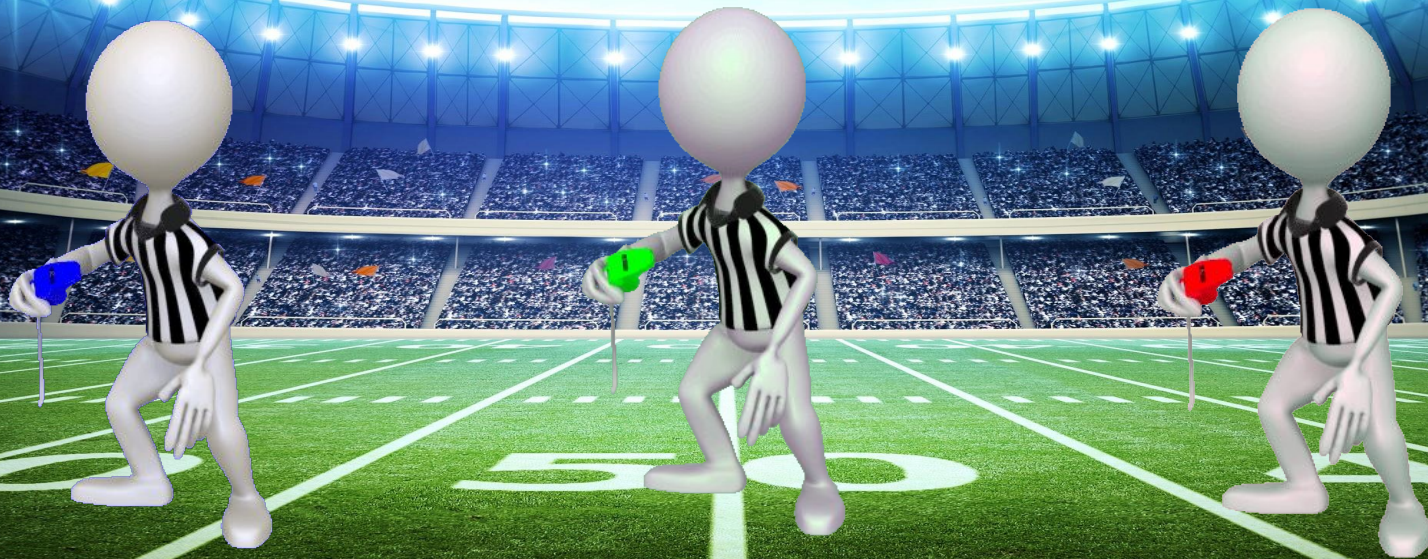


I've Got Next: Engaging All Students with Multiple Response Strategies



Learning Goals



To create a definition of “student engagement”



To explore a variety of strategies that will increase student engagement and achievement



To identify ways these strategies can be implemented in the classroom



Focal Points for Multiplication



Grade 3

Number and Operations and Algebra: Developing understandings of multiplication and division and strategies for basic multiplication facts and related division facts



Grade 4

Number and Operations and Algebra: Developing quick recall of multiplication facts and related division facts and fluency with whole number multiplication










Grade 5

Number and Operations and Algebra: Developing an understanding of and fluency with division of whole numbers



NCTM Mathematics Teaching Practices

-  **Establish mathematics goals to focus learning.**
-  **Implement tasks that promote reasoning and problem solving.**
-  **Use and connect mathematical representations.**
-  **Facilitate meaningful mathematical discourse. Pose purposeful questions.**
-  **Build procedural fluency from conceptual understanding.**
-  **Support productive struggle in learning mathematics.**
-  **Elicit and use evidence of student thinking.**








Rotating Trios

LETS
Rotating

GO!!
Trios








Participation Norms

-  **Be fully present.**
-  **Minimize distractions.**
-  **Minimize “air time.”**
-  **Take a chance.**
-  **Celebrate accomplishments.**







Discourse Norms

-  **Listen.**
-  **Be involved.**
-  **Contribute ideas.**
-  **Participate by asking questions.**
-  **Develop understanding, if not at the beginning, by the end.**



