

Peer Observation 2012 – EDU 5355

Contents:

- [Description of the Activity](#)
- [Observer Cover Letter](#)
- [Observer Evaluation Rubric](#)

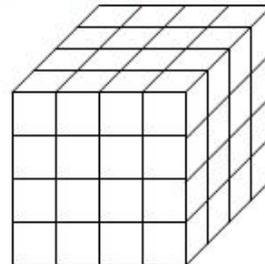
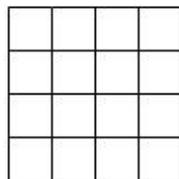
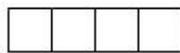
Description of the Activity:

The observation occurred on a day where my EDU 5355 was covering multi-digit algorithms for addition, subtraction, multiplication, and division. In a previous class, we had learned about the Base 4 system in the context of a scenario where Oompa-Loompas working in a candy factory could only count to 4, thus they packaged their candies based on this system. The purpose of this follow-up activity was to have my students gain a deeper understanding of the algorithms for Base 10, and the difficulties young children would have with them, by struggling through learning operations in Base 4. An important idea in my class is that our choice of Base 10 was completely arbitrary, but this system has nonetheless become completely invisible to adults who are proficient with it.

The Oompa Loompas in Willy Wonka's factory have decided they want to learn to do multi-digit addition and subtraction within their Base-4 counting system. This way, they will be able to quickly and secretly make adjustments to their inventory sheet if they drop caramels or recover caramels they dropped previously, if they steal caramels from other Oompa-Loompas, or if they decide to snack on their caramels during work (we all saw what some Oompa-Loompas did last week!). Willy Wonka has created a developmentally-appropriate sequence of activities to teach his workers to add and subtract. Work through Willy's sequence, making sure to follow ALL of the rules he gives you. By the end, you should be able to add and subtract in Base 4 using the standard algorithm.



Singles **Packs (4 singles)** **Flats (4 packs)** **Boxes (4 flats)**



Peer Observation 2012 – EDU 5355



Southern Methodist University
Department of Teaching & Learning
nwasserman@smu.edu
214-768-2347

Nick Wasserman

3 October 2012

To Whom It May Concern:

I observed Candace Walkington teach the undergraduate Mathematics Methods for Elementary School Teachers course on Wednesday, September 26, 2012. This is her first semester at SMU and I was very impressed.

Overall, the lesson was very nicely structured. The bulk of the class built around two activities: operations with Base 4 (Oompa Loompa scenario), and a class debate. Candace is a clear communicator during the lesson: she was easily heard by all; she used the first two minutes to discuss what would happen during class; and she would frequently give reminders about time to finish tasks. Her communication helped her manage the classroom and provide guidance to students. The first activity, operations with Base 4, utilized manipulatives that Candace made by hand before class to help them conceptualize how to bundle in base 4. Students were actively engaged, and Candace was able to visit groups and probe students with questions, etc. She concluded the activity well, wrapping up students observations about base 4. She also did a nice job quickly responding to one students' comment that purpose of math is to get students to work with the numbers (instead of real situations); she was able to offer both as important for students. The class debate was also an excellent opportunity for students to consider the importance of non-routine vs. standard algorithms; ultimately, both are important.

Each activity that was planned for the day clearly built from previous learning in the course, and was headed toward important conclusions. Both activities seemed to be ideal choices for helping students understand operations with bases and consider the importance of non-routine and standard mathematical algorithms. Perhaps something

Peer Observation 2012 – EDU 5355

to work on in future lessons would be more intentional selection and sequencing of particular group's work during the concluding discussion to highlight all of the important mathematical ideas with which students wrestled during the activity. There was also a potential opportunity that was missed to connect the lesson to other bases, helping students to abstract the idea of a base system further while simultaneously connecting abstract mathematics to some uses in the real world (i.e., binary, base 12, etc.). These were minimal, however, compared to the overall skill with which she prepared and implemented the lesson.

Excellent job!

(I also had a student in her class tell me she thought Candace's class was among the best she'd had at SMU.)

Sincerely,
Nick Wasserman

Peer Observation 2012 – EDU 5355

SMU Observation

Date: 9/26/12

Of: Candace Walkington By: Nick Wasserman

Course: Math Methods for Elementary Teachers (undergraduate)

Domain	Observed behavior
Teacher as a person	<ul style="list-style-type: none">• Clear explanation of agenda for class at beginning, good communication• Inserts humor occasionally• Positive attitude toward students and respectful; questions are welcomed• Vocal, loud voice• Periodically reminding class of upcoming time – only 4 minutes left, make sure to have this done, etc.
Expert on Content Knowledge	<ul style="list-style-type: none">• Accurately explains 110 in base 4 based on students' hesitations• Clearly connects previous learning and class activities to lead into current activity• Nice activity to connect content knowledge activity with students' learning about base 10• Does nice job of probing students' learning as they work through the Oompa Loompa activity• Clear about difference between "number 4" and "numeral for 4"• Led productive mathematics and mathematics education discussions; expert in math and math pedagogy
Facilitator of learning processes	

Peer Observation 2012 – EDU 5355

<p>Developing learning experiences</p>	<ul style="list-style-type: none">• Students recap an Oompa-Loompa activity from previous classes, base 4 activity• Teacher question-response introduction/interaction with students• Willy Wonka Oompa Loompa activity for students to discover algorithms with base 4; Utilizes manipulatives; small groups; activity seems appropriate and has rich mathematics;• Nice job of sequencing learning toward increasingly standard algorithm (transitioning from "4" to "10")• Class debate: between invented and standard algorithms; nice way to put together big ideas of benefits of both and figure out feasible approaches to classroom – students were thoughtful and talked about good points
<p>Interacting with Students</p>	<ul style="list-style-type: none">• Students interact in response to questions: "Differences between base 10 and base 4"• Students assigned to pre-determined groups (of 2-3)• Groups working on the activity (sufficient motivation); teacher walks around clarifying activity and asking questions• Students continually motivated throughout activity; increasingly scaffolded off of manipulative use• Able to relate to students in interactions; thoughts about teaching• Nice, effective, push back on student who said the purpose of math is to get students to work with the numbers (instead of real situations)• Students worked well with groups preparing for

Peer Observation 2012 – EDU 5355

	class debate
Evaluating Students	<ul style="list-style-type: none">• Question-response at beginning to assess students memory and understanding of previous activities• Groups turn in written answers to 3 questions, both difficulties and reflective questions• Formative assessments as students work through the activity; good at listening and turning mistakes/questions into productive probing/clarification• Used short student write-up to form groups for the debate
Being lifelong learner	<ul style="list-style-type: none">• During post-teaching discussion, she was thoughtful about her own reflections on the class period.