level objectives

Calculate density?

Materials:

-graduated cylinders
-Vegetable Oil
-Food Coloring
-Alka-Seltzer tablets

Safety Consideration/ Adaptations:

-Visuals/Manipulatives
-Goggles
-Funnels

Engage

I will first have two eggs. One in salt water and the other in water and have students make predictions of why one of eggs has sunk and the other stays afloat. Then I will use two Easter Eggs one filled with sand and the other empty to help convey the concept of how density can be conveyed: same volume, different mass.

Explore

Have the students practice the formula with a group finding the density within the following items measured in 9 oz portion cups.

Materials:
Light Karo syrup
Water
Vegetable oil
Dawn dish soap (blue)
Baby oil

1) First the students will make predictions based on just observing the liquids categorizing them from heaviest to lightest.
2) Then the students will order the liquids according to the calculated density from heaviest to lightest. They will measure the mass using a scale, subtract the weight of the graduated cylinder (which I have already found to be 13.5) and then plug this information into the formula: d=m/v

3) Have the students then see the results by slowly adding each layer of liquid into the graduated cylinder.
4) The students can use food coloring for the water to make their 5 layered density column

Explain

1) Explain that density is present within everything.
2) Talk about how molecules play a role within the variance of amount of matter in objects.
3) Talk about water's density. Based on the experiments above what can we assume water's density to be? High or low?
4) Talk about mass and volume. How does this play a role within density?

Elaborate

Density Lava Lamp

1. Pour water into the plastic bottle until it is around one quarter full (you might want to use a funnel when filling the bottle so you don't spill anything).
2. Pour in vegetable oil until the bottle is nearly full.
3. Wait until the oil and water have separated.
4. Add around a dozen drops of food coloring to the bottle (choose any color you like).
5. Watch as the food coloring falls through the oil and mixes with the water.
6. Cut an Alka-Seltzer tablet into smaller pieces (around 5 or 6) and drop one of them into the bottle, things should start getting a little crazy, just like a real lava lamp!
7. When the bubbling stops, add another piece of Alka-Seltzer and enjoy the show!

Evaluate

For this lesson I will use the students lab work sheets to see how well they got the concept of density. Student work attached.

Inquiry/ Justification of Level

Throughout this lesson students participated in a structured inquiry as I lead them through the proper experimental procedure. During this activity, students followed directions I gave step by step in order to see the scientific concept of density in action. This activity was developmentally appropriate because it allowed the children to work hands on within a group to find the mass and volume of each liquid. For this structured inquiry, students were also given a group lab worksheet where they would record their observations and data that they collected. Students were also given a chart where they were to record the mass, volume, and density of each liquid. This allowed students to further grasp not only the concept of density but also the importance of collecting data during an experiment. Through this activity students not only got the chance to calculate the density of each liquid, but also see first-hand how their calculations worked out based on the results of their experiment.

Grouping Strategy/ Student Response

For this particular lesson, my success depended mainly on how I grouped the students and delegated the tasks. Students were grouped based on how their desks are already set up in five groups of four. This was exactly the same as the first lesson. However, since in this experiment included five liquids, each group was assigned to find the mass measurement of that particular liquid. In addition I also handed out identification cards which assigned students to a particular job within the group. Within each group one person was in charge of measuring the mass of their group's liquid, while the other members of the group were in charge of making observations and measuring the volume of each liquid. To further delegate the responsibilities, the students who were in charge of measuring the volume where assigned to a specific liquid. To make this a smooth transition, I ensured that no group would need to use the same liquid at once that way the procedures of this experiment would run a lot smoother. The students absolutely loved this activity and were very excited throughout the entirety of this lesson. Many of the students though were confused on way they didn't find the mass of the other four liquids so I made sure to let them know that this was due to the fact that their classmates already found that piece of data for them. I decided that it was the best strategy for class management reasons and simply due to the fact that we would of ran out of time. After the students observed and recorded the results of the experiment we filled out a data chart as a class where we found the mass, volume and density of each liquid. Overall, the students did fantastic due to the fact that their measurements where very accurate however, there was one group who incorrectly calculated the mass of their liquid. While this was disappointing for the students, I used this as a teachable moment explaining to the children how human error is always present and should be accounted for within experiments since we are not perfect.

