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Celebration of Learning 2010
Kindergarten “Number Sense” Program
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“Number Sense Program” Analysis

“Teachers are expected to reach unattainable goals with inadequate tools. The miracle is that at times they accomplish this impossible task” (Haim Ginott). For me, the unattainable goal seemed simple enough. How would I be able to reach out to a special student who clearly needed help at the most basic level of number skills? I was able to establish that Amy would need some of the most basic guided attention from observing a video in my math methods class. Watching this video of Amy allowed me to see that she lacked one to one (that is, she didn’t seem to recognize that when counting a group of objects, each object should be assigned a unique “counting word” and that each object should be counted only once). At her first attempt, Amy was able to successfully count to nine, however, on her second attempt, she seemed to skip around the numbers at random, from one to nine. For example, she would skip many numbers in between (11, 17, 19, and 12). So, her counting was inconsistent, at best. Amy was obviously not grasping the concept that numbers have order. This video proved to me that I would need to find appropriate teaching methods that could meet the individual needs of Amy. Although it would be quite a challenge for me, given my "rookie" teaching status, I can assure you that this story has a successful ending, one in which the impossible task was accomplished, and that Amy became a hero in my eyes, finally able to understand that numbers have order.

“One looks back with appreciation to the brilliant teachers, but with gratitude to those who touched our human feelings. The curriculum is so much necessary raw material, but
warmth is the vital element for the growing plant and for the soul of the child” (Ruddell, 1).

Before I even started working with Amy in the “Number Sense Program,” I first worked with her in my math methods class. As I stated earlier, and to my benefit, I was able to observe her on an informal assessment to give me some background information as to how I might implement my lessons. I will admit that I was apprehensive about my encounters with this student because I knew that she was probably frustrated with numbers. Additionally, this student was ELL, so this was another consideration I would have to take into account. In order to make this process beneficial for both the student and myself, I gave this student that extra warmth and undivided attention she deserved. Furthermore, I wanted the student to feel comfortable enough to share her frustrations with me.

One of the very first activities that I had Amy participate in was being able to organize blocks in a line. I thought this activity would help her keep the counted objects separate from the non-counted objects. The objective of this activity was not necessarily to count the number of blocks yet, but instead, first learn about organization. Another basic activity from my first encounter with Amy was a memory exercise. She had to tell me what number was on the card and attempt to count the dots on the card, as well. This activity was supposed to help her with recognition and matching alike numbers. These activities appeared to be a struggle for Amy because she had trouble recognizing the numbers one through five. More specifically, it seemed like she would often forget to start with the number one and instead, start counting with the number two. Many times she would forget what number would come after the number four. This mistake seemed repetitious with Amy because in another instance, she started counting at two and stopped at the number six. This first encounter provided evidence
that Amy had not yet memorized the sequence of counting words and, possibly for related reasons, had trouble using the number words in counting objects. Also, as I was informed that Amy was an ELL student, this was definitely important for me to take into consideration for my next planning stage of activities. This gave me greater understanding as to why Amy may be struggling with the English number words. Although she may know the answer, she is not as fluent in English, and therefore, might take her longer to communicate her answer. I remember at this point in time, I was feeling I was a failure in reaching out to this particular student. I needed to search and find a way that numbers would somehow make sense to her. How could I make the light bulb click?

Like I have previously stated, Amy struggled with the sequence of English counting words as well as applying these words when counting objects. Sometimes she would forget to start with the number one, and often she would count past the number she was supposed to. At times, if I did not remind her to start with the number one, she would start counting with any random number. Her organization skills of counting were lacking. I knew that Amy was capable of making progress, even if she only exhibited a small increment of progress. I remember being so excited to introduce the story Five Little Monkeys Jumping on the Bed and Mother Goose Numbers on the Loose. Even though Amy didn’t always recognize the number, she always impressed me with her ability to stay confident and smile while guessing a number. Another day, when I read Seven Spunky Monkeys, she was at least able to count to five.

One memory that stands out to me was the day I introduced Amy to Counting with Dora the Explorer. In this activity, Dora counted in both English and Spanish. Also, this activity incorporated movement, which I thought could possibly help Amy. She may not have fully
grasped the concept of jumping from number to number, but at least she was able to have some fun in her learning. Another successful day with Amy was when I did Color by Number. Amy’s Color by Number worksheet was very basic; it only had the numbers one through three. At first, she needed help to identify the different numbers. However, once I showed her one of the numbers, she soon was able to find the others that matched. It may take longer for Amy to demonstrate mastery of a skill, or more specifically, that numbers have order, but it is such an accomplishment when she finally makes such progress. Sometimes, it just takes repetitive activities covering the same concepts and constant reminder attention.

