

**High Quality Questions,
Checks for
Understanding,
Accountable Talk &
Making Adjustments**



High Quality Questions & Problems

Green Sheet Element 4

SUMMARY

It has been reported that most jobs in the 21st century will require students to be able to think at the four highest levels of Bloom's Taxonomy: application, analysis, synthesis, and evaluation. For this reason, it is important that students are regularly provided opportunities to think and respond, verbally or in writing, at these higher levels. Scaffolds and visual models, such as Thinking Maps, may be used to ensure that all students are able to engage in multiple cognitive processes and higher levels of thinking. The use of appropriate wait time and cooperative structures are important strategies to be used in combination with high quality questions and problems, as they provide an additional scaffold to assist all students in demonstrating their learning. It is important to remember that high quality questions may be posed whether during priming, processing, or retaining for mastery. Furthermore, it is not enough that high quality questions and problems are developed or posted in the classroom, but the evidence of this element lies with the student's ability to successfully meet the challenge.

INSTRUCTIONAL LOOK-FORS:

Teachers pose high quality questions and problems designed to promote critical, independent and creative thinking.

Teacher Actions:

- ___ Teachers' questioning strategies and techniques promote higher order thinking
- ___ Teachers examine similarities and differences (17)
- ___ Teachers examine errors in reasoning (18)
- ___ Teachers utilize, model, scaffold and elicit higher order thinking.
- ___ Teachers pose questions to allow students to compare, contrast, and clarify.
- ___ Teachers ask students to explain and defend their inferences.
- ___ Teachers pose questions across Bloom's Levels and Webb's DOK.
- ___ Teacher questions allow for testing and generating hypotheses
- ___ Teachers ask explicit questions that require students to elaborate inferences that go beyond what was taught.

Student Actions:

- ___ Students demonstrating higher order thinking
- ___ Students responding
- ___ Students ask, answer, and clarify questions
- ___ Students explain and defend their inferences
- ___ Students test and generate hypotheses
- ___ Student responses go beyond what was taught
- ___ Students are actively problem solving

COMMON LANGUAGE (AKA):

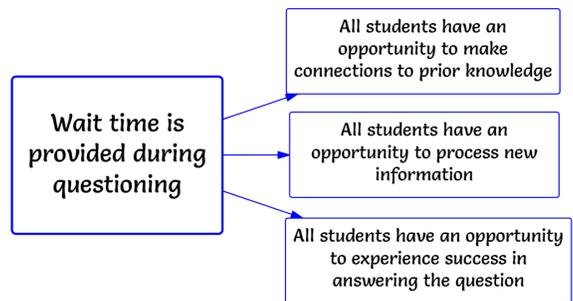
- ★ Rigor
- ★ Rigorous Tasks
- ★ Higher Order Thinking (HOT)
- ★ Critical Thinking
- ★ Wait Time
- ★ Formative Assessment
- ★ Bloom's Taxonomy
- ★ Webb's Depth of Knowledge

QUESTIONS TO CONSIDER:

- ★ What does the standard indicate that students need to be able to explain, justify, or demonstrate?
- ★ Have I ensured that students are provided an opportunity to process new information and respond at the conclusion of each chunk of my lesson?
- ★ How will I ensure all students have an opportunity to grapple with new learning and respond to questions posed?
- ★ How will I ensure that I use appropriate wait time?
- ★ How will I respond if students do not answer correctly? What will I do?
- ★ How can I arrange the wording of my questions/problems to elicit a deeper response?

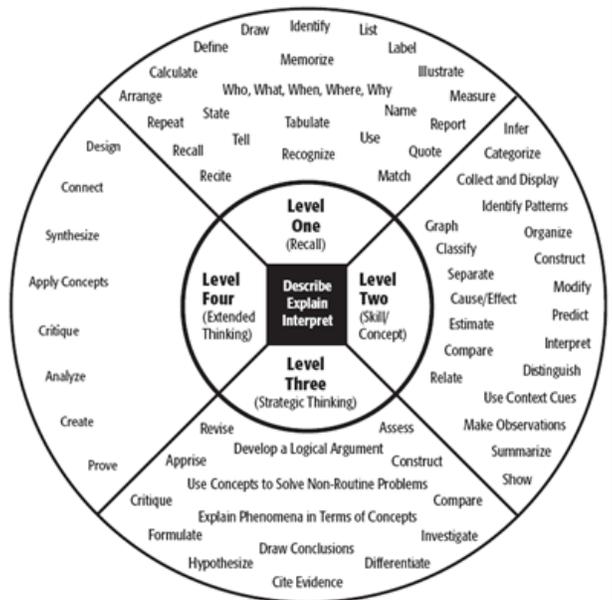
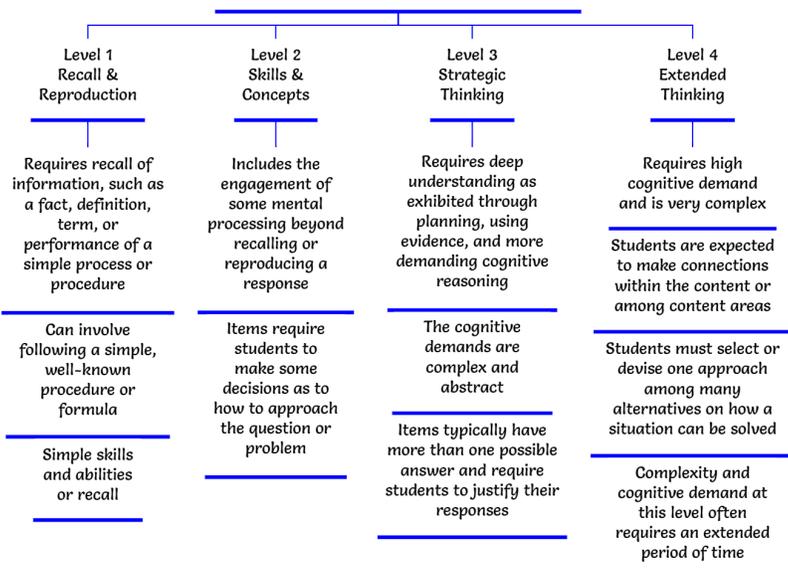
QUESTIONS TO USE TO FRAME STUDENTS' LEARNING:

- ★ What is still unknown?
- ★ What questions or wonderings do you now have?
- ★ What claim can you make? What is your evidence?
- ★ How are the ideas and information presented connected to what you already knew?
- ★ What new ideas did you get that extended or pushed your thinking in new directions?
- ★ What is still challenging or confusing for you to get your mind around?
- ★ What new ideas do you have about the topic, concept or object that you didn't have before?
- ★ What might the person described care about, know about, or believe?



Center for College & Career Readiness

Webb's DOK Levels



DOK Question Stems

<p>DOK 1</p> <ul style="list-style-type: none"> • Can you recall ____? • When did ____ happen? • Who was ____? • How can you recognize ____? • What is ____? • How can you find the meaning of ____? • Can you recall ____? • Can you select ____? • How would you write ____? • What might you include on a list about ____? • Who discovered ____? • What is the formula for ____? • Can you identify ____? • How would you describe ____? 	<p>DOK 2</p> <ul style="list-style-type: none"> • Can you explain how ____ affected ____? • How would you apply what you learned to develop ____? • How would you compare ____? • Contrast ____? • How would you classify ____? • How are ____ alike? Different? • How would you classify the type of ____? • What can you say about ____? • How would you summarize ____? • How would you summarize ____? • What steps are needed to edit ____? • When would you use an outline to ____? • How would you estimate ____? • How could you organize ____? • What would you use to classify ____? • What do you notice about ____?
<p>DOK 3</p> <ul style="list-style-type: none"> • How is ____ related to ____? • What conclusions can you draw ____? • How would you adapt ____ to create a different ____? • How would you test ____? • Can you predict the outcome if ____? • What is the best answer? Why? • What conclusion can be drawn from these three texts? • What is your interpretation of this text? Support your rationale. • How would you describe the sequence of ____? • What facts would you select to support ____? • Can you elaborate on the reason ____? • What would happen if ____? • Can you formulate a theory for ____? • How would you test ____? • Can you elaborate on the reason ____? 	<p>DOK 4</p> <ul style="list-style-type: none"> • Write a thesis, drawing conclusions from multiple sources. • Design and conduct an experiment. Gather information to develop alternative explanations for the results of an experiment. • Write a research paper on a topic. • Apply information from one text to another text to develop a persuasive argument. • What information can you gather to support your idea about ____? • DOK 4 would most likely be the writing of a research paper or applying information from one text to another text to develop a persuasive argument. • DOK 4 requires time for extended thinking.

From Depth of Knowledge – Descriptors, Examples and Question Stems for Increasing Depth of Knowledge in the Classroom Developed by Dr. Norman Webb and Flip Chart developed by Myra Collins

Checks for Understanding

Green Sheet Element 5

SUMMARY:

Providing regular checks for understanding is an essential practice for delivering effective standards-based instruction. The development of clear expectations and student learning outcomes are crucial to the success of this practice. This is how a teacher tracks student progress over the course of a lesson, or even a unit. It is difficult to distinguish between what students already know and what they are getting out of a lesson. For this reason, it is important that the teacher provides multiple opportunities for students to reflect on their learning at strategic points of a lesson. Formatively assessing whether students have mastered the previous chunk of learning may impact the pacing of the lesson and result in necessary instructional adjustments. Students are not always self-regulated learners and most will sit quietly when simply asked if they are understanding, so it is important to use a variety of methods in checking for understanding. Various methods for checking for student understanding may include the use of scales, questioning, writing, projects, performance items, and quizzes.