The Art of Density

Names: Jess, Trenton-Nicole, Bryce

Group liquid: Water

Liquids used in this experiment:

1) Water
2) Soap
3) Vegetable oil
4) hyro Syrup
5) baby oil

Standard volume: 45ml

Group liquid Observation:

Color: Blue

Clarity: 4/10

Thickness: 1/10

Smell: No Smell

Liquid #2 Observation:

Color: yellow

Clarity: 10/10

Thickness: 8/10

Smell: Sweet

Liquid #3 Observation:

Color: yellow

Clarity: $\frac{7}{10}$

Thickness: $\frac{6}{10}$

Smell: bad watermelon

Liquid #4 Observation:

Color: clear

Clarity: $\frac{1}{10}$

Thickness: $\frac{4}{10}$

Smell: baby butt smell

Liquid #5 Observation:

Color: orange

Clarity: $\frac{10}{10}$

Thickness: $\frac{8}{10}$

Smell: orange candy

Predictions

What layer do you think your group's liquid will fall?

4 or 3

45:1 -1 1/2

Name: [redacted]

1) What is gravity? Please provide an example to explain your definition.

-1/2 gravity is what keeps us from floating into space

2) Which is the correct orbit of the moon, Earth and sun?

a. The moon orbits around the Earth and the Earth orbits around the sun.
b. Both the sun and moon orbit around the Earth.
c. The sun orbits around both the moon and Earth.
d. The moon orbits around both the Earth and sun.

3) What is the difference between mass and weight?

a. Mass is heavier than weight.
b. Weight is heavier than mass.
c. Weight is measured by the Earth's gravitational pull while mass is measured by the amount of matter in a material.
d. Mass is measured by the Earth's gravitational pull while weight is measured by the amount of matter in the material.

4) What is density? How does it relate to gravity?

5) How do you calculate density? Write down the math formula for density.

Density=

Pre

6) Which is more dense?

A. Salt water B. Fresh water

Circle the best answer.

7) The amount of matter in an object
A. Volume B. Weight C. Matter D. Mass

8) How much space an object takes up
A. Volume B. Mass C. Matter D. Density

9) The amount of force that gravity pulls down on an object
A. Volume B. Weight C. Density D. Mass

10) How tightly packed molecules are in a given space
A. Volume B. Weight C. Density D. Mass

Based on your observations, list the liquids from highest to lowest:

1. corn syrup
2. soap
3. vegetable oil
4. baby oil
5. water

Results

What is the biggest difference between your results and predictions?

3 from 5 big difference

Where did your groups liquid fall on the density column?

Density of group Liquid: 1

*Show work here along with the formula

D=M/V

10 r13

45 | 58

- 45

13

- 0

13

Name: [redacted]

