Metamorphosis

TEACHING LEARNING COMMUNITIES

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Learned Something New?
Heard Something Curious?

over break or lunch

@lucywesttlc

#MetaTLC


Breathe in through your nose.
Breathe out through your mouth with a sigh.

Welcome

- Exploring Ideas and Practices Together
- Question Each Other, Our Perceptions, Beliefs and Opinions
- Consider the Inherent Tensions in Teaching
- Wondering How We Might Be Contributing to What We Consider Problematic
- Making a Public Commitment—Happy New Year☺

What influences learning?

- How do we create an environment in which deep learning is the norm not the exception at all levels in a school community—administrators, teachers, students?
- How willing are you to **question** your present thinking, beliefs, techniques, and perspectives?
- How willing are you to publicly try things out, fail and try again?
- What does trust and vulnerability have to do with learning?

What's Working?

- Think about your class if you are a teacher and your school or board if you are an administrator.
  - What do you love about your class, school or board?
  - What makes you want to get up in the morning and go to work?
  - What's worth celebrating about your practice?
- Share your thoughts with a neighbor.

What about your practice are you willing to question?

- What conditions would allow you to really question your practice in the company of others?
- What would inhibit your willingness to share your challenges and concerns with your colleagues?
- Your supervisor?
- Please discuss this at your table.
- Post on Today's Meet.

Conjectures

- The quality, content, and depth of learning engaged in by adults in a school community is reflected in the quality, content, and depth of learning engaged in by the students in that community.
- The quality, depth, and rigor of the talk among educators at all levels in a school about content, pedagogy and student development is mirrored in the quality, depth and rigor of the talk among students in that school.
- Learning requires trust and trust is built through our actions, interactions and through our words.

Does Discourse Promote Learning?

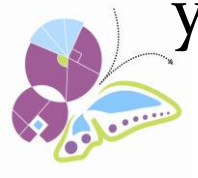
- How often does the discourse you have with your colleagues in grade meetings, staff meetings, or in the corridor result in your desire and capacity to improve your practice?
- How often does the discourse students in your class engage in engender their desire and capacity to dive deeper, learn more and improve their work?

Aligning Our Images

- What does it look like when students are used to engaging in accountable talk, thinking and questioning each other's ideas, and willing to revisit their work to make improvements?

Video

- Turkey Problem--24 lb. Turkey--15 minutes per pound to cook--How long to cook the turkey?
- Grade 3—prior to teaching any multiplication algorithms
- Sharing student work after students have solved the problem.
- Teacher deliberately determines the order in which selected partners will share.
- How close is this exchange to exchanges you have in your class and/or would want to have in your class?



What's Different

- If this looks similar to your class, look for nuances—what's different about what this teacher is doing or saying and what these students are saying?
- Develop a lens that allows you to go deeper than just, "I already do that.
- High school folks, see if you can go beyond, "that's elementary, it doesn't apply to high school students?"
- Literacy folks, same idea-these 'talk moves' work in all subject areas.
- You have a transcript.

Partner Talk

- Step 1:
  - Study the transcript.
  - Underline things that the teacher says or does that has kids thinking, making meaning, and assisting one another and your evidence for that.
- Step 2
  - Share the things you underlined with a partner and your reasoning for underlining these things.
  - Let's call them 'talk moves' and give them a name.
  - Share your thoughts on Today's Meet,

Excerpt 1-Focus on Meaning

- **Amber:** So um we kept doing it and then we got here. Um, 360.
- **D**: And what is the 360?
- **Amber**: How long it…
- **Vicky**: 360
- **D**: 360, and what does that mean, Vicky?
- **Vicky**: That means that it is … you have to… you have to let it cook for 360 minutes.
- **D**: 360 minutes. Who thinks they can explain how Amber and Vicky figured this out? What did they do?

Excerpt 2-Connecting Explanation to Equation

- **Rafe**: They counted by 15s all the way up to 360.
- **D**: Can you tell from there (*the chart*) how many 15s? How many jumps of 15 they have to make?
- **Rafe**: 24, because I can see the number sentence.
- **D**: And what did the number sentence say?
- **Rafe**: 15 x 24 = 360.
- **D**: Equals 360.

Excerpt 3-Clues & Questions

- **Nellie**: Yeah. I know what they did, but there's one thing that they didn't figure out: how many hours 360 is.
- **D**: How many hours 360 is. Without telling Victoria and Amber how many hours um 360 minutes is, can somebody give them a clue about how they might want to figure that out? How could they figure that out? Emma F?
- **Emma F.**: I don't know how to explain it, but….how did they know when to stop?
- **D**: Well, that's a great question.
- **Vicky**: Because…
- **Amber**: We counted 24 jumps. We counted 15, I mean 24 jumps.
- **D**: You counted 24 jumps. OK. Did you understand that, Emma? How they did that … they counted each jump and they counted 24 times. (*nod from Emma*) Let's get back to the clue.

Excerpt 4-Student to Student

- **Mackenzie**: You can count up to 60 minutes and then like circle that and keep on circling 60 minutes and then that would be how many hours there is.
- **Amber**: How do we know it's 60 minutes? What do you mean?
- **Mackenzie**: 'Cause 60 minutes is an hour.
- **Amber**: I mean, what do we circle? Like…
- **Mackenzie**: You would get 10, 20, 30…
- **Amber**: We're counting by 15s not ones.
- **Mackenzie**: I know, but…
- **Vicky**: How much 15s would we have to circle to make 60?
- **Griffin**: You circle up to the 60 and then … wait. You circle up to the 60 and then you keep going like that.

Excerpt 5-Effort-Based Iterative Process

- **Vicky**: I figured it out myself. I know how much you have to circle.
- **D**: How much do you have to circle?
- **Vicky**: You circle 4 because if you circle 2 …
- **Amber**: She means how much circles—hours—is 4.
- **D**: So you know what you have to do to figure it out now, right? You know what you have to do. Great.

What would it take?

- How willing are you to make your practice public?
- What would it take for you to examine your practice in the company of others in the service of improving teaching and learning?

