



THE JOURNEY TO MASTERY MASTERY-BASED GRADING

MASTERY-BASED GRADING USING RETAKES
IN A HIGH SCHOOL MATH CLASSROOM

John Hayden

jhayden@piedmont.k12.ca.us

@haydenPHS

Piedmont High School

Piedmont, CA



Question 1

What does a grade represent in your classroom?

or

What do you think a grade should represent?

Question 2

How do/would you determine this grade?



Goals

- Share my journey in grading.
- Give time to reflect on your own journey.
- Describe one version of mastery-based grading.
- Share what I have learned.
- Share outcomes.
- Share a student's perspective.
- Address questions.



WHO IS IN THE ROOM

Administration

K - 5

6 - 8

9 – 12

Coaches/Specialists

Higher Education



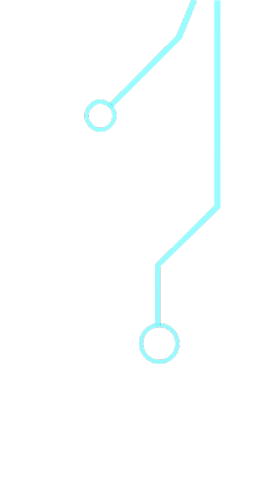
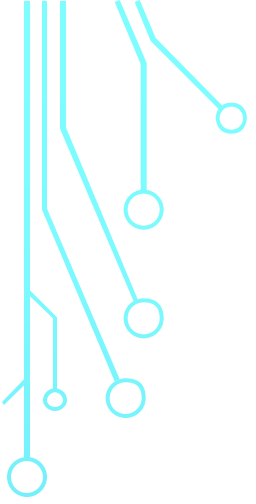


TERMS

Mastery based grading

Standards based grading





WHO AM I AND WHY DID I START DOWN THIS PATH

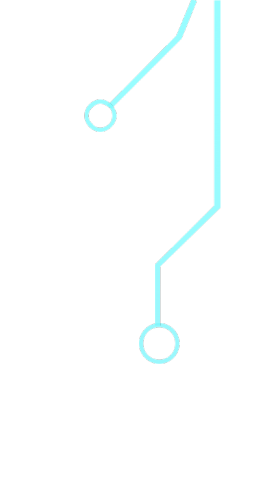
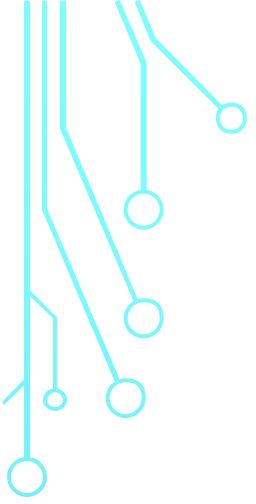
Math Lover

Father of a student who struggled with school

26 year veteran

Life-long learner (EdD candidate)





WHO AM I AND WHY DID I START DOWN THIS PATH

A story from early in my career.

Educational Leadership (ASCD)

November 2011 | Volume **69** | Number **3**

Effective Grading Practices



The slide features decorative circuit-like lines in a light blue color. These lines are composed of vertical and horizontal segments connected by small circles, resembling a stylized electronic circuit board. They are positioned along the left and right edges of the slide, framing the central text.

RESEARCH INSPIRATIONS

Growth Mindset

Mastery-based Grading

Whole-Child Education

Effectiveness of Homework



SETTING THE SCENE

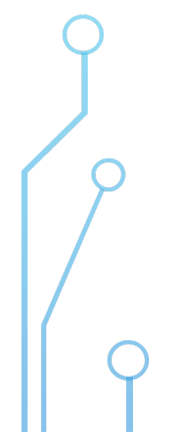
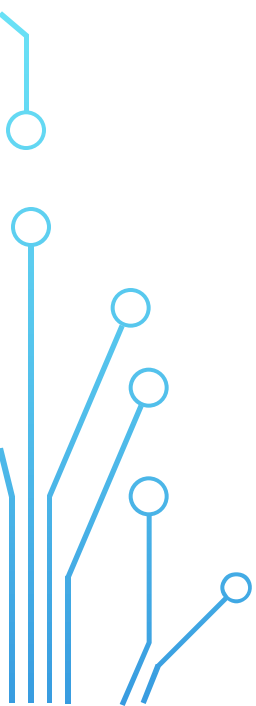
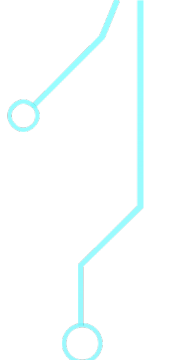
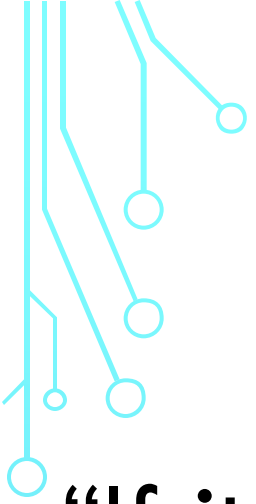
The Grading

Educational Leadership (ASCD)

“Grading Smarter, Not Harder”

100% Assessments

Homework was optional,
Not for points

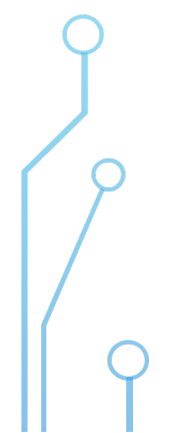
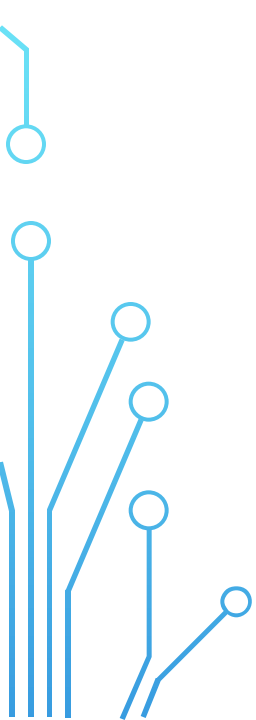


“If it is important to you, you need to attach points to it.”
– various educators in my life



My Research Question

What impact does a mastery-based grading system have on student mindset in a high school math class?



Initial Fears

TESTS ARE 100% OF MY GRADE?!?!?!?

TESTS ARE 100% OF MY CHILD'S GRADE?!?!?!?

I'm a terrible test taker.

Allaying Fears

- Assessment does not, necessarily, mean a test or quiz
- You (they) get a second chance
- Communication is key

Implementation

- Explain process to the students at the start of the year and again on day of first assessment
 - This is a snapshot of learning, there is another chance
 - I assessed every other week
 - Chunked material into smaller pieces
 - Allowed for smaller, more regular, assessments
 - Eliminated need for test review days
- Re-take procedures
 - Correct each problem that contained an error
 - Explain why you missed it the first time
 - Explain the concept being assessed by the problem
 - Do the assignments associated with the assessment

Implementation

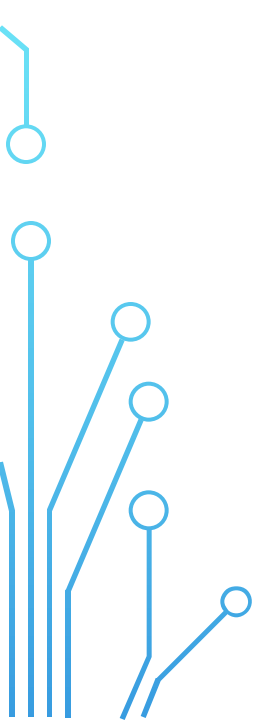
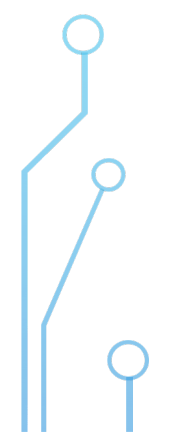
- Administer first assessment (traditional quiz)
 - Grade and return rapidly
- Model corrections for commonly missed questions
- Administer retakes
 - Students only retake problems they choose to retake
 - Students must show corrections with analysis and completed assignments

THINGS I LEARNED

- Many teenagers still need some external motivation to do their work. This was reported to me by multiple students from all levels.
- I needed to communicate, in writing, with families about the process and why I chose to use this process.
- It can be very time consuming. (No surprise there.)
- Student stress dropped in my class.
- Students did not complain about challenging assessments. (I have heard, over the years, that students consider my assessments challenging.)
- Absenteeism declined.
- Students are willing to do the assessments even if they don't feel fully prepared.