Diagram #1

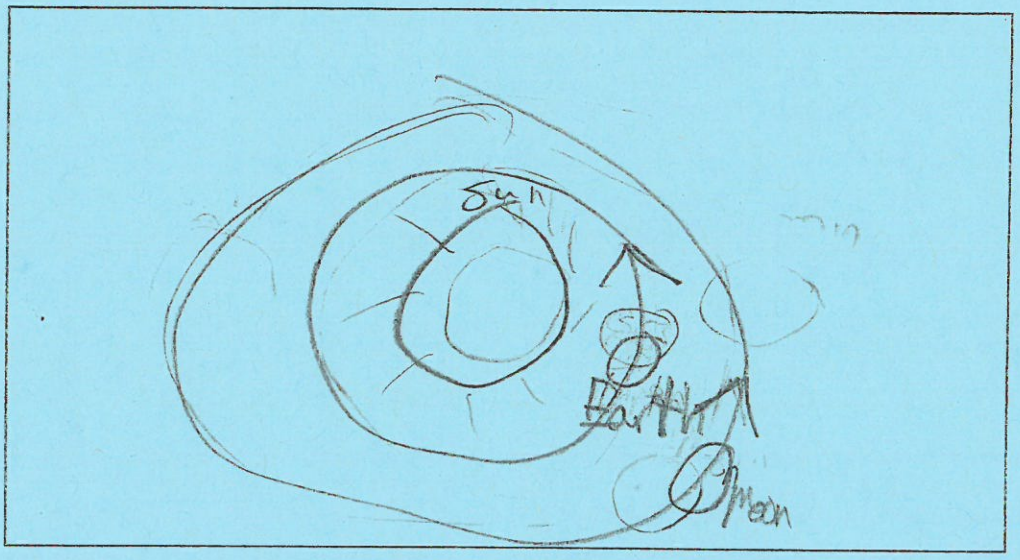
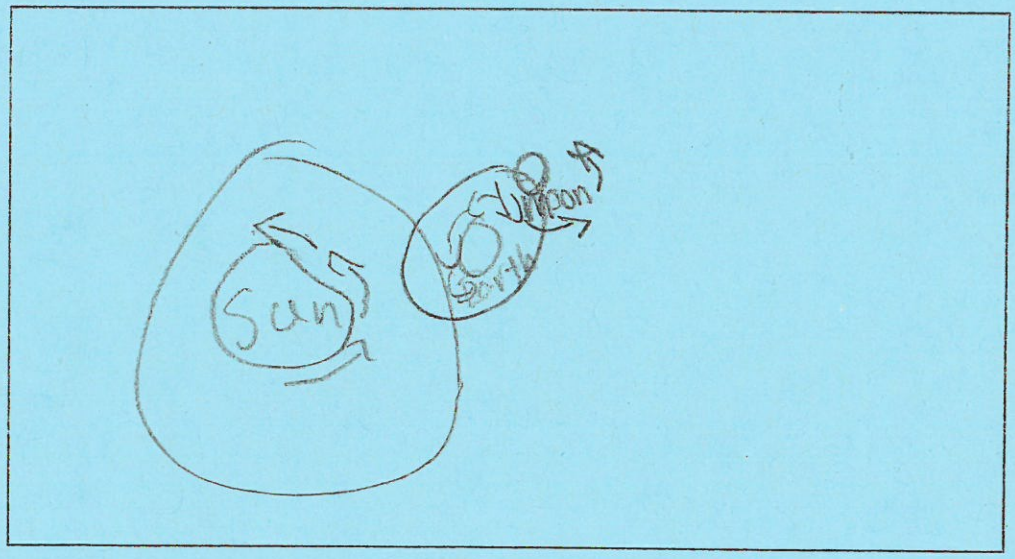


Diagram #2



Lauren Ehler
Part Two: Lesson Series
Debbie Hanson
4/12/13

Part A:

Throughout this lesson series I did not only have the opportunity to teach a group of fifth grade students math and science but I also learned more about myself as an educator in regards to my strengths and weaknesses. During this process, I thought I did a great job of making sure that I was fully prepared for each lesson. Before each lesson, I would make sure that I had all my supplies and that I completed the experiments myself beforehand, so that I could work out the kinks ahead of time. For a moment, it looked as if I moved into Newby however; it was well worth it in the end. Seeing their faces light up with excitement is what gave me the motivation to provide the very best for my students. In addition to preparation, I also stayed very organized planning not only my lessons but also with planning a field trip to wrap up the entire lesson series. Through this process I had to communicate with a variety of professors and staff on Hanover's Campus to make arrangements and make sure that they were well aware of this event. I also think that I did a good job overall outlining my lesson series so that it flowed from one scientific concept to another. However, I ensured that I didn't forget about math integrating central measurement concepts throughout each of the lessons. I also ensured my lessons where academically diverse, incorporating a variety of activities which catered to a multitude of learning styles and adaptations for students.