INSTRUCTIONAL LOOK-FORS:

Teachers check for understanding throughout the lesson using informal deliberate methods (such as questioning or assigning short task).

Teacher Actions:

- ___ Teachers scaffold questions
- ___ Teachers utilize appropriate pacing and wait time
- ___ Teachers clarify misconceptions
- ___ Teachers deliberately check for understanding
- ___ Teachers probe for correct responses
- ___ Teachers utilize scales
- ___ Teachers track student progress(2)
- ___ Teachers provide opportunities for students to reflect on learning (13)
- ___ Teachers manage response rates (26)

Student Actions:

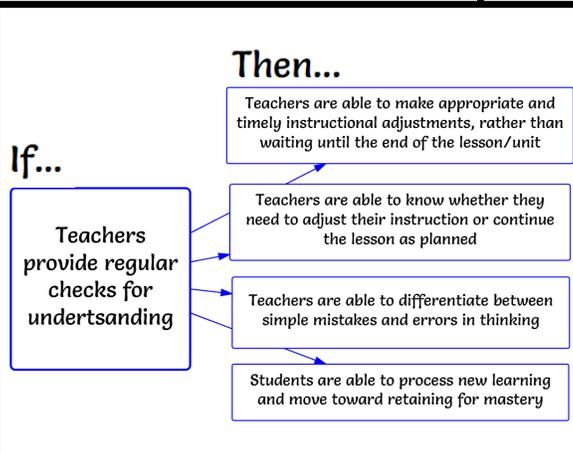
- ___ Students' responses demonstrate understanding
- ___ Students utilize Thinking Maps/ Graphic Organizers
- ___ Students utilize student response systems, white boards, iPads, etc...to demonstrate understanding
- ___ Students utilize scales and rubric to reflect on learning and/or mastery of the learning goal
- ___ Students explain main points of lesson

COMMON LANGUAGE (AKA):

- ★ Error Analysis
- ★ Formative Assessment
- ★ Misconceptions
- ★ Probing
- ★ Response Rates
- ★ Response Systems
- ★ Scales

QUESTIONS TO CONSIDER:

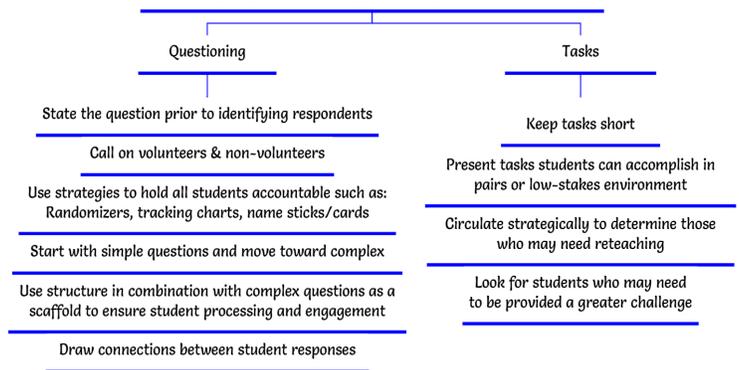
- ★ Are students understanding this chunk of learning? Are they ready to move on?
- ★ What misconceptions may students have at this time?
- ★ At what points during the lesson should I plan to probe for understanding?
- ★ How will I vary the checks for understanding throughout today's lesson?
- ★ What methods will I use to ensure that students are able to process new learning?
- ★ What structures will I use to support student learning?
- ★ How will I use Thinking Maps as a scaffold to support student dialogue and reflection?



Expeditionary Learning

L. Newman & S. Flaherty

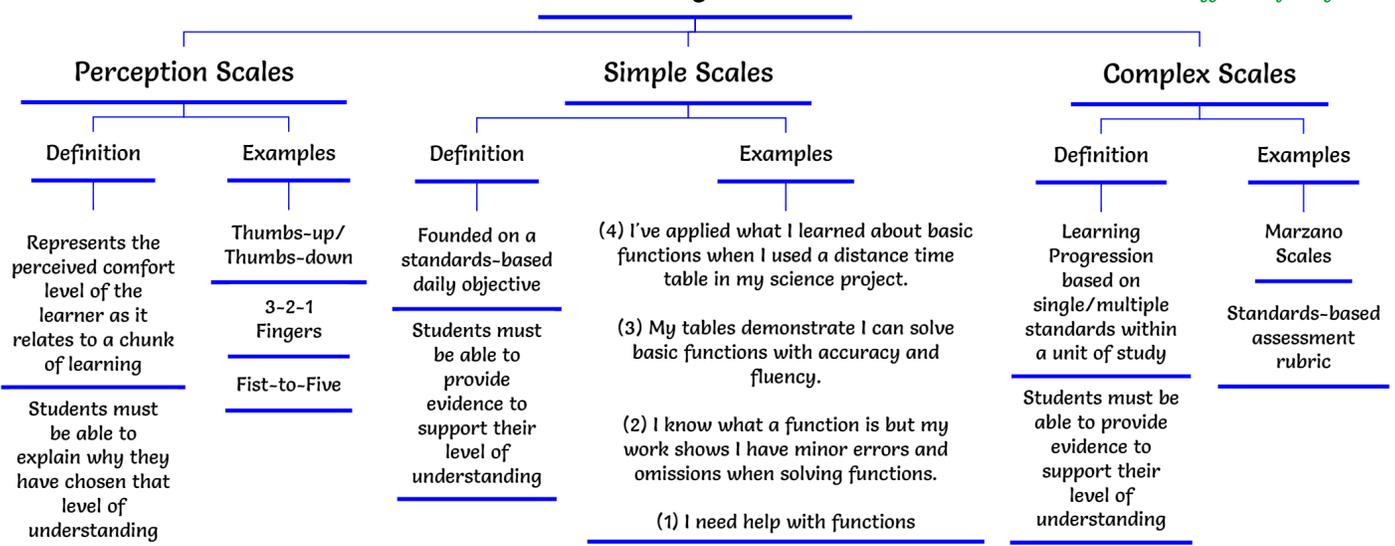
Techniques for Providing Checks for Understanding