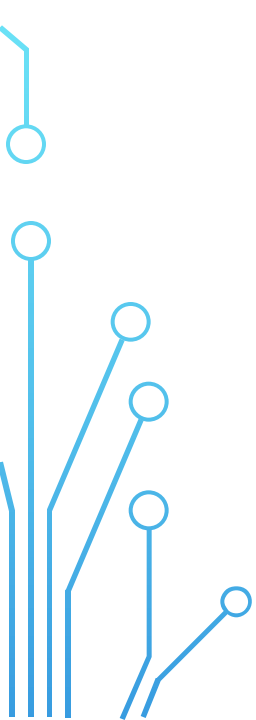
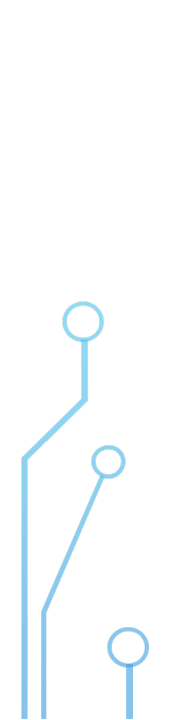


THINGS I HAVE CHANGED OR MAY CHANGE

- Assignments count for 2% of the student's grade
 - I only offer retakes a few days a week
 - Allow students a 3rd chance
 - Initially a new assessment
 - 2017-2018: They prepare a 5-10 minute lesson about the concept for any of the concepts
 - I had them use this as finals review
- 
- 



THINGS I HAVE CHANGED OR MAY CHANGE

- 2018-2019:
 - Only allow two weeks from date I return the assessment
 - If students attempt the retake, they must take the score from the retake
 - End of Term chance to demonstrate mastery of one concept
 - They prepare a 5-10 minute lesson about a concept that they struggle with during the term. I will be having them use this as finals review and as a help to their classmates
- 
- 

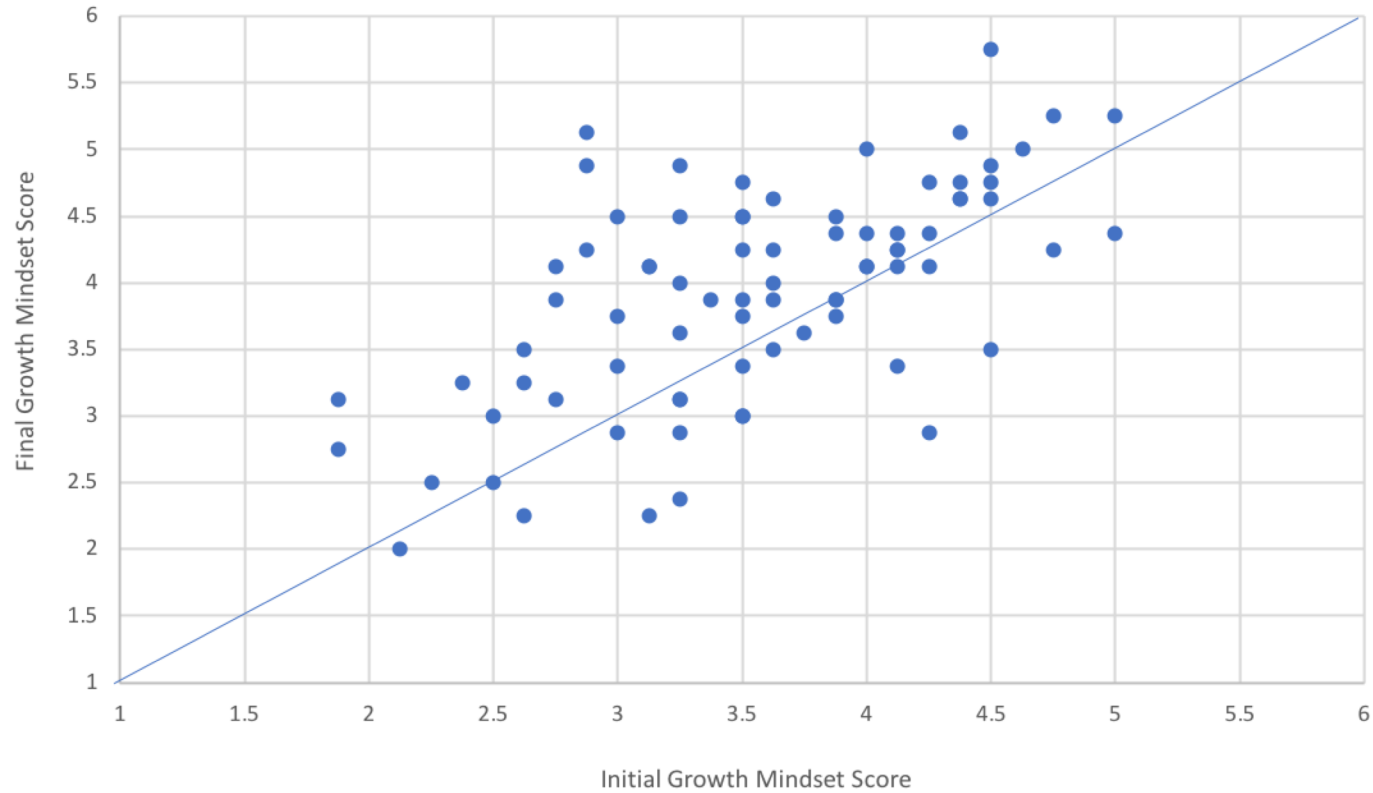
Outcomes

- Reduced stress around assessments
- Reduced stress around homework
- Slight positive correlation to change towards Growth Mindset
- Increase in student ownership of learning