Interdependence & Trust

- Who are we dependent on to get our job done well?
- Who is dependent on you to get their job done well?
- Dependence engenders a sense of vulnerability.
- Interdependence engenders a sense of mutual vulnerability.
  - Dan Newby

Role Related Trust

- What actions taken or not taken by an administrator undermine your trust?
- What actions taken or not taken by a teacher undermine a principal's trust?
- What actions taken or not taken by a colleague undermine your trust?
- What actions taken or not taken by a student undermine your trust?
- What actions taken or not taken by a teacher undermine a student's trust?

What is trust?

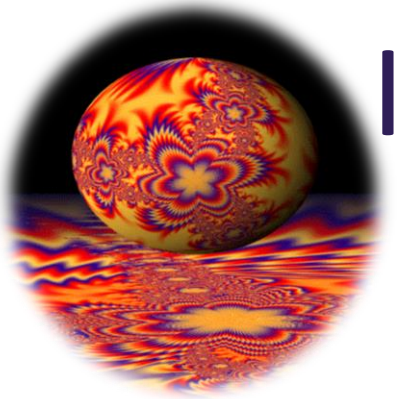
- Trust is the emotion that allows us to coordinate action with others.
- This definition requires risk assessment instead of moral judgment.
- It makes trust a topic we can discuss rather than avoid.
  - Dan Newby

Three Key Elements to Assess Trust

- Sincerity
- Reliability
- Competence
  - Capability
  - Capacity
    - Dan Newby

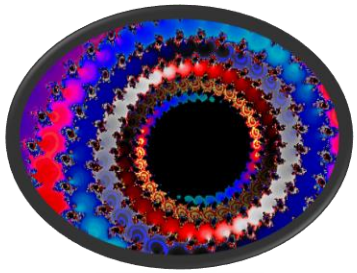
Do you trust your students?

- How deeply do you believe that all your students are intelligent human beings capable of figuring things out for themselves and with one another?
- How deeply do your students trust you to provide a safe yet challenging learning environment in which their ideas, questions, and struggles will be valued?



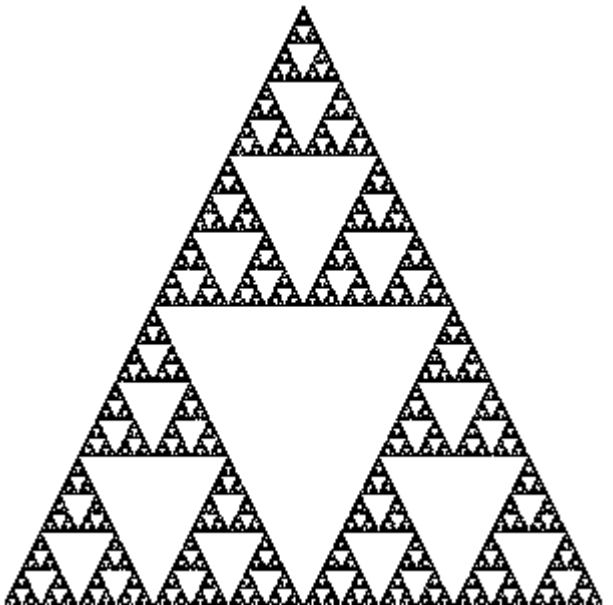
Interactions as Fractals

- Fractals: The way people interact at all levels of the system can be thought of as a fractal.



What is a fractal?

- A ***fractal*** is a mathematical set that typically displays self-similar patterns.[1] Fractals may be exactly the same at every scale, or they may be *nearly* the same at different scales. The concept of fractal extends beyond self-similarity and includes the idea of a *detailed pattern* repeating itself.
  - Wikipedia



What do you think?

- To what degree do you agree/disagree with my conjectures?
- What role do you think professional discourse, the capacity to give and receive feedback to one another, challenge or at least questions each other's beliefs, lesson plans, and perceptions about students plays in student learning?
- When is the last time someone questioned your lesson design, implementation, or perception about a student or student work? How did you feel about that? How did you respond to that? Why?

How Can I Trust You?

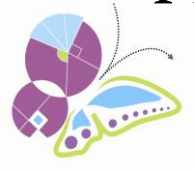
- The best way to find out if you can trust somebody is to trust them.
  - Ernest Hemingway
- One of the amazing things about trust is that initiating a conversation about trust already produces trust.
  - Dan Newby

Know Thyself To Trust Thyself

- Learning to think about our thinking and to notice our feelings, triggers, reactions, tendencies and stories is vital to becoming a trustworthy person and a learner.
- Self-awareness requires self-monitoring and self-reflection.
- Self-reflection eventually leads to self-management and true choice.
- Without self-awareness we cannot trust ourselves or others.

Common Biases

- Confirmation: Tendency to favor your own hypothesis and select evidence to support it. (belief polarization, irrational primacy, need to be right)
- Bandwagon Effect: the more people who do or believe something, the likelier others will join in despite evidence to the contrary
- Negativity Bias: The brain is wired to remember the negative, unpleasant—survival mechanism
- Functional Fixedness—hard to see past the way things are or are used
- Projection Bias—thinking others think like us



Learning Requires Risk Taking

- Naming and sharing what gets in our way as learners is a first step (Reduces shame and blame).
- Notice when we experience shame for not knowing or not doing something well (tendency to beat ourselves up).
- Notice when we blame and judge others for not knowing, making a mistake, being inept at something that we find easy to do (projection).

Choosing Not To Learn

- Think of a time when you chose not to learn. What triggered that response?

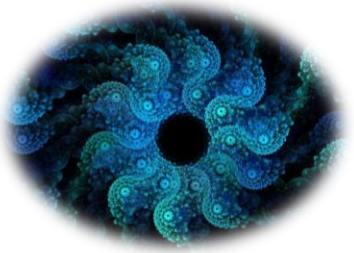
Please read the handout, Obstacles to Learning, and identify your obstacles. Share at least two obstacles and an anecdote with a partner.

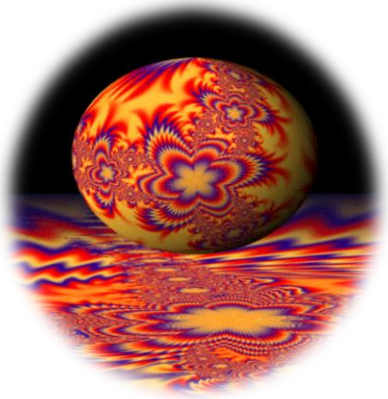
Choosing Not To Learn

- What did that choice cost you in terms of time, finances, emotional energy, and in terms of self-esteem?