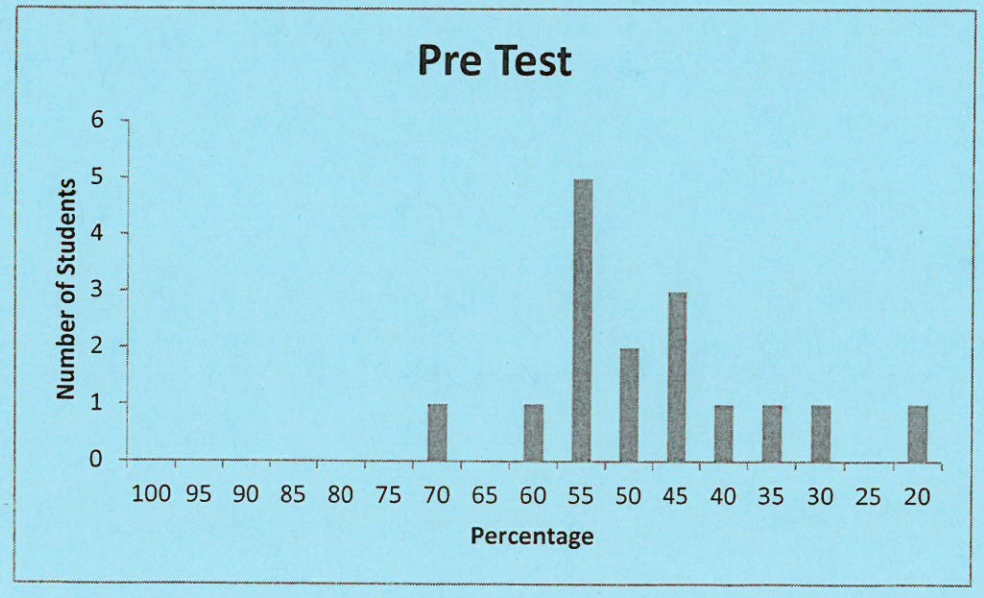
Even though overall I thought my lesson series went well, there were still some things that I would alter if I went through this process again. Within the first lesson, I learned was the importance of classroom and time management. During my first lesson the students participated in a seconded guided inquiry were they were to make predications and measure the mass of certain objects as small groups. However, during the lesson I only had one scale so only one group could come up at a time. When other groups were not at the scale they were honestly completely off task. Likewise, my mentor teacher Mrs. Bohman mentioned in my feedback form that I had difficultly managing groups who I was not directly working with. After reflecting on this situation, I took the initiative to partake in specific strategies in order to avoid this predicament for the rest of the lesson series. For instance, in preparation of my second lesson of this series I ensured that each student would be continuously engaged within the density experiment by delegated each student to a specific task. In addition, I would make sure that the other students within the group would have something to do that way they were always contributing to the group. For example, if one student was assigned to measure the volume of a liquid the other students would be either helping that student by holding the funnel, observing the liquid or recording their observations on their lab sheet. This seemed to work like magic, effectively incorporating classroom management. I was pleased to see that throughout the lesson the students were not only engaged but excited as we explored the concept of density. As I

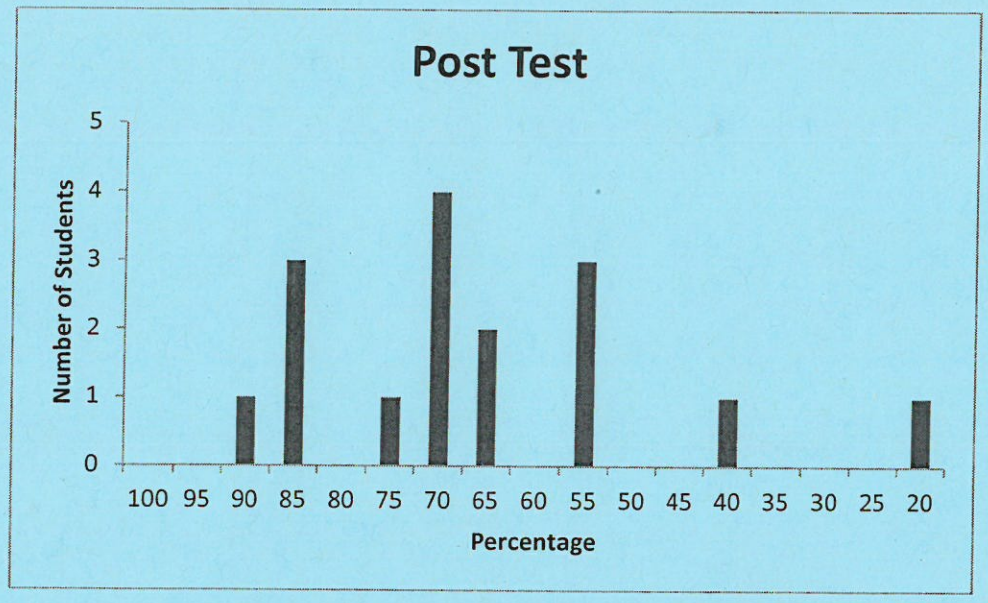
continued my reflection I realized that in my last lesson during this field trip I would have had the students' measure in cementers instead of inches to make their measurements were more precise. Honestly, I didn't think about incorporating that slight change until I received this feedback from my supervisor however, I think that it would even further develop this activity helping students learn how to measure accurately. I would also have addressed the students' misconceptions of how to measure with a ruler beforehand.