SOME RESULTS

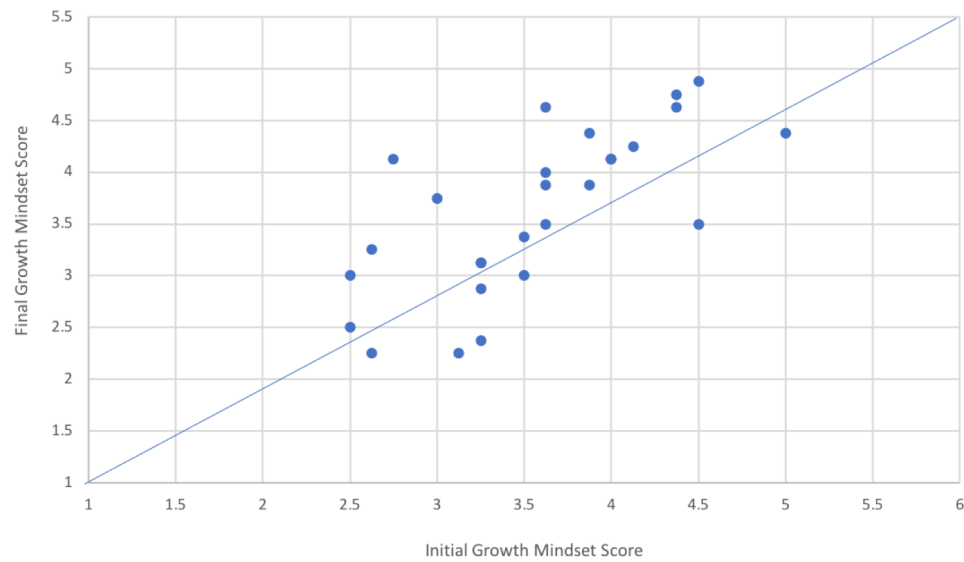
Year 1 Implementation

Geometry & CPM IM1/2A

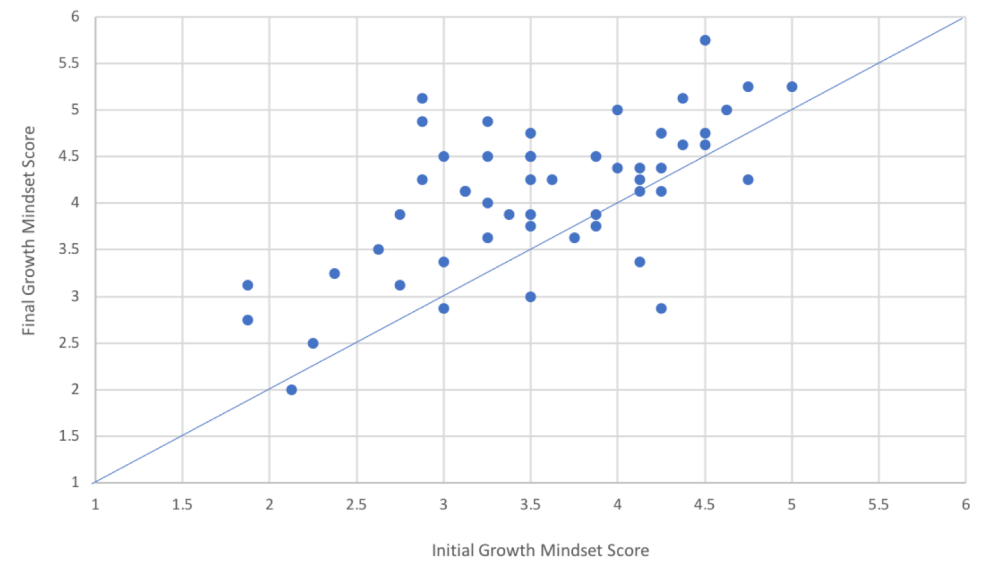


Year 1 Implementation

Geometry

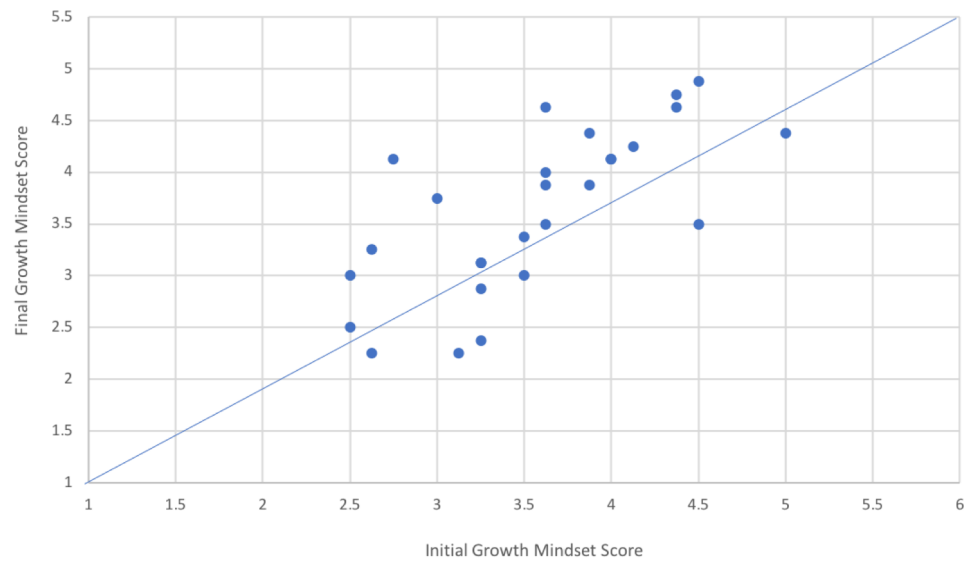


CPM IM1/2A

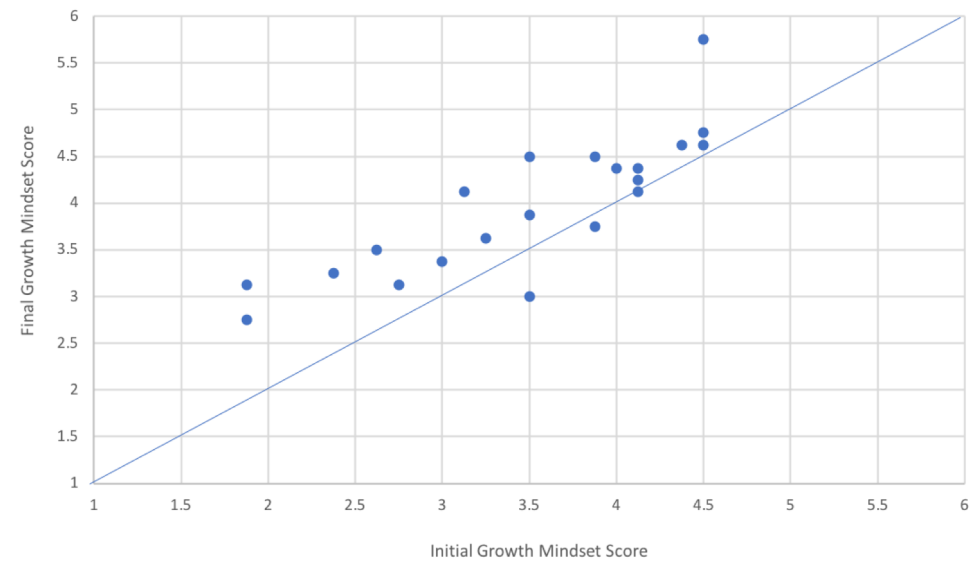


Year 1 Implementation

CPM IM1/2A Females



CPM IM1/2A Males



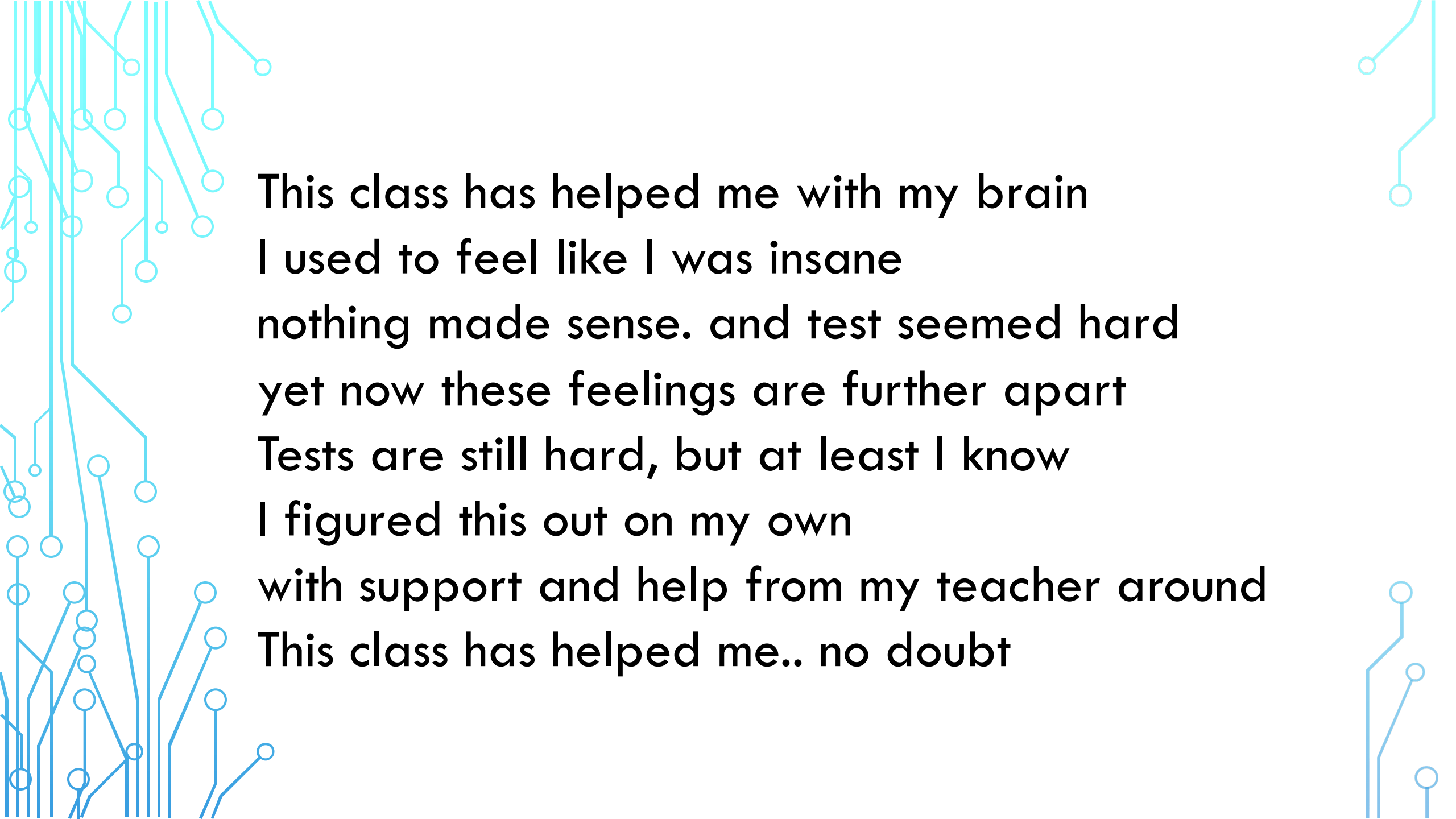
REFLECTIONS/OBSERVATIONS/QUESTIONS



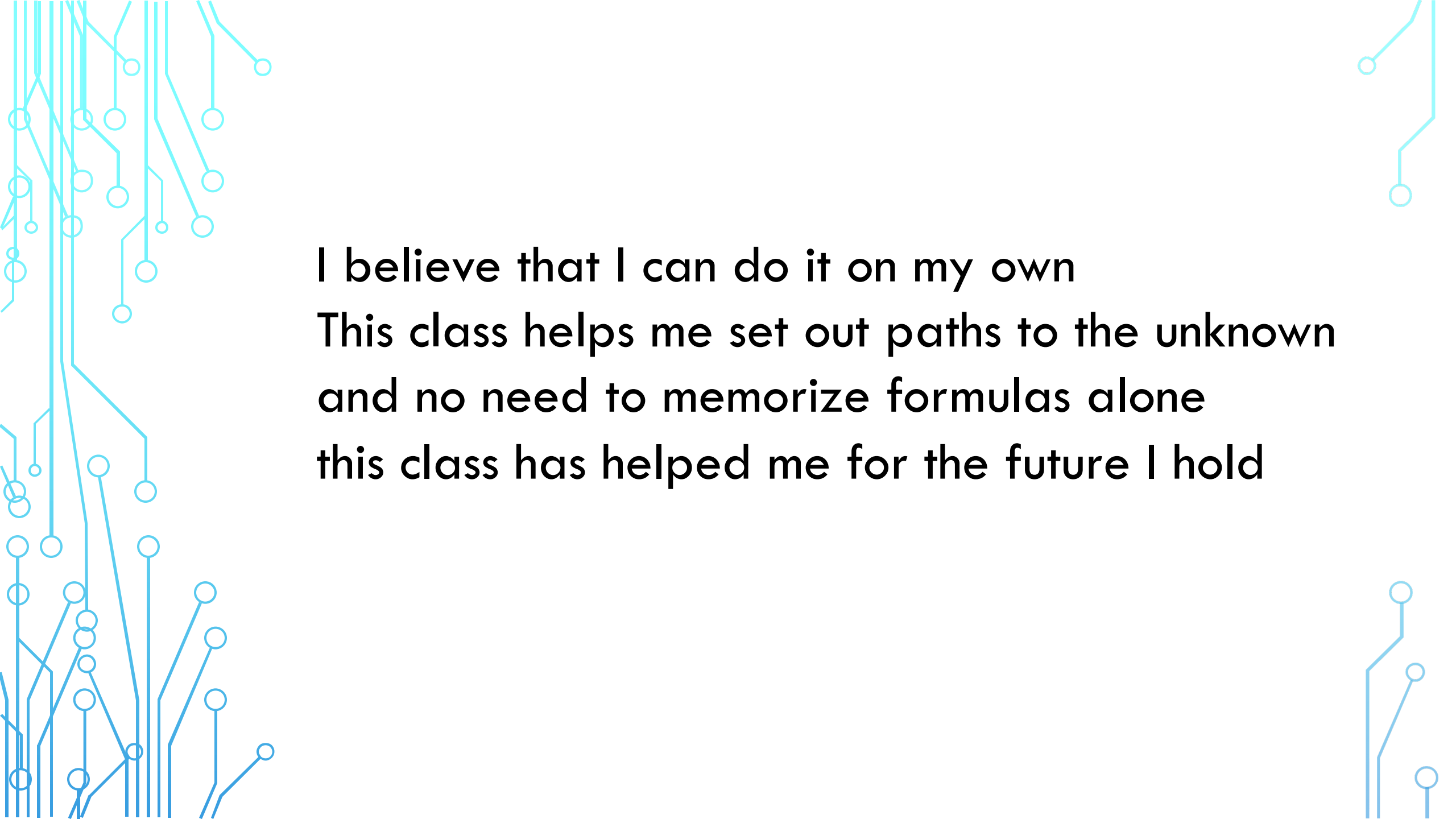
The background of the slide is decorated with light blue circuit-like lines. These lines are composed of straight segments and small circles, resembling a stylized electronic circuit