Interactions as Fractals

- Consider the obstacles to learning in relation to how adults in your school relate to one another and to learning in general. Which obstacles are at play at your staff meetings, grade level meetings, coaching sessions, etc.?
- What do these learning obstacles cost your school financially, in terms of student learning, and in terms of time?
- Which obstacles are at play in your classrooms among students? What is the cost to their learning?





Interactions as Fractals

- Fractals: The way people interact at all levels of the system can be thought of as a fractal.

- I don't divide the world into the weak and the strong, or the successful and the failures. *I divide the world into learners and non-learners.*
  - Carol Dweck, Professor of Psychology
  - Stanford University


Breathe in through your nose.
Breathe out through your mouth with a sigh.

A Little Experiment

- Please stand up-choose a partner—someone you don't know—not at your table
- Stand and face one another
- Your task is to count, 1, 2, 3, over and over—one person says 1, partner 2, first person 3, partner 1, etc.
- Do this quickly and notice what you feel when a mistake is made.
- Next, count 1, clap, snap, 1, clap, snap, etc.
- This time every time you make a mistake—celebrate-throw your hands in the air, shout "yes" and smile.

Two Types of Mindsets

- **Fixed:** Intelligence is a fixed trait.
- **Growth:** Intelligence is learnable and can be developed.
- Neuroscience is showing us the tremendous plasticity of the brain.
- All of us have a combination of both mindsets.
- When in a growth mindset—brain lights up when challenged.
- When in a fixed mindset—brain literally shuts down when challenged.

Growth Mindset is Learnable

- It is never too late:
  - HS
  - University
  - Business Managers
  - Elderly People

Which Mindset Are You Promoting?

- What are you focused on during your lessons—getting through the lesson or ensuring that students are learning?
- What do you do when students give you the wrong answer?
- Do grades promote effort or stop the process of learning? (A, B, C, F or 100%, 65%, or Not Yet)

Compare and Contrast

- You did that so quickly and easy. You are really good at that. You get 100%.
- You got that without any effort. You must not be learning much. What would you like to learn?
- You did that so quickly and easily. I'm sorry I wasted your time. Let's do something more challenging.
- You got three out of eight correct. Your are not quite there ***yet***. Let's see what you can do with the other six now that we've discussed this again. (NOT YET)

Mindset Rules

Fixed Mindset

- Look smart at all costs
- Success should come naturally, easily, quickly
- It's about me—hide mistakes and deficiencies
- Fundamental belief: I'm not smart enough

Growth Mindset

- Learn at all costs
- Persistence, stamina and effort is key
- It's about learning, confronting mistakes and reflecting
- Fundamental belief: we can get smarter

HOW TO ENCOURAGE STUDENTS

Growth Mindset What to say:	Fixed Mindset What not to say:
"When you learn how to do a new kind of problem, it grows your math brain!"	"Not everybody is good at math. Just do your best."
"If you catch yourself saying, 'I'm not a math person,' just add the word 'yet' to the end of the sentence."	"That's OK, maybe math is not one of your strengths."
"That feeling of math being hard is the feeling of your brain growing."	"Don't worry, you'll get it if you keep trying."* *If students are using the wrong strategies, their efforts might not work. Plus they may feel particularly inept if their efforts are fruitless.

What do I want more of in my class?

- Considering the work we have done so far and the video we have examined, what would you like to improve in relation to classroom discourse?
- What would you need to learn to do so?
- What supports would assist you?
- Who do you know that is already doing more of what you want? How can you find out if you don't know who and how might you reach out to that person for assistance?
- We're all in this together.

Dialogue is Rare

- On the basis of the national and international evidence to which we have referred, recitation is and remains the default mode of classroom interaction. In contrast, discussion and dialogue are the rarest yet also the most cognitively potent elements in the basic repertoire of classroom talk.

Towards Dialogic Teaching Research by Robin Alexander, UK

- 500 Classrooms Observed
- 5 Countries
  - USA
  - England
  - France
  - Russia
  - India

Findings on classroom talk:

- Open questions made up 10% of the questioning exchanges
- 15% of the sample did not ask any open questions
- Probing by the teacher to encourage sustained and extended dialogue occurred in 11% of classes
- Uptake questions occurred in only 4%
- 43% of teachers did not use any such moves
- Pupils' exchanges were very short—5 seconds on average
- Pupil answers were limited to 3 words or less 70% of time

Self Assessment

- In what ways am I encouraging student discussion?
- How often do I use turn and talk?
- Do my students answer in full sentences?
- How much of the time am I explaining or asking questions?
- During a typical class, how much probing into student thinking do I do?
- Do I really want more student discussion? If so, what is preventing me from generating and facilitating it? If not, why not?

Why increase student discussion?

- Please post your reasons on Today's Meet

Discussions are opportunities for:

- surfacing and probing student ideas
- developing new insights, skills, and dispositions
- constructing consensus and shared language for subsequent learning
- modeling and engaging in disciplinary practices
- motivating and attending to participation
  - Margaret Smith, LRDC

Seven Arguments for Talk:

- *Communicative*: talk is humankind's principle means of communication
- *Social*: talk builds relationships, confidence and sense of self
- *Culture*: talk creates and sustains individual and collective identities
- *Neuroscientific*: language and especially spoken language builds connections in the brain, during the early and pre-adolescent years preeminently so.
  - Robin Alexander, Towards Dialogic Teaching

Seven Arguments for Talk:

- *Psychological*: language and the development of thought are inseparable. Learning is a social process, and high-quality talk helps to scaffold the pupil's understanding from what is currently known to what has yet to be known.
- *Pedagogical*: research shows that cognitively enriching talk engages pupils' attention and motivation, increases time on task and produces measurable learning gains.
  - Robin Alexander, Towards Dialogic Teaching

Seven Arguments for Talk:

- *Political*: democracies need citizens who can argue, reason, challenge, question, present cases and evaluate them. Democracies decline when citizens listen rather than talk, and when they comply rather than debate.
  - Robin Alexander, Towards Dialogic Teaching

What are the tradeoffs and challenges with more student discussion?