Marzano Research

Understanding by Design, Grant Wiggins & Jay McTighe

Learning Scales



Accountable Talk

Green Sheet Element 6

SUMMARY:

The concept of Accountable Talk calls for all students to be engaged and ready to hold dialogue which is accountable to one of three areas: Content, Community, or Rigor. It involves the use of structures to organize student conversations and empower them to have better discussions. Accountable talk allows students to practice using words and phrases that are more advanced than typical kid-language and requires all students to be engaged. Using accountable talk structures in conjunction with higher order thinking questions and rigorous tasks helps the teacher ensure that all students have an opportunity to engage in student discourse with a focus on the content at hand.

INSTRUCTIONAL LOOK-FORS:

Teachers orchestrate conversations & plan tasks that incorporate accountable talk to show, tell, explain & prove reasoning.

TEACHER ACTIONS:

- ___ Teacher actively engages students through a variety of learning strategies:
Visual/Auditory/Kinesthetic
- ___ Teachers provide engaging activity to peak interest
- ___ Teachers allow for questions
- ___ Teachers exhibit a lively pace, intensity, and enthusiasm
- ___ Teacher's instruction is relevant and intriguing
- ___ Teacher strategically embeds cooperative structures
- ___ Teachers ask HOQs to promote accountable talk
- ___ Teacher provides opportunities and organizes students to practice and deepen knowledge

STUDENT ACTIONS:

- ___ Students engaging in cooperative structure during guided practice
- ___ Students interacting and participating in the learning process
- ___ Students engaging in hands-on activities
- ___ Students engaging in accountable talk
- ___ Students using think aloud strategies
- ___ Students explaining "why" and justify reasoning
- ___ Students can explain the hypothesis they are testing

COMMON LANGUAGE (AKA):

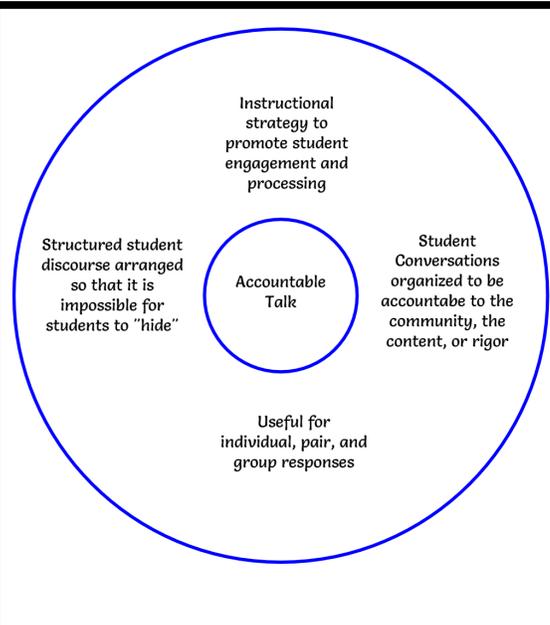
- ★ Academically Productive Talk
- ★ Academic Conversations
- ★ Respectful Talk
- ★ Cooperative Structures
- ★ Student Discourse

CONTENT CONNECTIONS:

- ★ MAFS.K12.MP.3.1 (DOK 3): Construct viable arguments and critique the reasoning of others.
- ★ LAFS.K12.SL.1.1 (DOK 2): Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

QUESTIONS TO CONSIDER WHEN PLANNING FOR ACCOUNTABLE TALK:

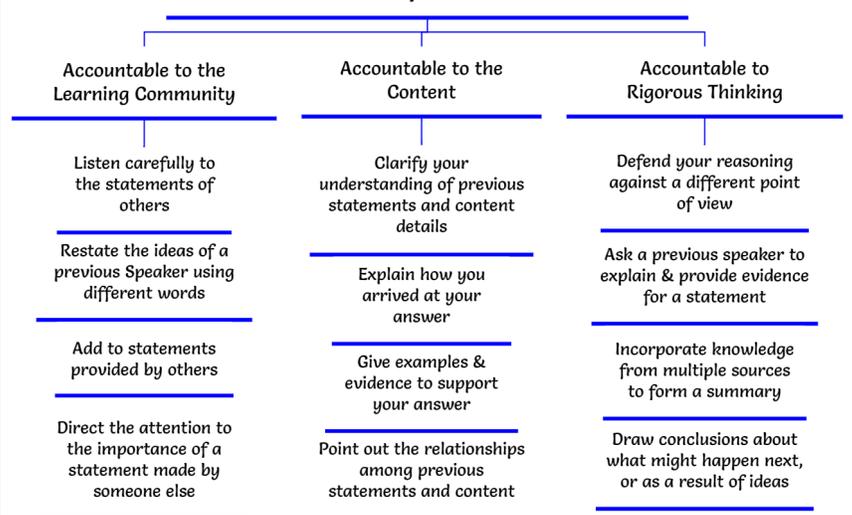
- ★ What are the key concepts I want my students to learn in this lesson?
- ★ What are the big ideas I want them to grapple with?
- ★ How do these ideas relate to what we've just done?
- ★ What instructional task will support the accomplishment of the purpose?
- ★ Will this question or problem work best as a whole group discussion, as small group work, or as partner work?
- ★ Should I set this topic up with a whole group discussion and then stop at a certain point and have the students turn and talk with partners? If so, precisely when should I tell them to do partner talk? What question should I have them think about with their partner? What classroom management issues do I consider?
- ★ How will I keep the group or partner talk meaningful and relevant?
- ★ What response stems are appropriate for the context and content of the lesson?
- ★ What expected student responses should I be prepared for and how will I address them?
- ★ What structures can I put in place so all are engaged and no one can hide?