board. They are primarily located on the left and right sides of the slide, framing the central text area.

A Student's Perspective

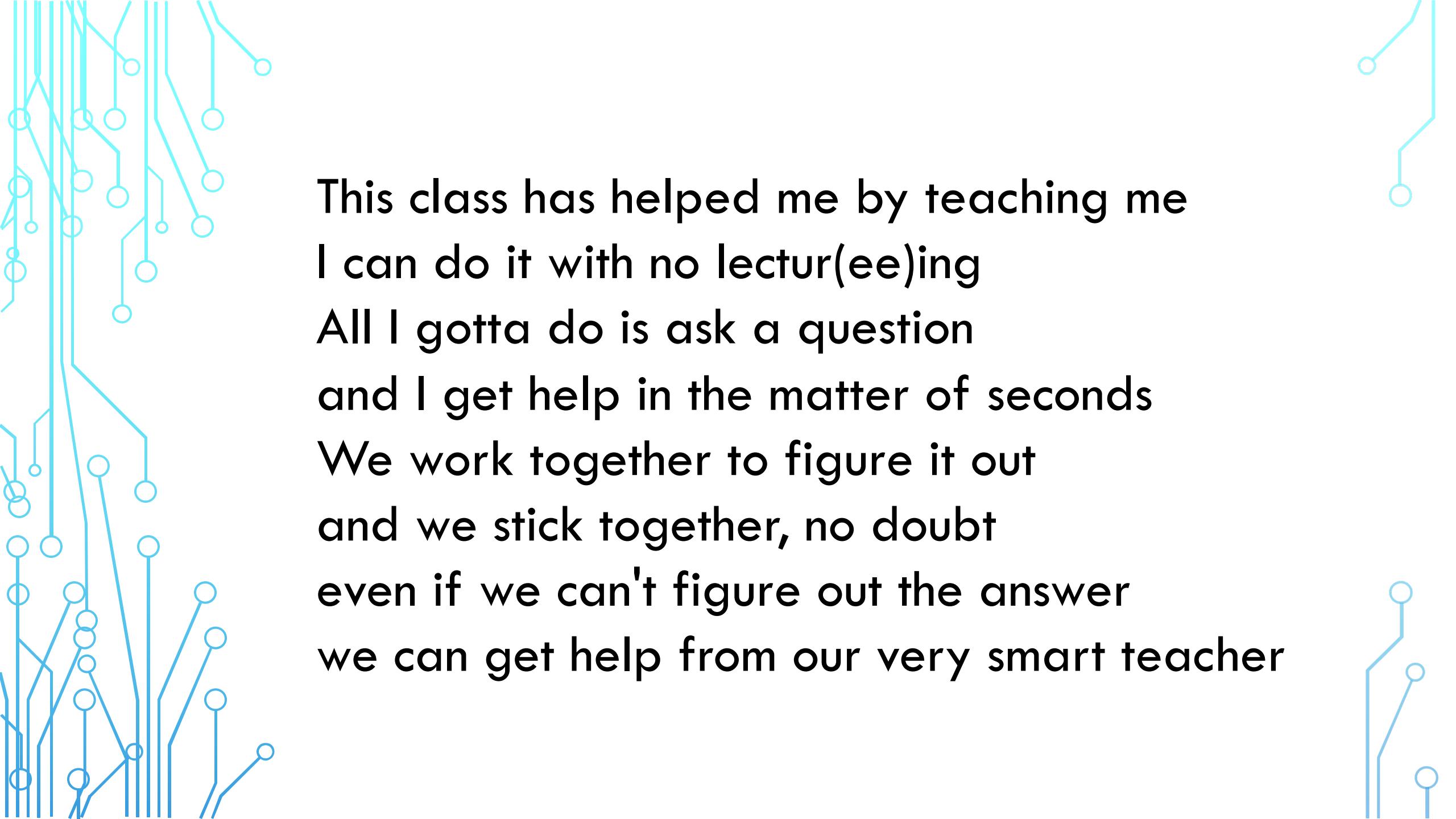
Not just about mastery-based grading, but about the whole class that includes discovery based learning approaches.

The background of the slide features a light blue circuit board pattern. On the left side, there is a dense cluster of vertical and horizontal lines with small circles at the ends, resembling a complex circuit. On the right side, there are fewer, more sparse lines. The text is centered in the middle of the slide, written in a black, sans-serif font.