- Please post on today's meet

Challenges of Orchestrating Whole Class Discussions

- Supporting the learning of the whole class while engaging with individuals
- Communicating orally while making and using visual or concrete representations
- Honoring ideas that arise from students while assuring that students have opportunities to consider key mathematical ideas
- Creating space to talk in substantive ways while staying within prescribed time frames
  - (Lampert, 2001; Stein et al, 2007)

(

Yeah buts

- It takes too much time
- You didn't get through the lesson
- Students might feel pressured by teacher or embarrassed
- The point of the lesson wasn't explicitly stated. (What was the objective?)

Assisting Reluctant Learners

- 20 teachers, coaches, principals and assistant superintendent
- Continue to work on talk
- Build content knowledge re: fractions
- Teacher, coach and I discuss individual students, teacher's challenges and her goal for today: Find ways to get students who don't speak during meetings to talk.
- Rethink the 'warm up' or routine to provide both access for ALL students and an informal assessment

Vulnerability In Action

- Frame
  - We talk
  - We do the math
  - We ask questions
  - We try something publicly (20 people observing)
  - We analyze
  - We try something in our own classes with a colleague observing
  - We talk

Compare Transcript To Building an Environment For Learning Handout

- Underline the statements made in the class that represent some of the moves/conditions expressed in the Building an Environment to Learning Handout.
- Share with a neighbor.

Here's to the crazy ones,
The misfits, the rebels, the troublemakers,
The round pegs in the square holes,
The ones who see things differently.
They're not fond of rules,
And they have no respect for the status quo.
You can quote them, disagree with them,
Glorify or vilify them.
About the only thing you can't do is ignore them.
Because they change things.
They push the human race foward.
And while some may see them as the crazy ones,
I see genius.
Because the ones who are crazy enough to think they can change the world
Are the ones who do.

Apple Computerhttp://www.crazytyson.com/crazyquotes/

EOSDN
DAY 2
JANUARY, 2016

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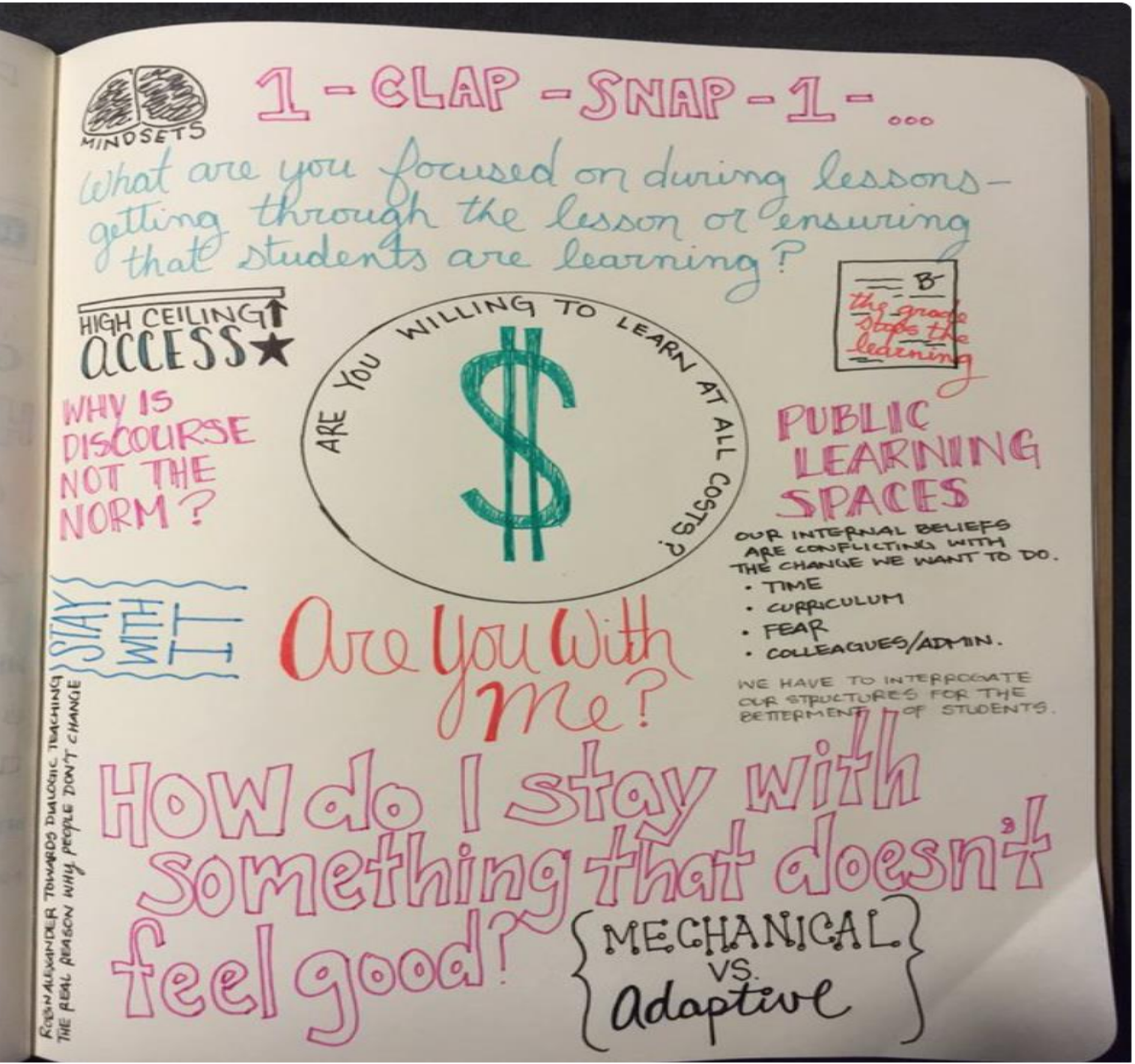
Breathe in through your nose.
Breathe out through your mouth with a sigh.