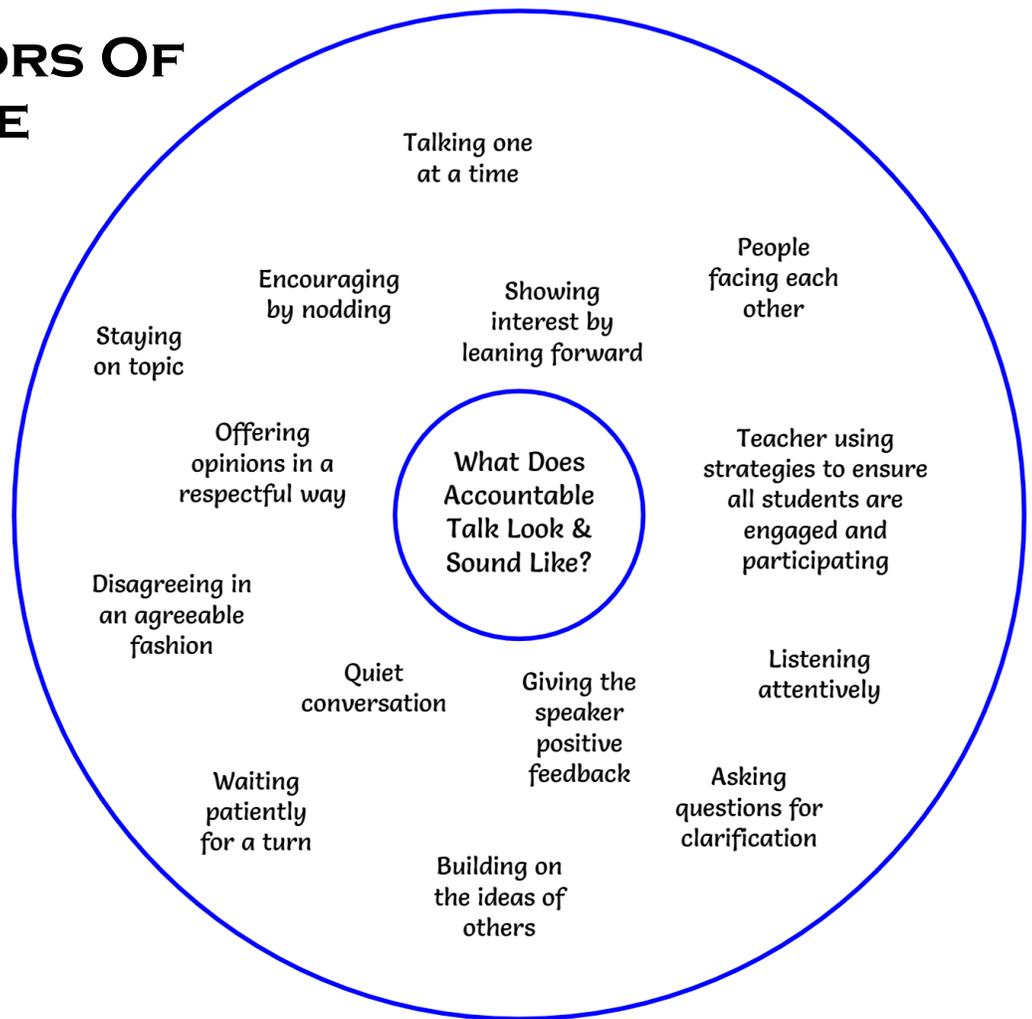
Lynn Resnick,
University of Pittsburgh

Pam Goldman
Institute for Learning,
University of Pittsburgh

Student Actions for Accountable Talk



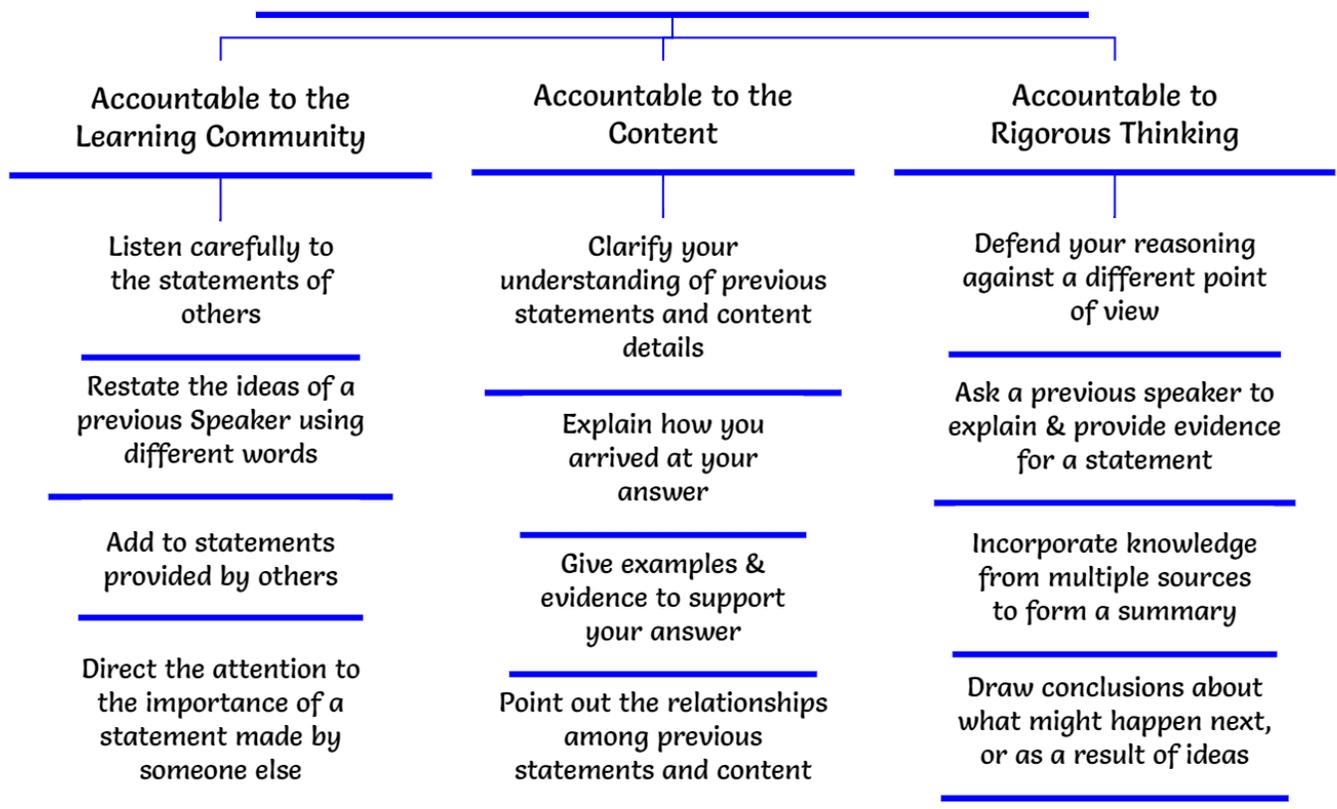
KEY INDICATORS OF ACCOUNTABLE TALK



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Student Actions for Accountable Talk



Accountable Talk Sentence Starters

Making a Comment

That is a good idea because ___

That is confusing because ___

I like ___'s idea because ___

I disagree with ___ because ___

I agree with you up to a point, but I think that ___

Making a Prediction

I think that ___ will happen because ___

I don't think that ___ will happen because ___

I wonder if ___

Since this happened, then what if ___

Clarifying Something

Now I understand ___ because ___

No, I think it means ___

I agree with ___ because ___

At first I thought ___, but now I think ___ because ___

What I hear you saying is

I don't understand ___, but I do understand ___ because

The part about ___ did not make sense so I reread and now I know ___

The part about ___ confused me so I ___ to figure it out

Asking a Question

What did you mean when you said ___?

Do you think that ___?

What is happening?