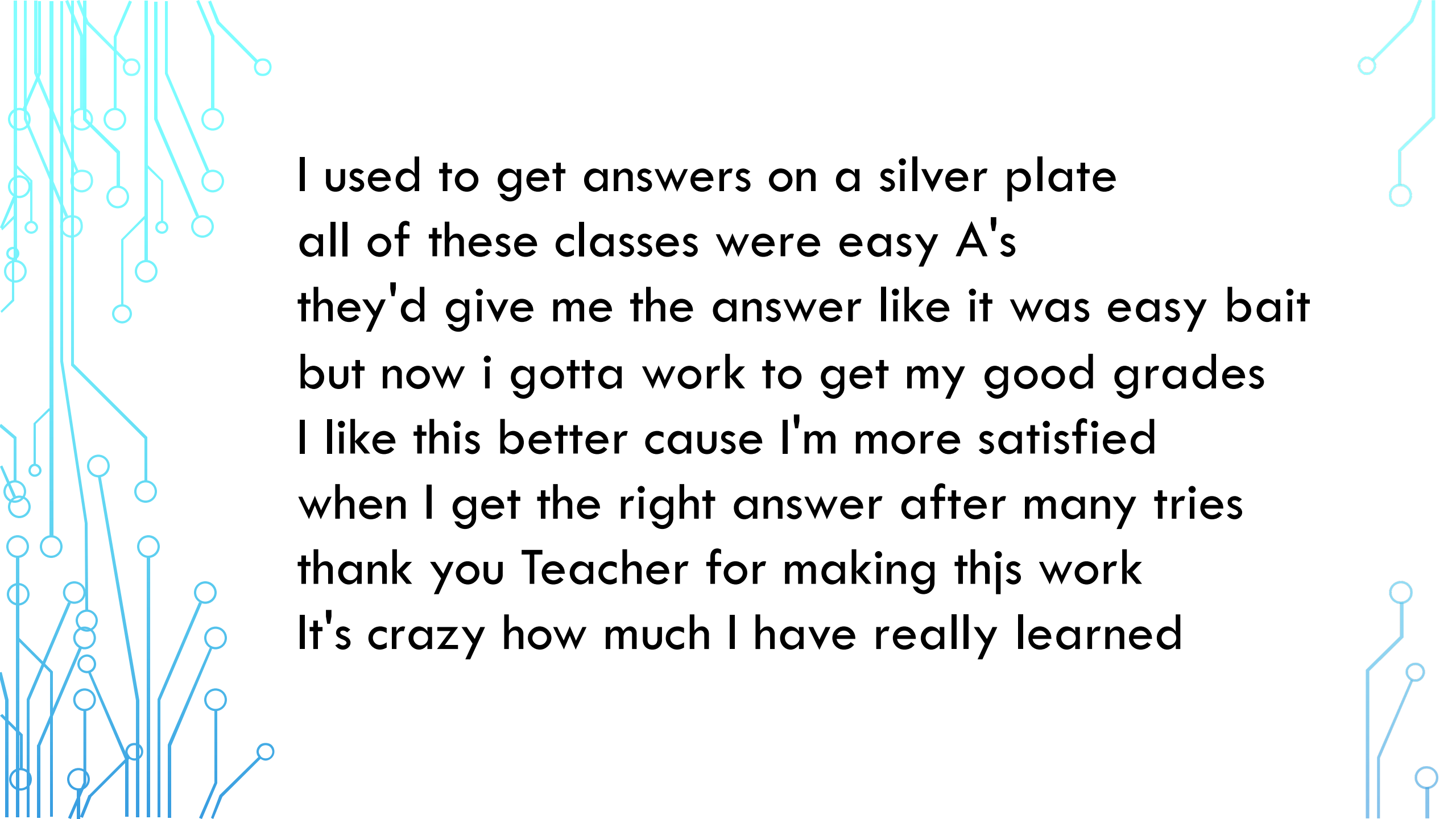
This class has helped me with my brain
I used to feel like I was insane
nothing made sense. and test seemed hard
yet now these feelings are further apart
Tests are still hard, but at least I know
I figured this out on my own
with support and help from my teacher around
This class has helped me.. no doubt

The background features a light blue circuit board pattern. On the left side, there is a dense, vertical arrangement of lines and nodes, resembling a microchip or a data bus. On the right side, there are fewer, more sparse lines and nodes, also arranged vertically. The lines are thin and light blue, and the nodes are small circles of the same color.

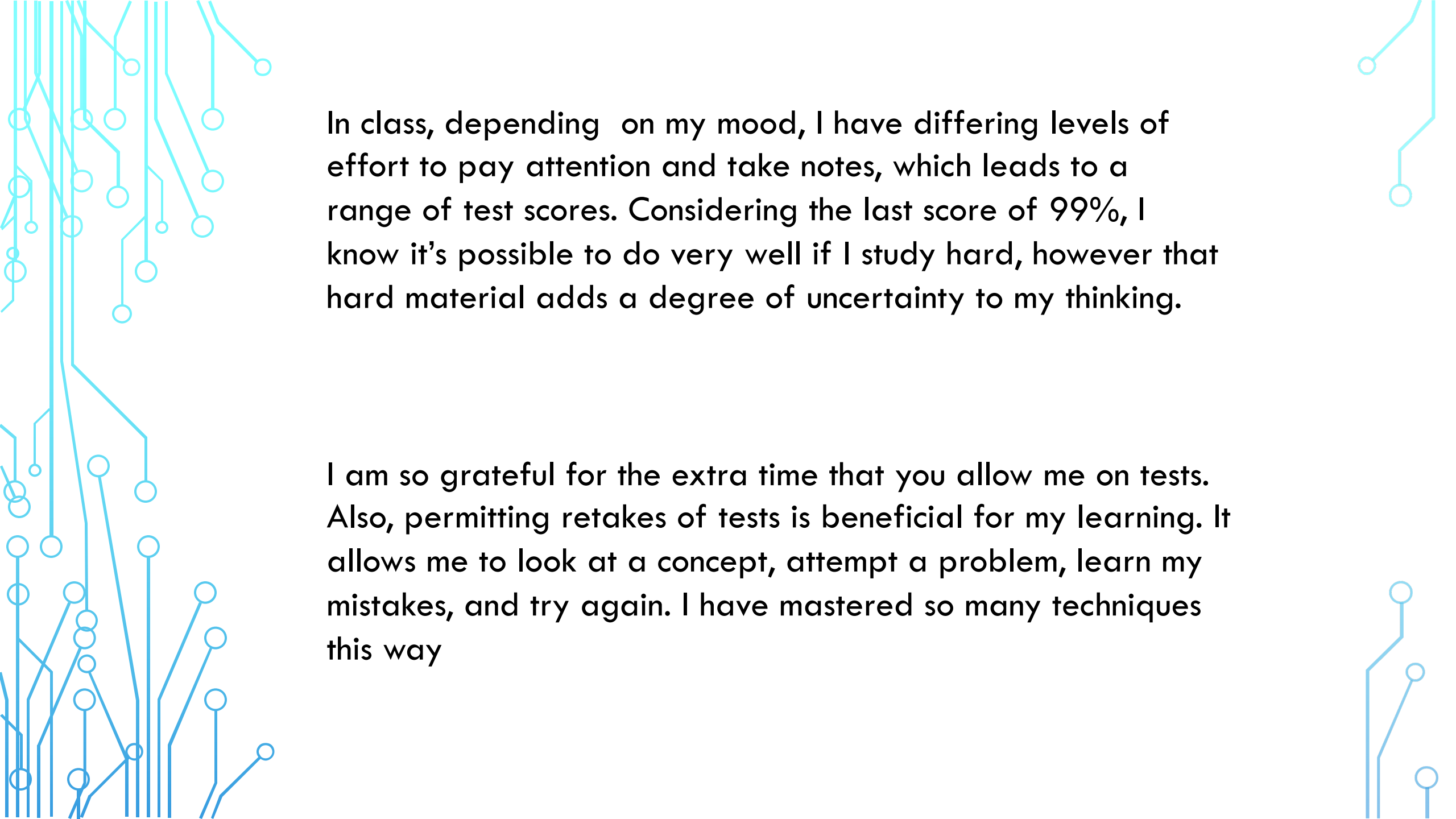
I believe that I can do it on my own
This class helps me set out paths to the unknown
and no need to memorize formulas alone
this class has helped me for the future I hold

The image features a white background with a decorative pattern of light blue circuit lines. These lines, which include small circles at various points, are concentrated on the left side and extend towards the top and bottom right corners, framing the central text.