My First Blog Post Is Now Up

- http://learnteachlead.ca/speak-up-please/


MINDSETS
1 - CLAP - SNAP - 1 - ...
What are you focused on during lessons - getting through the lesson or ensuring that students are learning?
B-
the grade stops the learning
HIGH CEILING ACCESS
ARE YOU WILLING TO LEARN AT ALL COSTS?
WHY IS DISCOURSE NOT THE NORM?
PUBLIC LEARNING SPACES
OUR INTERNAL BELIEFS ARE CONFLICTING WITH THE CHANGE WE WANT TO DO.
• TIME
• CURRICULUM
• FEAR
• COLLEAGUES/ADMIN.
WE HAVE TO INTERROGATE OUR STRUCTURES FOR THE BETTERMENT OF STUDENTS.
STAY WITH IT
Are You With Me?
How do I stay with something that doesn't feel good?
MECHANICAL VS. Adaptive
ROSIN ALEXANDER TOWARDS DIALOGIC TEACHING
THE REAL REASON WHY PEOPLE DON'T CHANGE

Please Be Prepared To:

- Refer to Self Management OR Habits of Mind Handouts
- Based on your identified obstacles to learning from yesterday's session, what one habit or action step would help you overcome that obstacle?
- Be prepared to share with your whole group.

Table Process

- The learning obstacle I identified is _____
- The action or habit I'm going to incorporate starting today is_____
- You can support me by_____

- PLEASE NO CONVERSATION—JUST MAKE THE STATEMENTS ABOVE AND TRUST THE PROCESS

Question

- How do you keep students who have already gotten ‘the answer’ engaged in a conversation?

Listening—The Key to Dialogue

How Well Do You Listen?

- What gets in the way of you listening well?
- Handout Listening Stumbling Blocks
  - Read and Identify your stumbling blocks.

How Well Do You Listen?

- Listening is a skill that can be developed.
  - What does it mean to listen well?
  - What are the elements of active listening?
  - How might they be taught and practiced?
  - How might this tool be used in class, during department, grade level, faculty meetings or…?

Listening Without Advising

- Pick a partner you don't know.
- Stand facing one another with knees no more than 9" apart.
- Person A asks: What is something about teaching and learning, your school or board that matters to you?
- Person B speaks and A listens, maintaining eye contact and from a place of curiosity. When B pauses, ***A waits 10-15 seconds***, responds with a question or says, tell me more about that. ***No statements or advice allowed.***.
- Raise hands in air if these rules are violated and try again.

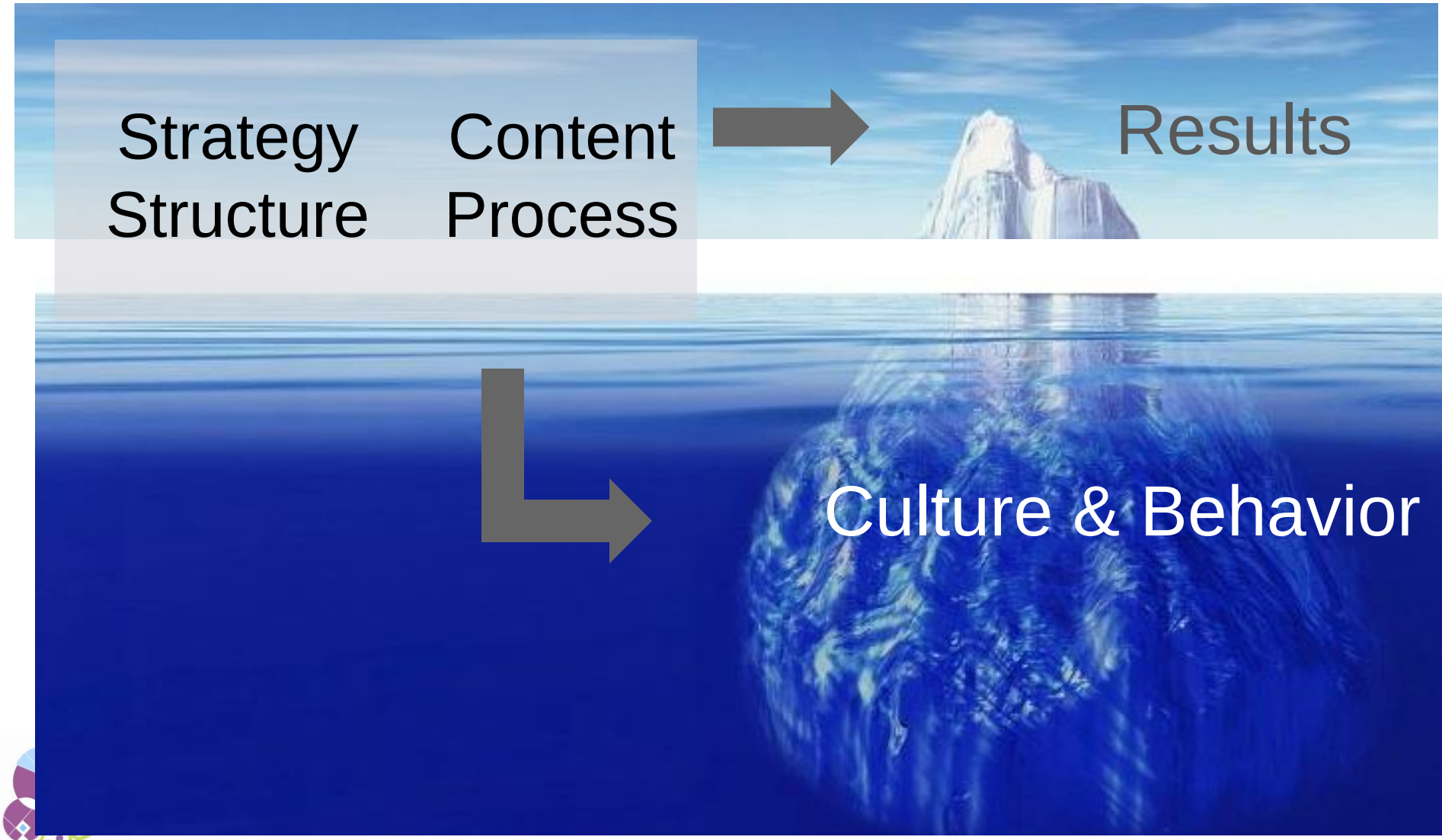
What is the number one, most important variable that will determine succes in any situation or organization?