Krusi, 2009

Mathematics Norms

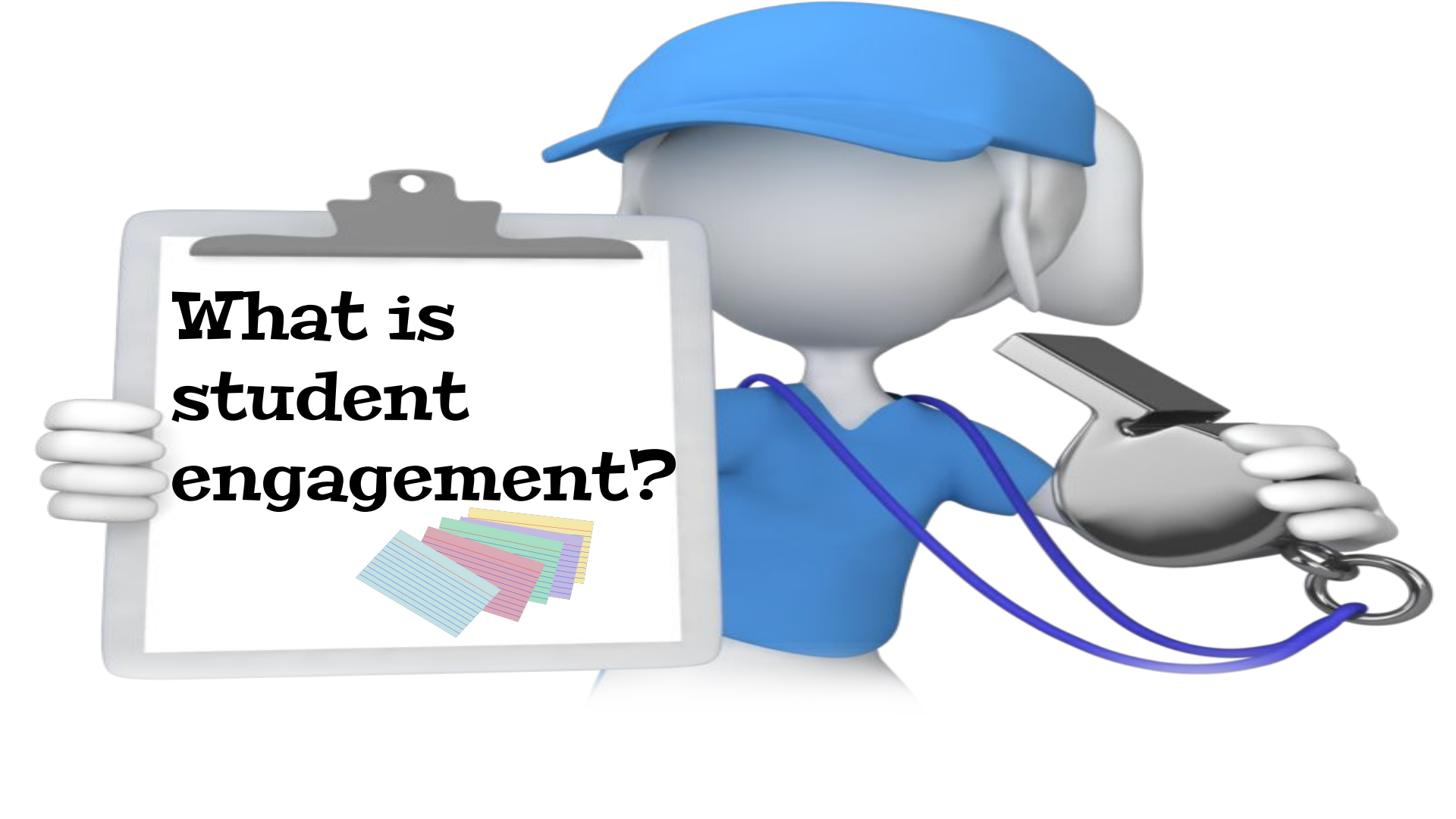
-  **Look for patterns in order to make generalizations.**
-  **Make connections among models, representations, and algorithms.**
-  **Communicate using academic vocabulary.**
-  **Use mistakes as opportunities to support new learning about mathematics.**



Yackel & Cobb, 1996

Equity Sticks



A 3D rendered character, possibly a customer service agent, is shown from the chest up. The character has a grey, featureless face and is wearing a blue baseball cap and a blue short-sleeved shirt. They are holding a silver clipboard in their left hand, which displays the text 'What is student engagement?' in a bold, black, sans-serif font. Below the text on the clipboard are several overlapping, colorful sticky notes in shades of blue, green, yellow, and pink. In their right hand, they hold a silver telephone receiver, with a blue cord extending from it. The background is plain white.

**What is
student
engagement?**



Attention

Inquisitive

Curiosity

Engagement

Optimism

Interested

Involvement

Passion

Motivation

How do you know if your students are engaged?

Results Now:



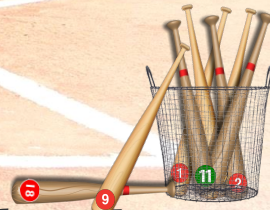
1,500 classrooms



85% / (-)50%



15%



Dr. Michael Schmoker

Teacher-Directed Learning



Paying attention



Taking notes



Listening



Asking/Responding to questions



Following requests



Reacting



Student-Directed Learning



Reading critically



Problem Solving



Performing

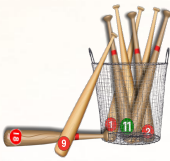


Student Interaction



**“Students who are engaged
are involved, but not all
students who are involved
are engaged.”**

- Phillip Schlechty



Four Quarters

“Four Corners”



**Option 1: Teaching
in isolation using
manipulatives**



**Option 2:
Connecting the
concept of
multiplication to
addition using
manipulatives**



**Option 3:
Relationship of
multiplication
and division**






**Option 4: Teaching
using a combination
of representations**

What's the best way to teach multiplication?