This class has helped me by teaching me
I can do it with no lectur(ee)ing
All I gotta do is ask a question
and I get help in the matter of seconds
We work together to figure it out
and we stick together, no doubt
even if we can't figure out the answer
we can get help from our very smart teacher

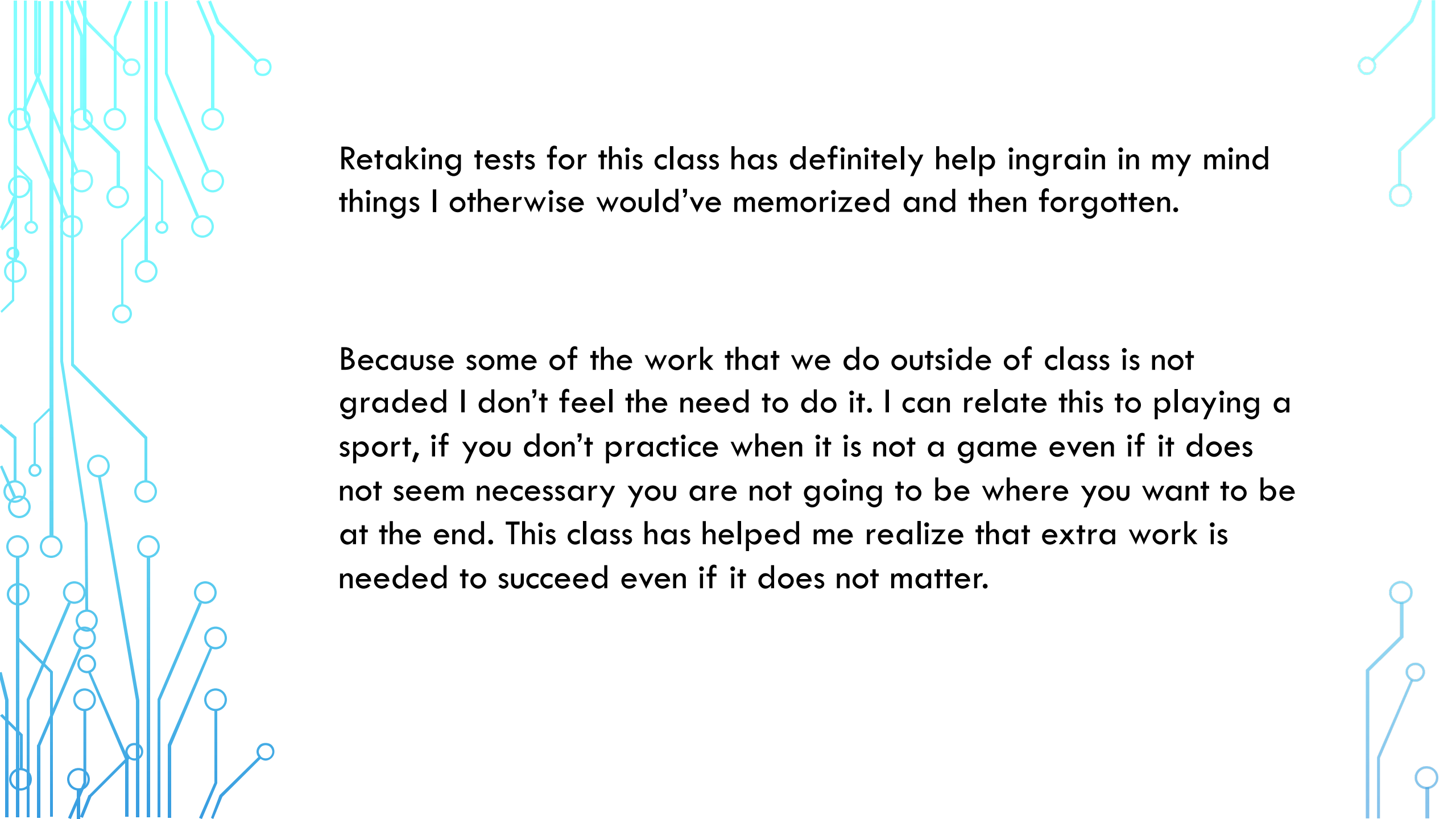
The background features a light blue circuit-like pattern. On the left side, there are several vertical lines of varying lengths, some ending in small circles, resembling a bus or a set of data lines. On the right side, there are fewer, more sparse lines, also some ending in circles. The overall effect is that of a stylized electronic or digital background.

I used to get answers on a silver plate
all of these classes were easy A's
they'd give me the answer like it was easy bait
but now i gotta work to get my good grades
I like this better cause I'm more satisfied
when I get the right answer after many tries
thank you Teacher for making this work
It's crazy how much I have really learned

The page features decorative circuit-like lines in a light blue color. These lines are composed of vertical and horizontal segments connected by small circles, resembling a stylized electronic circuit board. They are positioned along the left and right margins of the page, framing the central text area.

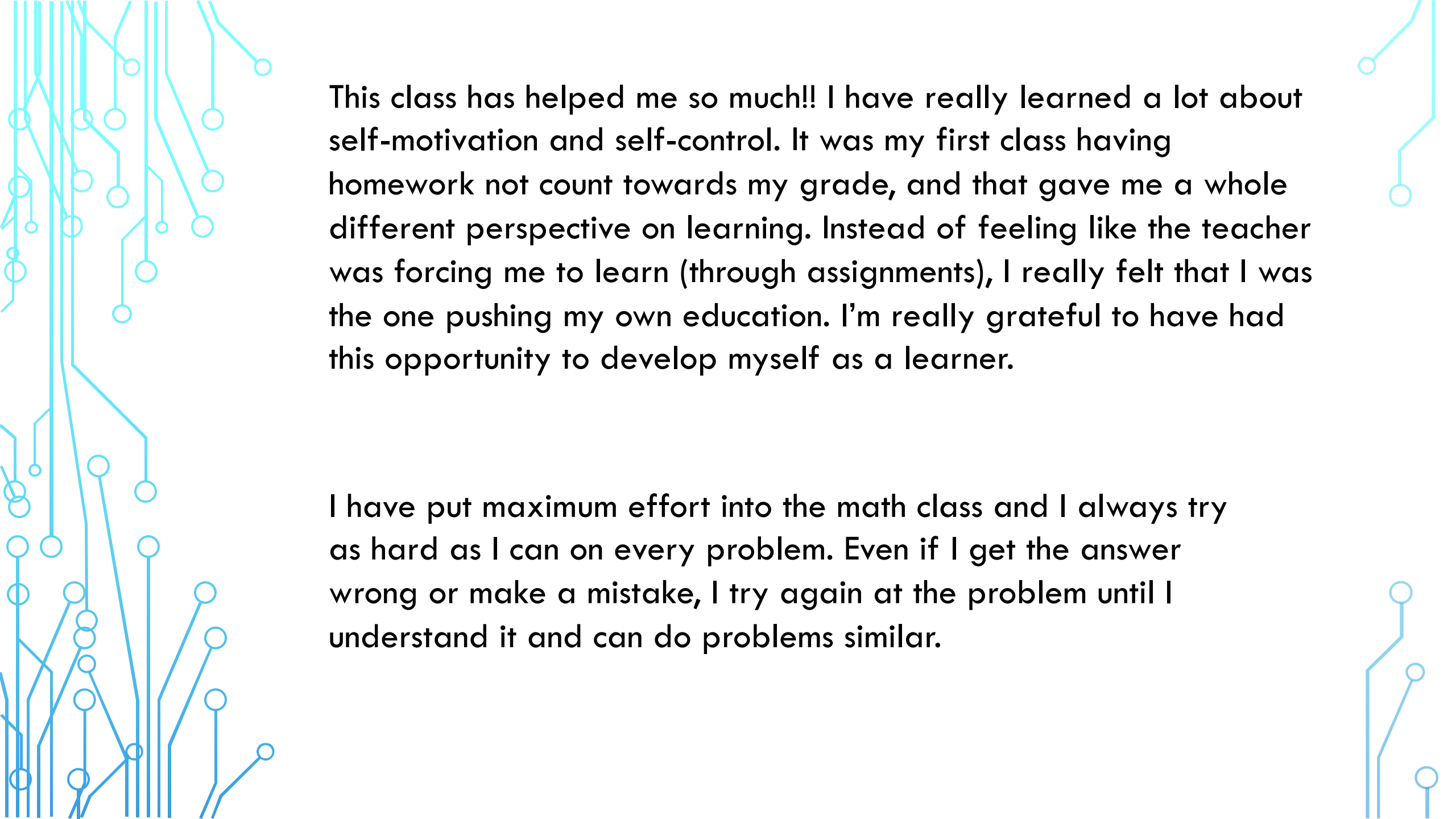
In class, depending on my mood, I have differing levels of effort to pay attention and take notes, which leads to a range of test scores. Considering the last score of 99%, I know it's possible to do very well if I study hard, however that hard material adds a degree of uncertainty to my thinking.

I am so grateful for the extra time that you allow me on tests. Also, permitting retakes of tests is beneficial for my learning. It allows me to look at a concept, attempt a problem, learn my mistakes, and try again. I have mastered so many techniques this way

The page features decorative light blue circuit-like lines on the left and right margins. These lines consist of vertical and horizontal segments connected by small circles, resembling a stylized electronic circuit or a network diagram.

Retaking tests for this class has definitely help ingrain in my mind things I otherwise would've memorized and then forgotten.

Because some of the work that we do outside of class is not graded I don't feel the need to do it. I can relate this to playing a sport, if you don't practice when it is not a game even if it does not seem necessary you are not going to be where you want to be at the end. This class has helped me realize that extra work is needed to succeed even if it does not matter.