- The hands down most important variable is how individuals confront each other, discuss concerns and hold each other accountable.
- What if principals, supervisors, leaders taught “a corse” to their direct reports on how to speak up? How might this be different from taking a course outside the organization on speaking up?

What are the barriers to speaking up?

- Culture
- Beliefs
- Emotions
- Safety Attitudes
- Skill
- Power/Authority

It's what you can't see



Culture and Relationships

- Language is culture. Culture is language. How people talk to each other about what they are doing is an important determinant of whether they are able to learn from their practice.
- People have to interact with each other in ways that are often at odds with the prevailing collegial culture of schools.
  - Richard Elmore

The Power of ONE

- It takes one person who skillfully speaks up to begin to change the culture.

Expanding the sphere of success is an adaptive challenge

Adapted from "The Practice of Adaptive Leadership" by Heifetz et al

Kind of Challenge	Problem Definition	Solution	Locus of work
Technical	Clear	Clear	Authority
Adaptive	Requires learning	Requires innovation	Those closest to the problem

Deciding What To Do

- Adaptive leadership is not about meeting your authorizers' expectations—it's about deciding what matters most and staying focused
- It is about challenging some of those expectations; finding a way to disappoint people without pushing them over the edge; and it requires managing the resistance you will trigger
  - Challenge the status quo
  - Raise taboo issues
  - Point out contradictions

Problem

- The most important capacity you possess is the ability to influence behavior—that of yourself or others.
- And yet few of us have any systematic way of even thinking about this fundamental challenge!

The Power of Influence

- How do you change hardened criminals and drug addicts into law abiding, productive, caring citizens?

Mimi Silbert – Helped over 16,000 criminals, lifetime drugs addicts, and gang members *change their behavior*—and their lives.

On what few vital ***behaviors*** did she focus?

Change Beliefs to Learn New Behavior

- The hardest thing we do here is to try to get rid of the code of the street. It says, "**care only about yourself and don't rat on anyone.**"
- If you reverse those two behaviors you can change everything else.
  - Mimi Silbert

Two New Behaviors

- **Speak up**
  - Reverses—"Don't rat on anyone."
  - She had them meet every night to clean up exchanges during the day that were not skillful.
- **Each one teach one**
  - Reverses—"Care only about yourself."
  - Last on board shows next on board how to do his job.
- She immersed them in foreign, unfamiliar, situations.
  - Take field trips to experience new things (e.g. opera, art museums, etc.)

Focus on What Works

- Ensure that people feel praised for thinking, learning questioning, emotionally supported, and encouraged by the people around them **when choosing vital behaviors** and sanctioned when choosing unhealthy behaviors
- Social support can be harnessed for good—make use of the OPINION Leaders

Two Crucial Points

1. Behavior matters
2. Some behaviors matter *much* more than others

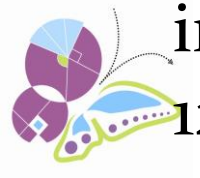
VITAL BEHAVIORS

Create a Learning Culture

- Speak Up
- Each one teach one
- Could these two vital behaviors transform our schools into multigenerational learning communities?

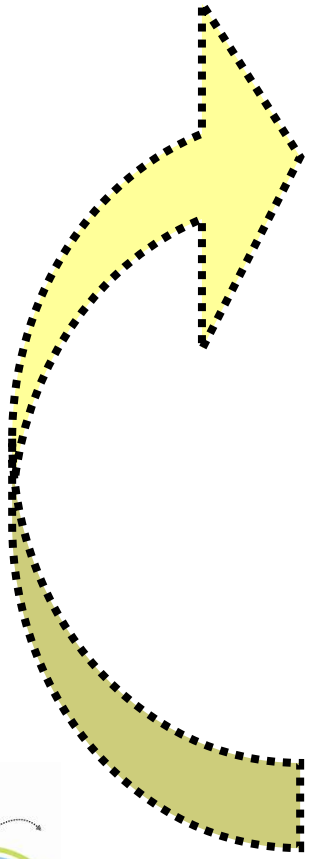
A Literacy Case-Middle School

- Monroe, Michigan—District focus is on discourse.
- 6th grade teacher I have not worked with before
- Literacy lesson—combining completing a read aloud class novel with a writing endings to stories crafted by students
- Lucy's preparation for the session
- People around the table: Krystal, the teacher, her colleague on the grade and their coach
- Viewing the session 50 people from the district including all principals, coaches and lead teachers K-12