Why is that happening?

Why do you think that way?

What led you to that conclusion?

How is it possible that ___?

Making Connections

This reminds me of ___

This is like ___ when ___

This is like ___, but different because ___

The argument here is similar to ___

Another example of ___ is ___

I can relate this to something else because ___

Five Instructional Practices for Improving the Quality of Discourse in Mathematics Classrooms

Use Strategies to Engage Students in Discourse

Revoice to clarify
student responses

Ask students to restate a
response by another student

Ask students to apply their
own thinking to others' ideas
by indicating whether they
agree or disagree and why

Prompt other students to
add onto the responses of
other students

Use wait time to provide
processing time as well as
the expectation that
someone will answer

Pose Higher Order Thinking Questions

Student collaboration
to make sense of the
mathematics

Help students rely on
themselves to determine
mathematical correctness

Help students to
reason
mathematically

Help students to learn
to conjecture, invent,
and solve problems

Help students connect
mathematics, its ideas,
and applications

Propel Discussion through the use of Student Thinking

Be an active
listener

Make decisions that
will facilitate further
discussion

Respond neutrally
to errors

Provide opportunities for
students to figure out
misconceptions through
the discourse

Be strategic about
who shares during
the discussion

Be purposeful about
the ideas, strategies,
and representations
you choose to highlight

Create a Supportive Environment

Arrange students to
face each other

Consider the purposeful
placement and use of
visual aides

Utilize visuals which
include desired academic
language to be used in
discussion

Utilize sentence frames
to support struggling
students

Ensure classroom
environment is safe

Ensure focus is on
working together to solve
problems, as opposed to
getting the right answer

Facilitate Student Discourse

Hold students
accountable, ensuring
no one is able to "hide"

Provide explicit
instruction on
engagement structures

Explicitly teach what
students should be saying
during engagement
structure

Explicitly teach what
students should be listening
for during engagement
structure

Ensure environment
is safe

Encourage all students
to be aware of
themselves as learners

Encourage students to
compliment others, as
well as provide gentle
correction

How to Get Students Talking!
Generating Math Talk that Supports Math Learning
by Lisa Ann de Garcia

Sample Anchor Charts to Support Accountable Talk

Accountable Talk in Mathematics

- + My strategy was...
- * This solution shows...
- ÷ My strategy is similar...
- My strategy is different...
- + Can you walk me through your thinking?
- * I don't understand how...
- ÷ Another way to look at this could be...
- I'm noticing...
- + I agree with _____ because...
- * This makes me think...
- ÷ Your formula helps...
- Your solution is clear because...

Accountable Talk

<p><u>Agreement:</u></p> <ul style="list-style-type: none"> • I agree with _____ because... • I like what _____ said because... 	<p><u>Disagreement:</u></p> <ul style="list-style-type: none"> • I disagree with _____ because... • I'm not sure I agree with what _____ said because...
<p><u>Clarification:</u></p> <ul style="list-style-type: none"> • Repeat that please. • Explain that more. • What is your evidence? 	<p><u>Confirmation:</u></p> <ul style="list-style-type: none"> • I believe... • I think... • I found further evidence of what you said...
<p><u>Confusion:</u></p> <ul style="list-style-type: none"> • I don't understand _____ • I'm confused about _____ • I am not clear on _____ 	<p><u>Extension:</u></p> <ul style="list-style-type: none"> • I was thinking about what _____ said and I was wondering if... • This makes me think _____

Conversational Moves

- * Great ways to start your thoughts
- * We value what you have to say!
- "I agree/disagree with _____ because..."
- "I think the author is trying to..."
- "I infer that _____ because..."
- "I noticed that..."
- "I can connect/relate to that because..."
- "I'd like to go back to what _____ said about..."
- "I wonder..."
- "Do you think that..."
- "The lesson we can learn is..."
- "I was confused when..."
- "I predict that..."
- "The main idea might be..."

How to add on, politely disagree, or ask for more information about classmate discussion points during Literature Study:

- Building on what _____ said...
- I agree with _____ because...
- I disagree with _____ because...
- What made you think that?
- Talk more about your thinking.
- I see why you might say that, but _____
- I'm thinking from another point of view that...
- I agree, but look at page _____ where...
- Where in the book did the author show us that?
- That helps me understand this in a different way because...

Making Adjustments

Green Sheet Element 7

SUMMARY:

Making adjustments to instruction based on student involvement is a fluid process that moves back and forth across learning stages and various learning models. Experienced teachers are able to make both minor and major adjustments to a lesson during instruction, if necessary. Such adjustments depend on a teacher's store of alternate instructional strategies and the confidence to make a shift when needed.

Two Learning Models

The **Gradual Release of Responsibility Model** or **Gradual Release Model** is a particular style of teaching which is a structured method of pedagogy framed around a process transferring responsibility within the learning process from the teacher to the eventual independence of the learner. **The Three Principles of Learning** are specific learning stages within a lesson that support the learning by building from prior knowledge, processing and connecting new learning, and providing opportunities to deepen and extend learning. Checks for understanding within each model determine what adjustments need to be made to attend to the needs of students.