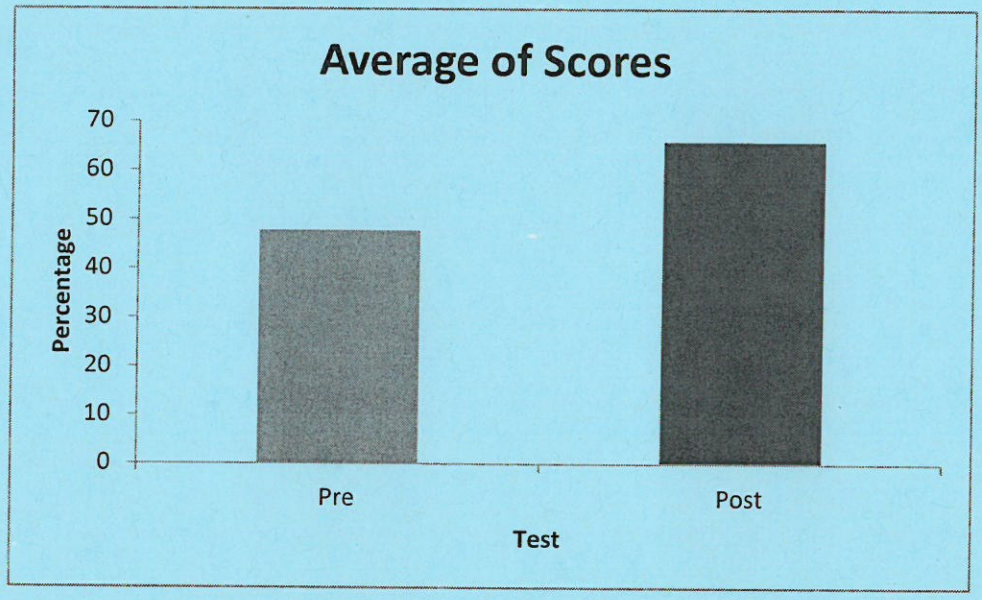
In addition, this experience has also taught me the importance of pre and posttests. Although I do think that my assessment was valid and reliable, I realize that there is always room for improvement. Within this particular lesson series I decided with my mentor teacher to have a central focus on physical science with the incorporation of mathematical skills. Although my pre and posttest did ask for a mathematical equation and explanation of mathematical concepts I wish I would have incorporated some of the measurement standards that I covered within the lesson series. I believe this would of given me a better idea of how well the students grasped measurement concepts we discussed throughout the lesson series.

Part B

One of the main lessons I learned in the very beginning of this lesson series was the importance of classroom management. Within my gravity lesson I learned this during the second inquiry activity when students were finding the mass of certain objects. As I mentioned earlier within my weaknesses, I learned through this experience how lack of classroom management can affect your students involvement and learning within a lesson. I also used this lesson as an opportunity to continue my growth as an educator ensuring that within my next two lessons in my lesson series incorporated effective classroom management. For instance, during my density lesson plan I made sure that throughout the experiment each task was delegated so all the students felt involved and were engaged. Through this experience I also learned how important it is to make sure your pre and posttest is completely developmentally appropriate. I honestly think that even though I received valid and consistent responses I think the set up was a little too difficult. Looking back I wish I would have asked my mentor teacher for an example of what a pre and posttest looked like so I could use it as an example for my own pre and posttest. Below are the results from both the pre and posttest along with their averages.