Content Coaching Cycle

Observing teacher
before coaching

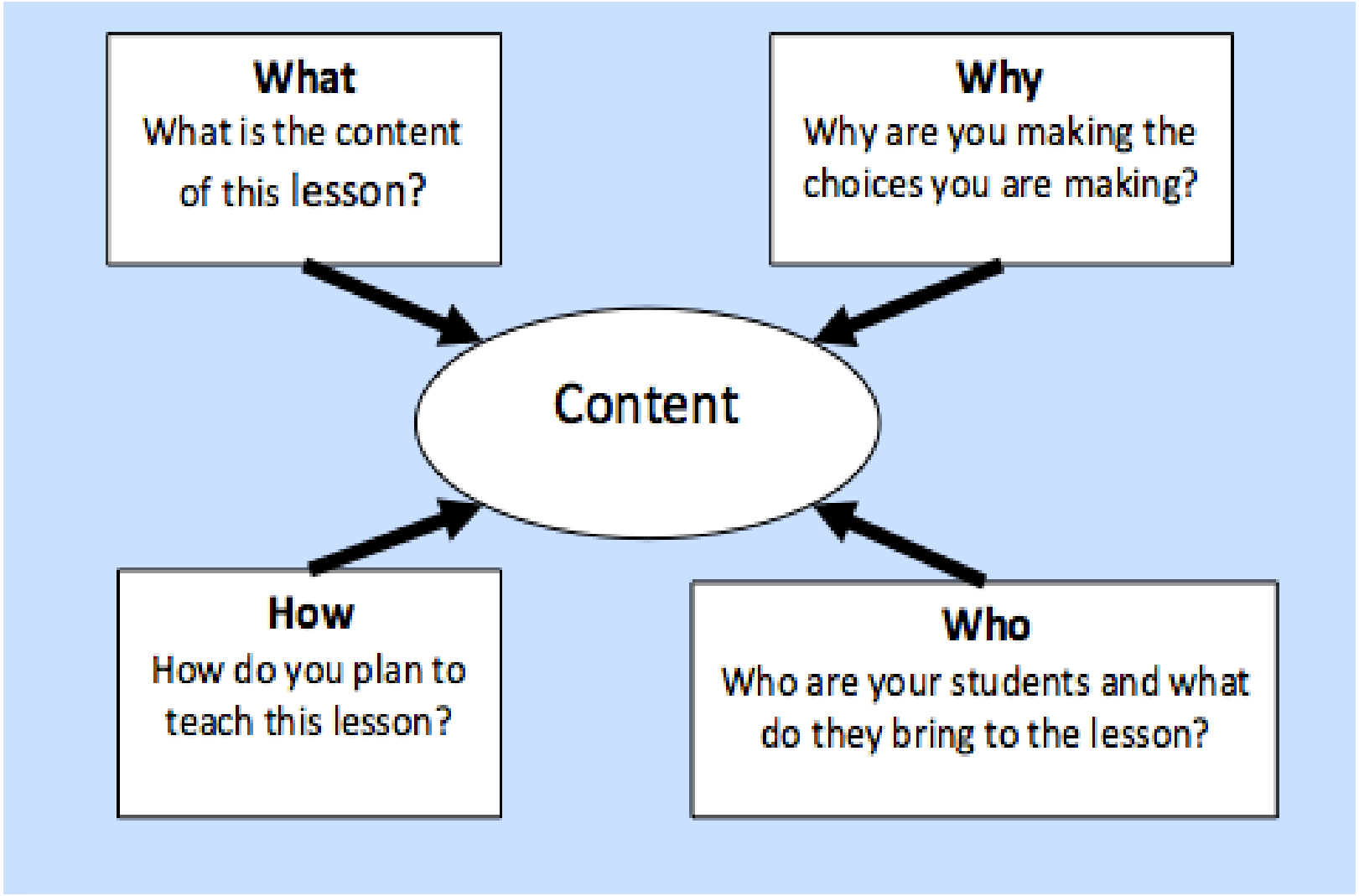


Pre-conference
(planning the lesson)

Teaching the Lesson
(teach, co-teach, or observe)

Post-conference

Lesson Design



What are the big ideas?

- Why do we read novels? (The role of story.)
- What cultural and human issues are addressed in the novel? (Racism, friendship, survival)
- What transformations occur in character? (Rite of passage—from child to young adult; from acceptances of bigotry as norm to respect for all)
- Genre—what distinguish novels from other genres and what types of novels are there (e.g. adventure, mystery)
- Endings—what characterizes good endings?

Why, Who and How

- Why this novel at this time with these kids?
- What connections can be made between this novel and the focus in social studies, science, and theme for the year in the district (grit).
- How to teach in a way that 'leaves residue'—focused on students generalizing from and applying the learning?
- Question everything: Why so long to read? What visuals? What questions? More specific—the better the lesson.

Last 7 Minutes of Preconference

- Rehearsing the plan
- Coaching moves are a fractal of teacher talk moves—balance between listening well, asking what teacher thinks, offering suggestions as suggestions, checking for understanding, encouraging and so forth.

What resonates?

- How does this approach to lesson design resonate with you?
- How does it apply to your subject area and at your grade level?

- PLEASE POST QUESTIONS/COMMENTS ON TODAY'S MEET

Lesson Clip 1-Co-teaching

- Focus on talk moves
  - Use of turn and talk
  - Facilitation of whole group
  - Role of students
- Evidence that students are used to talking in class
- Depth of conversation

Use Transcript and Talk Handout

- Scan transcript for talk moves and name them using handout.

Lesson Clip 2

- Examining endings
- Focus on talk
  - What moves?
  - Depth?
  - Teacher talk verses student talk

Overview

- How might we engage high school students who are chronically absent and/or have special needs and/or who have been unsuccessful in mathematics for years?
- How do we "fill in the gaps" in order for students to have access to the mathematics in the curriculum at their grade level?
- What is the role of the special education teacher in the high school mathematics inclusion class?

Aurora Central High School

According to 2008-2009 Data

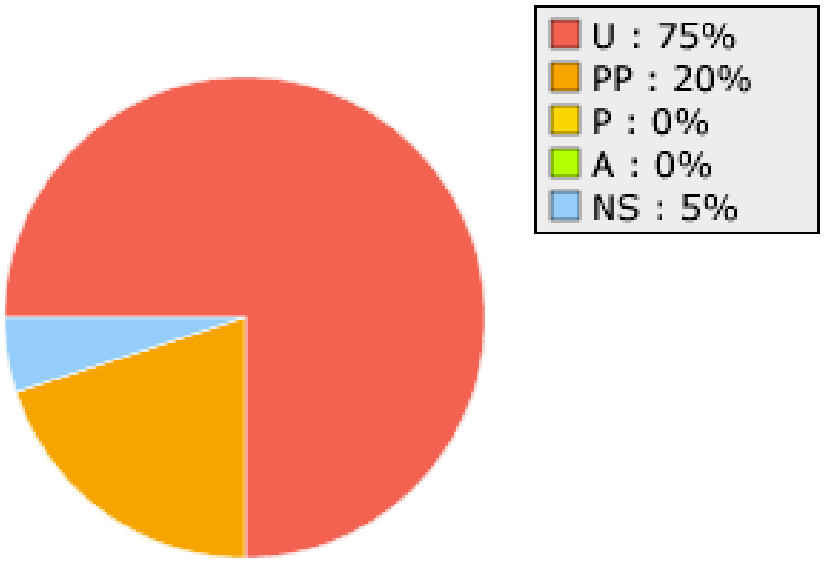
Free and Reduced Lunch	69%

Ethnicity	Our School
Hispanic	68%
Black, not Hispanic	18%
White, not Hispanic	11%
Asian/ Pacific Islander	2%
American Indian/ Alaskan Native	<1%

Our Class This Year—2010-2011

Special Education	English Language Acquisition	Truancy
57%	78%	52%

Math Summary



State Test Scores

75% Unsatisfactory

20% Partially Proficient

0% Proficient

0% Advanced

Video Clip--Lesson Overview

- Probability
  - Addition Rule: The students were having trouble with what it means to be mutually exclusive.