INSTRUCTIONAL LOOK-FORS:

Teachers make adjustments to instruction based on student involvement throughout the lesson.

Teacher Actions:

- ___ Teachers demonstrate "withitness" (33)
- ___ Teachers make adjustments noticing when students are not engaged (24)
- ___ Teachers clarify misconceptions and probe for correct response
- ___ Teacher reviews content (14)
- ___ Teachers provide opportunities to revise knowledge (20)
- ___ Teachers make adjustments to gradual release
- ___ Teachers group students based on checks for understanding
- ___ Teachers stop at strategic points to check for understanding and review as needed before moving on with content
- ___ Teachers attend to needs of students (47-49)

Student Actions:

- ___ Students visually adjusting their level of engagement
- ___ Students utilizing teacher/peer feedback to make adjustments
- ___ Students clarifying misconceptions
- ___ Students editing and revising student work
- ___ Students reflecting and revising note-taking and journals

QUESTIONS TO CONSIDER WHEN PLANNING:

- ★ Have I established a clear purpose for the lesson, including why this is important for students to learn?
- ★ How will I model this skill/strategy for my students?
- ★ How will I use a think aloud to make my thinking visible to my students? (metacognition)
- ★ How will I release responsibility to students during the lesson?
- ★ How will I scaffold my instruction to meet the needs of all learners?
- ★ What types of cues, questions, and/or prompts will I need to be ready to use to support the learners?
- ★ How will I assess student understanding?
- ★ What authentic tasks do I want students to do to practice the new strategy or skill?
- ★ What data will I use to group students?
- ★ How will I build in individual accountability for all students?
- ★ How will I structure the tasks to ensure that there is purposeful student talk?
- ★ What will I do – confer, listen in, observe, meet with small groups?

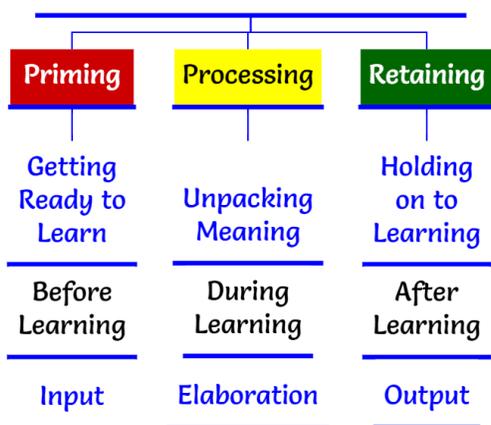
GRADUAL RELEASE STRATEGIES:

- ★ Common Board Configuration
- ★ 5 Minute Rule
- ★ Thinking Maps
- ★ Frame of Reference
- ★ Turn and Talk
- ★ Interactive Notebooks
- ★ Processing Time
- ★ Reflections
- ★ Paraphrasing
- ★ K-W-L
- ★ Quick Write
- ★ Journal Reflection
- ★ Read-Talk-Write
- ★ Exit Ticket

GRADUAL RELEASE STRATEGIES:

- ★ Gradual Release
- ★ I Do-We Do-You Do
- ★ I Do-We Do-You Do It Together-You Do It Alone
- ★ Scaffolding
- ★ Three Principles of Learning
- ★ Before-During-After
- ★ Input-Elaboration-Output
- ★ Priming-Processing-Retaining

3 Principles of Learning



MENTORING RESPONSIBILITIES

	Teacher	Student
I do it <i>Direct Instruction</i>	<ul style="list-style-type: none"> ▪ Provides direct instruction ▪ Establishes goals and purpose ▪ Models ▪ Think aloud 	<ul style="list-style-type: none"> ▪ Actively listens ▪ Takes notes ▪ Asks for clarification
We do it <i>Guided Instruction</i>	<ul style="list-style-type: none"> ▪ Interactive instruction ▪ Works with students ▪ Checks, prompts, clues ▪ Provides additional modeling ▪ Meets with needs-based groups 	<ul style="list-style-type: none"> ▪ Asks and responds to questions ▪ Works with teacher and classmates ▪ Completes process alongside others
You do it independently <i>Independent Practice</i>	<ul style="list-style-type: none"> ▪ Provides feedback ▪ Evaluates ▪ Determines level of understanding 	<ul style="list-style-type: none"> ▪ Works alone ▪ Relies on notes, activities, classroom learning to complete assignment ▪ Takes full responsibility for outcome
You do it together <i>Collaborative Learning</i>	<ul style="list-style-type: none"> ▪ Moves among groups ▪ Clarifies confusion ▪ Provides support 	<ul style="list-style-type: none"> ▪ Works with classmates, shares outcome ▪ Collaborates on authentic task ▪ Consolidates learning ▪ Completes process in small group ▪ Looks to peers for clarification