The background of the slide features a light blue circuit-like pattern. It consists of numerous thin, vertical and horizontal lines that intersect at various points, creating a grid-like structure. At many of these intersection points, there are small, open circles, resembling nodes or solder points on a circuit board. The lines and circles are distributed across the entire slide, with a slightly higher density on the left and right sides, framing the central text area.

This class has helped me so much!! I have really learned a lot about self-motivation and self-control. It was my first class having homework not count towards my grade, and that gave me a whole different perspective on learning. Instead of feeling like the teacher was forcing me to learn (through assignments), I really felt that I was the one pushing my own education. I'm really grateful to have had this opportunity to develop myself as a learner.

I have put maximum effort into the math class and I always try as hard as I can on every problem. Even if I get the answer wrong or make a mistake, I try again at the problem until I understand it and can do problems similar.

The slide features decorative circuit-like lines in a light blue color. These lines are composed of straight segments and small circles, resembling a stylized electronic circuit or neural network. They are positioned along the left and right edges of the slide, framing the central text area.

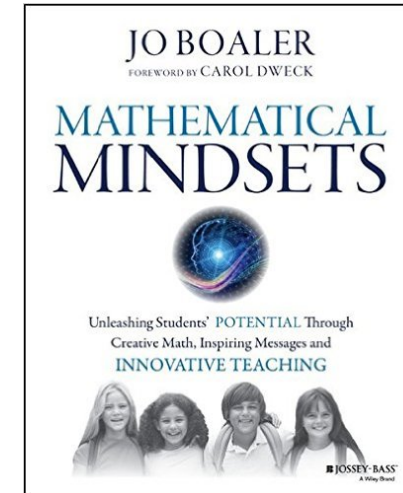
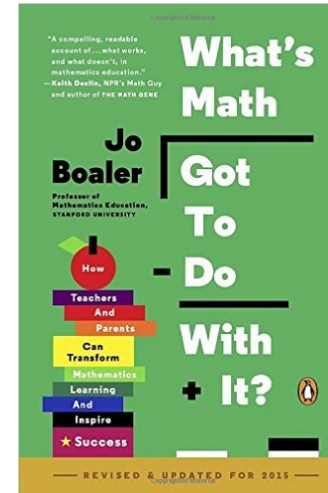
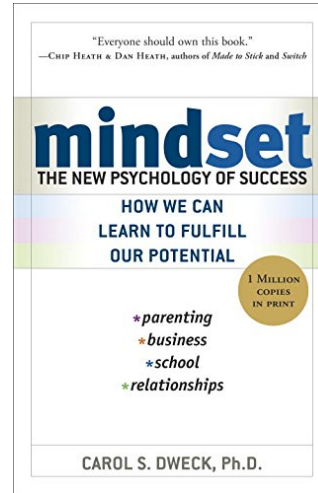
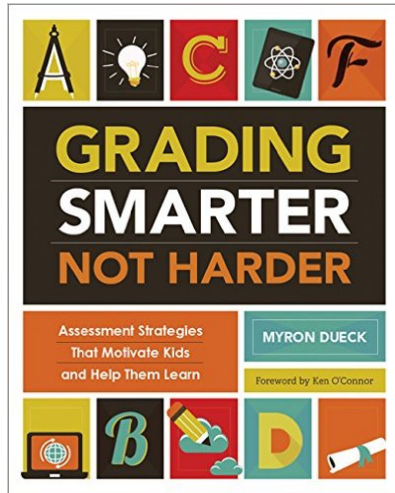
NEXT STEPS

Differentiate the assessments I use to a greater degree.

Tiered assessments.

Explicit instruction about Growth Mindset and brain research.

Resources



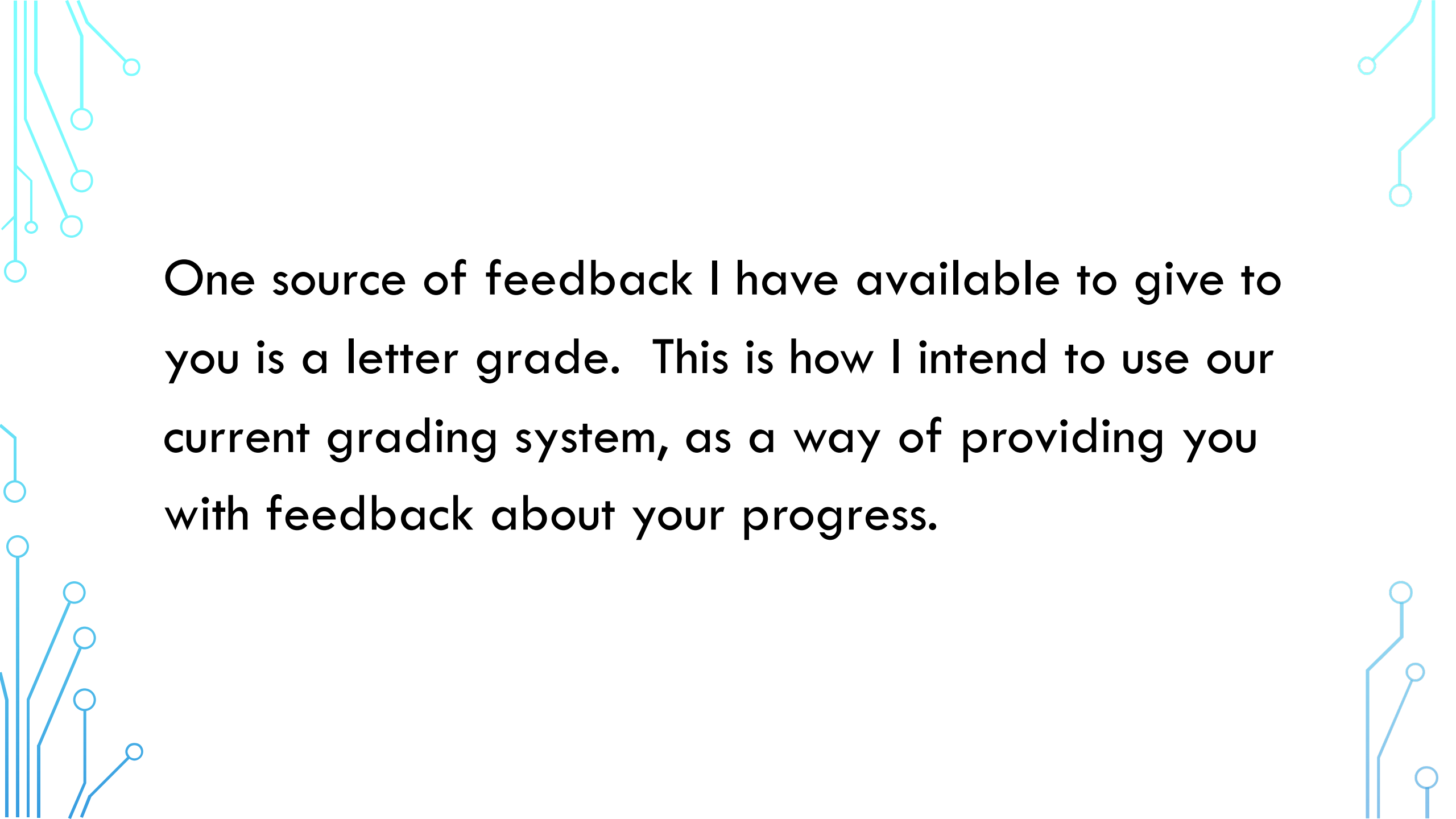
Growth Mindset: <http://mindsetonline.com/index.html>

Educational Leadership (ASCD)
November 2011 | Volume **69** |
Number **3 Effective Grading Practices**
Pages 72-75
How I Broke My Rule and Learned to Give Retests
Myron Dueck