Amy was a student whom, at times, was hard to keep track of. For one, she liked to share many stories with me. Also, I could tell that she felt at ease with me because she would come up to me and hold my hand to initiate a conversation like, “Miss Dana, Miss Dana, guess what!” Even when Amy was unsure of an answer, she would randomly guess a number, and smile with confidence, possibly hoping that she was correct. For some reason, Amy had trouble understanding that when you count you always start with the number one. I would constantly have to remind Amy of this, and whisper the next number to her. It took her a long time to be able to do this on her own. It appeared that Amy had trouble with her organization, which may be the reason why she struggled so much in her counting. When counting chips, she would not count them in a line, but instead would move the chips in a random order. She also always counted fast, which may have contributed to her habit of skipping numbers. She often would count over or under the correct ending number. This is why I thought counting footprints would help in her organizational skills and with her understanding that numbers have order. I thought by introducing movement she would be less anxious to guess at the number and keep
continuing to count as she moves forward. Unfortunately, this activity didn’t seem to help her either. Amy was clearly lacking in understanding one to one. Also, I noticed when Amy would become frustrated in her counting, she would conveniently begin to tell me a random story. So, I would have to remind Amy to stay on task. She always did seem excited to participate in new activities, but it was not until my last two encounters that I started to see some progress. The Dora the Explorer video helped, possibly because the numbers one through five were both in English and Spanish. I also held up my finger which seemed to help her move from number to number. My very last encounter with Amy in my math methods class left me coming to the conclusion that Amy could successfully count to number five by herself.

In my math methods class I was really able to get to know Amy on a one to one basis. Here, I could focus my attention on her, continuing to make observations as I worked to improve her progress. In the “Number Sense Program” I worked with multiple students, but here in the math methods course, to Amy’s advantage, I was able to concentrate on her to advance her number sense skills. My new goals for Amy would be for her to identify the numbers one through ten, and develop cardinality. It would be essential for Amy to stop just guessing random numbers, and remember when counting you always start with number one.

I remember being worried how Amy would respond with her understanding of numbers when no one was working one on one with her. But, returning from a break, I came back to discover that Amy had, in fact, made progress! It was like my heart was singing for joy because I had witnessed a child grow. The light of understanding had shone upon my little pupil’s mind, and behold, all things are changed” (Ruddell, 49)! Amy had to participate in an activity that required her to identify the numbers one through twenty, and put the number cards in order. I
was impressed to see that Amy only needed a few reminders for counting 1-10. She was able to correctly recognize the numbers 1-5, but she still struggled with the numbers 6-10. When she was asked to point out 6 and 9 on a number line, she would be able to tell which is which, but could not recognize them if I showed them on flash cards. Amy has a tendency to guess the number eight if she doesn’t know the number. This is especially true when she is participating in computer games. She tends to just call out numbers, and has to be told to actually count the chips on the computer. In the game, Count/Sort, when a chip is moved from one section to the next, she is still having to count how many chips are there. When Colleen, Jessi, and I work with Amy on the computer games, we use the most basic games to continue repetitive activities that will reinforce the numbers 1-20, since this is still a struggle for her. I think that Amy has mastered the numbers 1-10, but still needs a reminder, at times, for the next number. Sometimes it is a good day, and other days, I find myself having to start at the beginning level again. All in all, even if it takes Amy a bit longer to gain an understanding with the concepts of numbers, she eventually is able to make some progress. It may just take us a few extra times to complete an activity. But, from looking at the first assessment (the video), it is very evident that Amy has made progress. I look forward to conducting an end of the year assessment to truly see how far she has come.

Amy is a hard worker and she responds especially well to individualized attention. I sometimes think that she lacks some confidence and is only apprehensive about being challenged because she gets embarrassed if she is wrong. She just needs to be told that she is capable of counting 1-20 because she has done so successfully before. Students choose to less focused at times, and sometimes that is what it boils down to, even for a little kindergartener.
What I love about Amy is she is always willing to try something new and never gives up. Sometimes she even acts as a leader to the rest of her classmates, especially on Fridays, when we have station day in Ms. Carmack’s room. She is so proud when she can point to a number on a BINGO card, helping her fellow student, knowing that she is right and able to find that number for a particular student. She likes the idea of knowing that she is needed and can also help other students, even if it is a small problem. Referring back to my opening paragraph, I stated how I had a goal for Amy to achieve. This specific goal was for Amy to come to the realization that numbers have order, meaning every time she counts, she needs to start with the number one. Even though she may have not accomplished all of my initial goals, the most important thing to remember is that she has made huge strides with numbers. She has gained a "numbers sense" knowledge that she did not have before this program started. The progress she has made, coupled with that beaming smile she makes when knowing she has correctly counted a series of numbers, makes me walk out of the classroom feeling ten feet tall! Having personally witnessed Amy's journey and knowing Amy’s eagerness to learn, I am confident that she is now on the right path to making sense of numbers!
Works Cited