  - Example:
    - Mutually Exclusive:
      - P(roll sum of 7 or you get doubles)= $\frac{6}{36}+\frac{6}{36}$
    - Not Mutually Exclusive:
      - P(roll a sum of 8 or you get doubles)= $\frac{5}{36}+\frac{6}{36}-\frac{1}{36}$

The Video

- Lesson takes place in February 2011
- Unit on Probability
- One Week Into the Unit
- 26 Students Enrolled
- Two Teachers—Math Teacher, Special Ed.
- About mid-lesson—had done some simple probabilities using area models, now into the investigation
- This exchange is an organic response to student statement—not in plan

Video

- As you watch the video, listen for the things the teacher is saying and watch the things she is doing to ensure students are talking and listening to each other.
- Listen for evidence (use transcript) that students are listening to one another.

Analyzing the Talk Moves

- Read the transcript and underline the "moves" the teacher makes to ensure that kids are talking and listening to one another.

Naming the Moves

- Asks student to take a stand
- Gives him space, but promises to come back
- Restates expectations re: listening
- Insists speakers speaks loudly enough
- Revoices—infusing new language
- Feigns confustion
- Highlights a specific part for clarification
- Revoices/clarifies
- Gets students to rephrase/summarize

- Balentine Carlos, did you believe that this was mutually exclusive or that it is not mutually exclusive?
- Carlos I don't know, I was busy doing work.
- Balentine So you were on another problem. Ok, can somebody help out Carlos and then I'm going to come back to you.
- Guillermo I didn't say.
- Balentine You didn't say. Do I have a volunteer to help us out before I call on someone else?

- Brooke. Remember we're listening because I'm going to go back to Carlos and then I'm going to ask at least one more person to rephrase.
- Brooke Not mutually exclusive because….
- Guillermo Can you repeat that?
- Balentine Yes, because I'm going to need you to be way louder because I can barely hear you.

- It’s not mutually exclusive because she can own black shoes and white shoes.
- Balentine So it’s not mutually exclusive because she can own black shoes and white shoes.
- Balentine Susana, can you rephrase why this is not mutually exclusive one more time because I’m not understanding the difference between mutually exclusive and not

- Susana Because you can own them both black and white shoes.
- Balentine So what does mutually exclusive actually mean?
- Susana They could not happen.
- Balentine So it is not possible?
- Susana Yeah
- Balentine So you're saying that, this is possible?

- Brooke It is
- Balentine So it's not mutually exclusive.
- Balentine Gerardo, can you rephrase Brooke and Susana's thinking one more time before Carlos sums it all up for us?
- Gerardo That it's impossible
- Balentine This is impossible

- (Carlos) In your own words, why is this not mutually exclusive?
- Carlos Um not mutually exclusive…
- Balentine Just a second, I'm so sorry I couldn't hear him because somebody was talking.
- Balentine Carlos nice and loud, why is this not mutually exclusive?
- Carlos Not, because she can own both of the shoes at once.
- Balentine Excellent, does anybody have any questions on mutually exclusive.

Analyzing Video

- Scaffolds for the student's success and then returns to the student as promised
- Teacher is scripting students' ideas
- Writing important terms on the board as they come up
- Uses popsicle sticks with students names on them to determine who to call on when no one is volunteering
- Calls on students whether or not their hands are raised

Advice from Kristen: Start From Day One

- Use your first day of school lesson as an introduction to accountable talk.
- Have the students turn and talk to a partner and tell them to be prepared to share out their responses.
- Remind the students to use names when speaking to each other.

Planning Is Important

- Plan with others
  - Collaboration makes a huge difference
- Concentrate on big ideas—
  - Hone in on the focus
  - Identify student misconceptions; confusion
  - Scaffold for students

Daily Expectations

- During this turn and talk…

  …I should see you facing your assigned partner

  …I should hear math talk about the question asked

- While others are sharing out…

  …you are looking at the person speaking

  …you are listening

  …you are prepared to explain, rephrase, clarify, or add on

Give Them Time

- Think/Pair/Share (Turn and Talk)
- Pre-write
- Let them know ahead of time

Always Come Back

1. Tell the student that you will come back to them.
    1. Learn how to listen and learn from classmates
    2. Teacher stance is, “You can do this. I will help.”
    3. Clear/high expectations to participate.

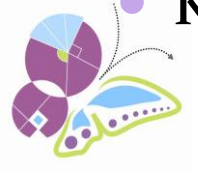
3. Have 1-3 students speak.
4. Go back to the student.
5. If they still don’t have a response—turn and talk—revoice—don’t give up—go back to student again

Listening is a Learned Skill

- This skill takes time to develop
- Patience with students a must
- This is not natural for anyone—students/adults
- Not an easy process
- Not always a valued part of our culture

This is making a difference in the classroom.

- Student to student questioning has improved within and beyond the whole class discussions.
- Students are not afraid to make mistakes.
- Students are no longer satisfied with just an answer.
  - Why do you think that? How do you know?
- Improved mathematical writing.
  - Different from copying off the board.
  - Teacher scripting and recording vocabulary in use gives ELL kids entry
- Kids are coming to class.



Truancy
Kids are Coming to Class

- Gerardo
  - 126 total absences only 4 for our class
- Yesenia
  - 70 total absences only 3 for our class
- Devante'
  - 66 total absences only 5 for our class
- Gabriel
  - 142 total absences only 12 for our class

This is making a difference at our school.

- Share your work with other teachers.
- Visit each other's classes.
- Get your coaches or department chairs involved in what you want to work on.
- Volunteer for initiatives; coaching support, etc.

Student Testimonials

"I know what to write about because the class said it five times."

-Guillermo

"I like to tell the class what I know."

- Brooke

"It helps me when other students say it before me."

- Gerardo

"It (accountable talk) makes me pay attention even when I don't want to."

- Susanna

Kaizen

- What is the smallest step you can take to begin to achieve your goal?
- If you take that step for 21-30 days, you will create a new habit and will be ready to take the next step.

Make Public Your Commitment

- As a team commit to one action you can take back at your school.
- Have a person from each table share your commitment with the whole group when we come back together as a community.