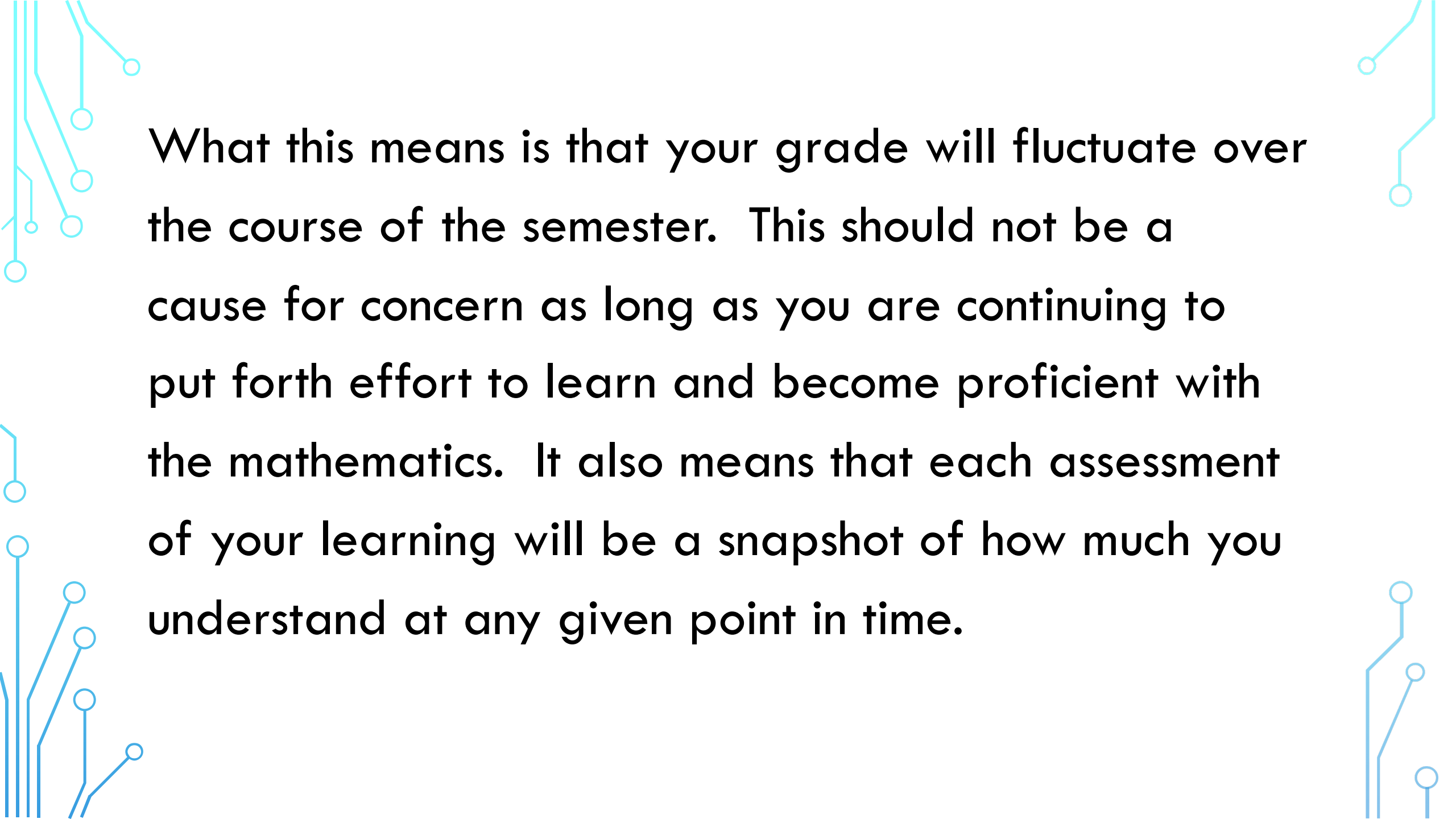
Educational Leadership (ASCD)
November 2011 | Volume **69** |
Number **3 Effective Grading Practices**
Pages 22-26
Redos and Retakes Done Right
Rick Wormeli

How I Start The Year

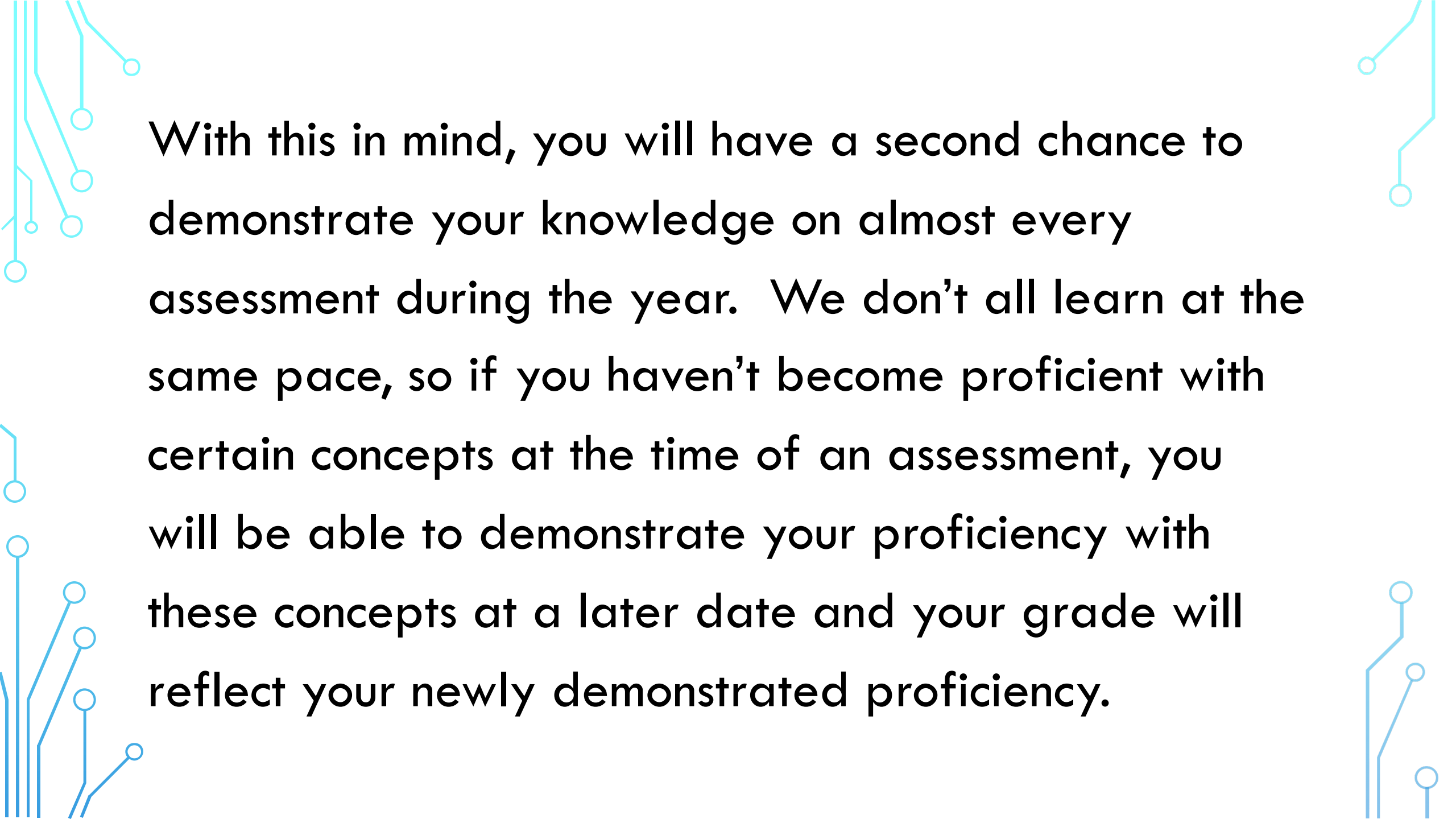
I believe your grade should reflect what you know and can do in regards to the mathematical content standards of the Piedmont Unified School District. In this way, your grade will represent your progress towards proficiency with the mathematics we are learning. I also believe that we grow as learners through our hard work and perseverance and that this growth will be apparent through our progress towards proficiency.

The slide features a light blue background with decorative circuit-like lines in the corners. These lines are composed of thin blue lines with small circles at the ends, resembling a stylized circuit board or network diagram. The lines are located in the top-left, top-right, bottom-left, and bottom-right corners, framing the central text area.

One source of feedback I have available to give to you is a letter grade. This is how I intend to use our current grading system, as a way of providing you with feedback about your progress.



What this means is that your grade will fluctuate over the course of the semester. This should not be a cause for concern as long as you are continuing to put forth effort to learn and become proficient with the mathematics. It also means that each assessment of your learning will be a snapshot of how much you understand at any given point in time.



With this in mind, you will have a second chance to demonstrate your knowledge on almost every assessment during the year. We don't all learn at the same pace, so if you haven't become proficient with certain concepts at the time of an assessment, you will be able to demonstrate your proficiency with these concepts at a later date and your grade will reflect your newly demonstrated proficiency.



There was a request for my instructions on creating a review video.

Review videos

Make a 4-7 minute review video of a topic that you struggled with this semester. The time is a guideline. If you can do a good job in fewer than 4 minutes, that is acceptable. If you go over 10 minutes, your file may be too large to upload to this folder. There is a maximum file size of 512 MB.

Be sure that the video and audio are clear. In your video, you should explain your topic, show how to use it in a problem, and explain why the steps of your problem work.

Naming your file:

Use your first name, last initial, underscore, and the topic.

eg. MisterH_LawOfSines.mov

Please remember that you need to return your original problem to me so I know how many points you can still earn back for the problem(s).