**FLIPPED MATH**

[Teachers embrace different teaching tactics in various math classes]

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Math Story

An Algebra student dropped a Barbie doll off the staircase. A Geometry student measured the dimensions of various Mr. Potato Heads. A Statistics student estimated the average size of make-believe jellyblubbers. By incorporating fun and quirky ideas into their lessons, Math teachers flicked on the lightbulb in students’ minds.

Calculus 3 teacher Vince Lavergne tried the tactic of flipping the entire math schedule, having students watch lessons from an MIT professor at home and working on homework problems the next day during class.

“We’ve always run it in a non-traditional way. In the past I’ve had students present a lot of the material and that’s been great;I’ve enjoyed that,” Lavergne said.  “This year, seeing the quality of the MIT material, I thought, let’s give this a try and see how this works for us.”

This change in schedule was welcomed by the Calculus 3 students.

“I kinda like it; you don’t have homework every night throughout the week,” senior Alex Griffin said. “If you’re busy one night, you don’t always have homework due the next day, and at the end of the week you’ve still got the lesson in your mind.”

While Lavergne embraced this type of learning style, other math teachers incorporated different ideas to switch up their day.

“We start every day with a comic, and I try to pick comics that fit the chapter we are on,” Geometry teacher Ramona Weigel said.  “I also try to illustrate how words in math have made it into everyday language.  ‘He is so obtuse!’  ‘She made an oblique reference to it in her paper.’  ‘Why is October the 10th month of the year.  Shouldn’t it be the eighth month?’”

Freshman Emma-Kate Stapp remembered Weigel’s quirky teaching methods from eighth grade geometry.

“I can remember Ms. Weigel’s converse lesson. She would use her hands and make arm signals to teach inverse, converse and contrapositive. The way she taught that really stuck in my mind and I can still remember it now,” Stapp said. “Her kaleidoscopes were interesting too, they were a fun thing that she added to her classes. She’s really passionate about her kaleidoscopes, so every day for at least a month she’d bring in her favorite kaleidoscopes to show us.”

Sophomore Ryan Wagner could never forget a lesson from an Algebra class.

“I remember in Algebra 2 when we learned polynomial graphs and saw asymptotes for the first time. I thought it was a really cool graph and I hadn’t seen anything like that before,” he said.

Wagner also liked applying these graphs in a fun contest.

“I really enjoyed doing Mr. Lavergne’s Design Challenge when you used different graphs to draw a picture. I liked how you could incorporate all the things you’d learned and actually use them to graph an interesting picture instead of just doing math problems with those equations,” he said.

The diverse amount of teaching ideas came from different inspirations. Weigel was influenced by her father, who was a builder.

“By the time I was in 5th grade I could read blueprints. His drawing desk had compasses, triangles, squares, templates, parallel line drawers and strange rulers. He carried a concrete slide rule with him constantly. When I was in high school he would ask me to calculate areas and volumes for him just to see if I could do it. I learned to see Geometry in everything and I try to use those ideas in my class,” Weigel said.

Math teacher Jody Conley, on the other hand, got some ideas from an engineering company.

“This summer I went to an engineering firm and they did a lot with 3D graphing, which most students haven’t ever seen. I took my class downstairs to the computer lab and we did sketches of houses, and they just never thought of an xyz plane like that. I think 3D drawing and 3D graphics are essential to many careers now, so not only was that a fun experience for students, it could actually be beneficial in their futures,” Conley said.

Conley also recycled her son’s toys and gave new meaning to those Matchbox trinkets.

“We had a baby giraffe. I had students look up the dimensions of a real giraffe, and they used those numbers to scale back and forth,” Conley said. “I think they thought it was cool to see that scaling was a real thing.”

But whatever the lesson, teachers tried their best to include new ideas, change up their teaching styles, and find real world connections to better the students’ understanding.

“When I graduated, I had an adviser at KU who said, ‘If every day you can change what you do or incorporate new ideas, your students are going to be excited to come to class,’” Conley said.  “Sure you have a typical rhythm to follow, but the more you can incorporate new ideas and activities, the more exciting class will be.”