As you can see above, students overall improved, this is great news. The total average of the two tests went from forty-eight percent to sixty six percent. From a comparison of two of the individual charts you can see how the results shifted as a whole from one side of the chart to another. While this improvement is overall good news, the results of my averages have led me to think that maybe the test itself was not completely developmentally appropriate. Looking at the results of the tests individually I noticed that even though a majority of the students did better on the post test, there were still a few students who performed exactly the same from the pretest. It is possible though that during the posttest that there might be a third variable involved which inhibited the students' scores. For instance, the posttest was held after the field trip activities when the students were still on Hanover's campus. This change in environment could of played a

significant role with the students' performance on the posttest. Through these results I also found certain trends within concepts that the majority of the class got as a whole and things that I would reteach if I were given the opportunity. For example, when analyzing the results I found that a majority of the students understood the concept of gravity and density as separate concepts, but missed the fact that mass was their connection. In addition, many of the students confused the concepts of volume and matter with one another on the post test.

I also analyzed student learning informally as well as formally through the students lab sheets completed within each lesson specifically, the density lab sheet. Within this particular sheet students recorded observations, procedures, predictions, and results of the experiment. Along with the group lab work, I also analyzed the data charts where each student collected data based on the liquids mass, volume and density. I was pleased to see looking back at these lab sheets, how well the students took the time to include some of the detail that they did. Many of the students within their chart made sure to incorporated labeling measurements along within showing their work as far as the process of finding the exact mass of their liquids by subtracting the mass of the graduated cylinder. Through both of these informal assessments I could see how the students understood and grasped the concept of density and the proper procedures of an experiment. In addition, I was also able to clearly see that the students were complete some of the major objectives that I wanted them to complete as a result of this lesson. For instance, being able to measure the volume of a liquid using a graduated cylinder and the capability to define density and it's formula.

Another informal assessment I analyzed was within my first lesson as I analyzed the students diagrams of how the orbit of the sun, moon and earth. Through this analysis I was able to not only see that students were able to illustrate the orbit cycle but I was able to see their misconceptions first hand through their original diagrams. In addition, I also observed the students capability of demonstrating how the gravitational force affects the rotation and orbit of the planets by having the students physically act out both their original thoughts and the correct orbit of the sun, moon and earth. Through this teacher observation I was able to see that the students grasped fully these two objectives.

During discussions, I would also informally assed students' answers to HOT questions. Within this time I would also make sure that I affectively addressed their misconceptions. For example, during my gravity lesson I ran out of time due to my poor classroom management skills to have the students complete an exit slip. So instead I did an informal assessment based on detailed discussion. During this particular discussion I asked the children specifically to explain the difference between mass and weight. One students piped up and said gravitational force, but then another student explained the difference in more detail that weight is the measurement of the gravitational force on an object while mass is the measurement of matter within a particular object. Through discussions such as these I was able to see which objectives students got and which ones needed further explanation.

Through the analysis of both my informal assessments and pre and posttest I was able to see clearly what objectives the students got and what need to be taught again. For instance, based

on this analysis it was clear to me that nearly all the students understood the concept of gravity. However, an objective that would be worthwhile to discuss again would be gravities relation to the concept of density. In addition, a majority of the students seemed to grasp the difference between mass and weight. However, based on my analysis I noticed that there were still a few students who did not meet this objective as shown through the results of their posttest.

Part C

If I could I would reteach how density and gravity relate to one another. Based on my analysis of the posttest I noticed that many of the children missed the connection between these two scientific concepts. I would do so by explaining how the concept of mass brings them together. To even further relay this concept I would have my students participate in outdoor lab experiment called the great egg drop. Through this experiment students can fully investigate the relationship between mass, density and gravity. For this activity students will first write an inquiry report of certain materials they would like place with two raw eggs in a milk carton to protect them. Students will then drop the carton around 50 feet and make observations of the results. Through an activity such as this I would also be given the opportunity to reiterate to my students the difference of mass and weight.