

The Beauty of Mathematics

"Math is like an iguana. As long as it blends into its environment I don't mind it, but once I have to hold it I'm not so fond of it."

"Perhaps what we need is math 'therapy'."

Frustration

- I'm still frustrated by my inability to see the conclusion or the point. I can't seem to push my thinking beyond the exercise to the solution, on my own.
- I was overwhelmed today by the problems we were given. At a few moments I even felt like crying. What redeemed those moments for me however, was seeing how those at my table who were very mathematically inclined, also struggled with the problems.

Frustration/Reward

- I felt frustrated with '4 corners' problem, but I enjoyed trying to figure it out.
- Sometimes math makes my head hurt – I'm not used to engaging with problems numerically – intimidating sometimes but I like the challenge.
- During the toothpick problem I felt frustrated at first because I didn't catch on as fast. But it was great to be able to work in a group and share ideas!

Positive experience

- When we were given the picture book of the three animals (mix-and-match), we were told to think of math we could get out of it. I looked at it and couldn't think of anything initially. But soon, ideas flowed. What a novel idea! When we shared ideas, I couldn't believe how many things could be done mathematically. It was exciting.
- My feelings of frustration are gradually turning into curiosity as I begin to think about new ways of approaching math.
- The assignments don't look scary anymore. I think I can actually do it now!

Teaching ideas

- There are so many ideas I can't wait to apply. It seems challenging and risky to go against the traditional ways of teaching math, but yet it makes so much more sense.
- I feel inspired by today's class to find new ways to introduce students to mathematical concepts. I did not feel this previously.
- This class has completely shattered my understanding of math and how to teach math. It makes me feel that teaching math is going to be difficult – or at least more challenging than I previously thought. There are so many ideas – I feel overwhelmed.

Aha, insight, surprise

- I loved the adding/graphing we did and how you should take problems and branch out ... it really makes something in my mind click.
- I feel so much better about this class. These math concepts are getting to be very exciting. I had a lot of moments where things just popped!
- It was so satisfying to calculate the toothpick problem. I still had to test my formula out several times before I was able to go "Aha!"

Collaboration

- I enjoyed having the opportunity to see how my classmates answered the addition and subtraction problems and hear their explanations. I especially liked Jen's process of problem solving. I had never considered it as a possibility. I liked how excited the class was when she explained it.
- I felt really comfortable working in my group. It is easy to experiment with different things with other people vs working alone, and more ideas seem to come out.

Low stress

- I liked that we were asked what other methods can we come up with to test right-handedness/left etc. Then we were given time in class to go through and actually try ideas – it's been so long since I've had an experience like that in school. It was relaxing.
- Learning math does not have to be intimidating when done in a relaxed and constructive environment.

Concrete, hands-on

- Using physical objects to solve mathematical problems made me feel 'at ease' with 'doing math'.
- I enjoyed playing with blocks today. It brought out my childish tendencies and made me aware that kids LOVE to play with things. And to think, they're playing AND doing math! Go figure!
- The sock game – using manipulatives – was fun. But, I needed the manipulatives to help me figure out what I was doing. I found that the grade one class I was at used manipulatives quite a bit – but as an adult I need them as well.

Creativity, experimentation

- What happens to us and our creativity in the schooling process? SAD ☹
- I like how someone was saying how can we make math fun like science, where they get to experiment and look forward to experimenting. Then we took the whole class and it became a sample of how math can be done through experimenting.
- In class, I felt like I wanted to continue with some of the activities as some of my creative juices started to flow.

Doing math

- I'm learning it's important to try out different ideas even when it's not necessarily how you will solve the problem. Try to get the big picture.
- Today I extended my thinking about mathematical problems. You don't have to do things the conventional way to get an answer that makes sense.
- I liked writing in my notebook with patterns to make it look arty. I felt more part of the process and decided I would never make my math students write on neat lines "in order" like I had to.

Math is complex

- Math problems can be multi-faceted. One problem can be linked to another to another ... There are different ways to approach a math problem.
- Today I was convinced that there is not always one correct answer to any given problem. There are many different ways to measure left or right-handedness and each method may have a different result for any given person than another method may.
- Infinity can be negative? What? I have never heard of a discussion of infinity or anything else "mysterious" in a math class (except this one). I guess an approach like this one (this class or Kamii etc) is just in the beginning stages of what math in school could be like.

Math is natural

- The most interesting thing that I got out of today's class was seeing the [Kamii] video and witnessing how naturally math comes to children. While I think that giving no instruction is a little extreme, seeing kids think outside the box certainly shows how math can be a creative venture. This class continues to show me new sides to mathematics.
- The video was very interesting to see how eager the kids were to provide their answers and prove it. It seemed that math was fun to them!
- From the article I learned how willing young kids are to learn math. This makes me wonder, then, what happens along the way to give students such a negative impression of this subject.

School experiences

- I remember coming up with my own way of adding and subtracting (like the kids in the [Kamii] video). I tried to explain to my grade 4 teacher how I arrived at my answers and her only reply was "That's weird". I've never forgotten that. Class today showed me I wasn't weird at all, in fact I was progressing normally.
- The rote memorization in the US was excruciating to watch – it reminded me of my grade 13 Calculus class where I lived in constant fear that the teacher would call on me.
- I just want to comment on math I saw in my practicum. I was disappointed that the math they were doing was pencil-paper math as opposed to math with manipulatives, group work, etc. Although really pushes teaching with creativity and manipulatives, but I didn't see that in any of the subjects at that school. Every morning, the grade sixes had math bell work – and it must be so boring to them! Math is one of those subjects that's "drilled" into them! I think we should give kids toys at all ages!

Teaching pleasure

- Today's class was really fun. Many real mathematical problems were addressed and it was fun to try to figure them out. This is how I ideally would like my students to feel in math class. It would be great if they could be as intrigued and stimulated as I was by math today.
- Writing a math expression: it was fun to write the equation – I was surprised/excited and said to my partner that I couldn't believe I could write one. I'm going to have my students write their own – they'll feel smart (like I did) and empowered.
- Today's class made me feel more excited about the prospect of teaching math, which was something I was apprehensive about.

Pleasure when doing math

- I feel I can relate to math a lot more when the questions are addressed in a feeling and subjective way.
- I find math very soothing and very stimulating even though I'm not terribly good at it. I also remembered that I like to think mathematically and do so quite often.
- I felt that math can be an enjoyable experience, where creativity can play a large role.
- I felt such possibility thinking about new ways to add. My fave part was when I had an image that made me think to add numbers in a new way by jumping columns. I imagined those colourful beads (that we used in primary school) clicking and so I jumped columns on angles. I wonder what other images inform math experience? I bet kids experience a lot of them.

Math stories

- The idea of using stories in the classroom to teach math excites me. I think it's a great way to help kids be excited about math and actually enjoy problem solving.
- Today's class was enlightening. The play on fractions was excellent because it was entertaining at the same time the mathematical concept behind it was made so clear and apparent.
- From the e-stories I learned that it could be helpful to present mathematical concepts through everyday discourse. It makes the concepts more accessible.
- I felt really surprised by the scope of the topics that can be incorporated into math stories (from puppies to drunk driving). I think this is a great way to incorporate different subject areas into math (so kids don't even know they're learning math).