Why Student Engagement?

-  **Increased academic achievement**
-  **Increased on-task behavior**
-  **Decreased behavioral challenges**



Activate Student Engagement

-  **Help students collaborate with others.**
-  **Allow independent work time, before sharing with others.**
-  **Use questions to encourage discussion and debate.**
-  **Acknowledge the importance of mistakes in learning.**
-  **Use multiple response strategies.**



Don't Fumble

"Hot Potato"

Directions:

1. Put students in small groups.
2. Play music and stop.
3. Who ever has the ball selects a word wall word (screen) and tell one thing know about a particular word.
4. Play the music again.
5. Select a new word and repeat process.





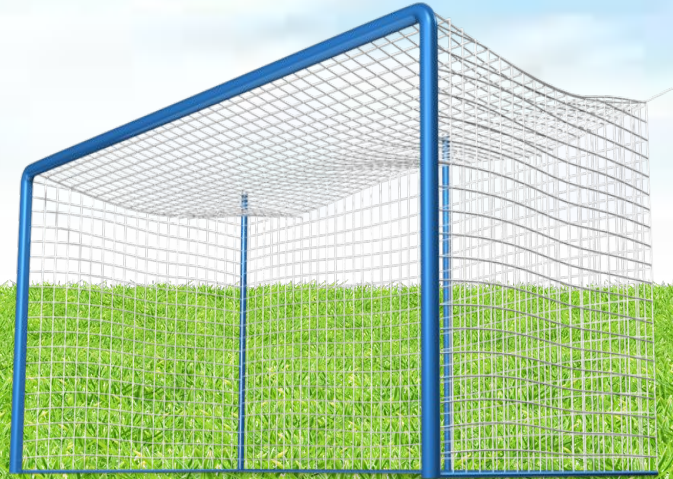
Let's get in the Huddle

After completing this activity, which components of student engagement did we activate?



Types of Student Engagement

- **Teacher Influence**
- **Student Choice**
- **Wait Time**



Teacher Influence

A teacher communicates positive demeanor

⚽ **Demonstrating enthusiasm**

⚽ **Display intensity**

Students' perceptions

⚽ **Welcomed**





⚽ **Accepted**

⚽ **Supported**



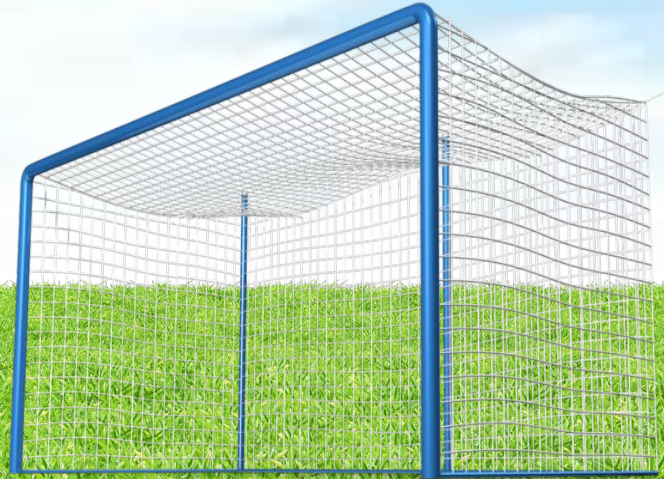
Student Choice

Teachers provide choice to students in four ways:

-  **Choice of tasks,**
-  **Choice of reporting formats**
-  **Choice of learning goals**
-  **Choice of behaviors**



“Wait time is the period of silence between the time a question is asked and the time when one or more students respond to that question.”



- TeacherVision, 2015

Teammates Consult

“Math Discourse”



Teammates Consult

- ⚽ All pencils and calculators are set aside.
- ⚽ Participates read the problem.
- ⚽ Allow each person individual think/wait time.
- ⚽ The problem is discussed by the team for clarity.
- ⚽ Possible strategies are shared.
- ⚽ Teacher give okay for pencils to be picked up and written work to begin.



Let's get in the Huddle

How did this activity support student engagement?








**No more than 10 minutes goes by
without students saying, writing,
doing - making learning
meaningful!**



-Sarah McKibben

Rebound the Ball

“Carousel Around the World”

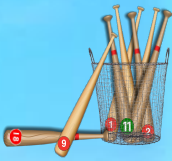
-  Each table receives a different math word problem
-  Each team will get a different color marker
-  Team will read the problem and then solve it one way
-  Next team will solve the same problem but a different way
-  Then they will participate in a gallery walk



Logan scored
48 points in
every
basketball
game...

Let's get in the Huddle

What questions would you pose to encourage your students to discuss or debate about the strategies they used?



“The ultimate engagement is to put the learner in charge of learning.”



-Ben Johnson, Blogger

Door Prizes



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