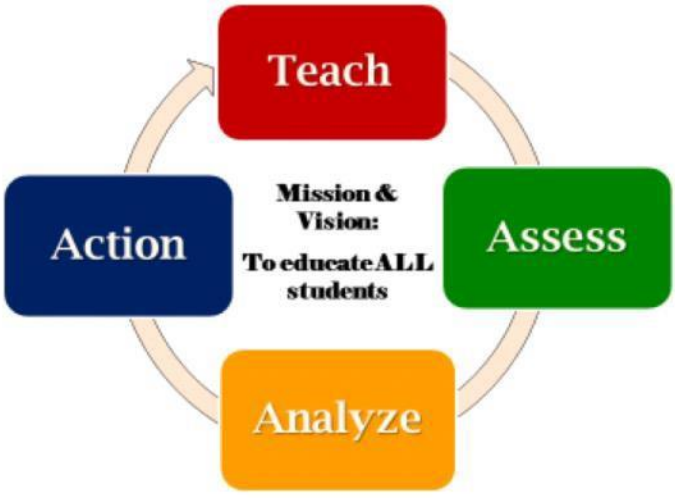
Key Question #3 Section

Assessing Learning

Saturday, January 2, 2016 9:27 AM

You will find additional resources and today's full PowerPoint on the "For Leaders" page of TNCore by clicking here. You may keep running notes by clicking anywhere to the right of the slides and beginning to type.

The Cycle of Assessment



Observing the Cycle of Assessment

Teach: Does the instruction and the tasks align to the identified learning target(s)?

Assess: How is student learning being measured or determined for the identified learning target(s)?

Analyze: How is the information from assessments being analyzed?

Action: What actions or changes are taking place based on the findings of that analysis?

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Teach

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Key Questions for Leaders

Teach: Does the instruction and the tasks align to the identified learning target(s)?

- **Focus**: aligning the lesson to depth of standard
- **Rigor**: developing conceptual understanding with fluency and skill and ensuring mastery through application
- **Coherence**: connecting today's lesson with the lesson before and the future lesson as well as across all content

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Assessing Classroom Activities

Task predicts performance. What determines what students know and are able to do is not what the curriculum says they are supposed to do, nor even what the teacher thinks he or she is asking students to do. What predicts performance is what students are actually doing.

~Richard F. Elmore (2008)

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TN Math Standard 9 A-CED A.2 and A-REI.D.10

Creating Equations*	**A-CED**
Create equations that describe numbers or relationships	
A-CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales
Reasoning with Equations and Inequalities	**A-REI**
Represent and solve equations and inequalities graphically	
A-REI.D.10	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

TN Math Standard 9 A-CED A.2 and A-REI.D.10

Emphasis: Create equations that describe and represent relationships between two or more variables; Graph equations in two variables (using appropriate labels and scales) and understand the graph is the representation of all solutions of the equation.

Expectation of Mastery: A-CED.A.2 is a modeling standard (indicated by the *). Converting a verbal description into an equation or graph is an essential skill of modeling that needs to be demonstrated for mastery. Using reasoning with graphical representations to determine the solutions of an equation is an essential skin (A-REI.D.10).

At Grade Level Learning Targets:

Create equations in two or more variables to represent relationships between quantities (students must know what the quantities represent).

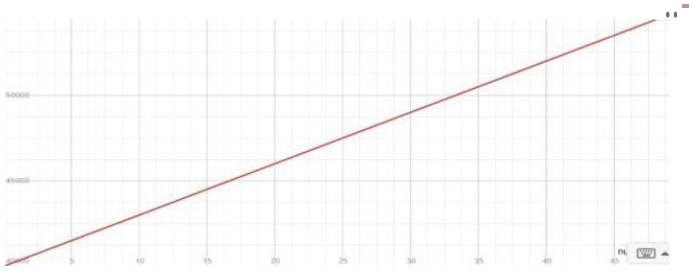
Graph equations on coordinate axes with labels and scales (students determine labels and scales).

Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line) (students should understand they can view a graph to find solutions of an equation and be able to explain why a point on the graph is a solution).

Beyond The Standards: The student demonstrates in-depth inferences and applications that go beyond what was taught.

TN Math Standard 9 A-CED A.2 and A-REI.D.10

A machine salesperson earns a base salary of $40,000 plus a commission of $300 for every machine he sells. The equation Y = 300 + 40,000 shows the total amount of income the sales person earns, if he sells x machines a year. The graph of the equation is shown below:



What will his income be if he sells 25 machines in one year?

How many machines will he sell if his income is $44,800?

TN Math Standard 9 A-CED A.2 and A-REI.D.10

What's the Point? Task

Mr. Williams asks his Algebra 1 class to find the solutions to an equation in two variables with domain the set of real numbers.

Colton correctly creates the table below using values from the domain of the equation. He then uses his table to create a graph. Collen's Table

x	y
0	-4
2	-1.5
-2	-6.5
5	2.25
-8	-14
10	8.5

Determine the equation Colton used to create the table. Use mathematical reasoning to justify that the equation is correct.

Destiny sees Colton's work and argues that any table that can be made would contain some but not all of the solutions to Mr. Williams' equation. Do you agree or disagree with Destiny? Explain why or why not.

Planning Rubric for Educators

Level 5 --Instructional plans include:

• measurable and explicit goals aligned to state content standards;

• activities, materials,and assessments that: are aligned to state standards, are sequenced from basic to complex, build on prior student knowledge, are relevant to students' lives, and integrate other disciplines, provide appropriate time for student work, student reflection,and lesson unit and closure;

• evidence that plan is appropriate for the age, knowledge, and interests of all learners; and

• evidence that the plan provides regular opportunities to accommodate individualstudent needs

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General Educator Rubric: Planning

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Instructional Plans D	Instructional pt.ansllclude: measurable andexplicit goals aligned to state content standards; activities, materials, and assessments that· o are aligned to state standards. o .ire ≤ uenced from sic to complex. o bu., on pnor student knowledge ,are relevant to students' hves, and iitegrate other d1sopim1?S. o provide appropnate tine for student w0tk, student reflection, and lesson unit and closure; evidence that plani appropnate for the age, knowledge, and lteresu of all earners;and evidence that the plan provides regular opportunities to accommodate individual student needs.	Inslructlonal plans include: goals .1ligned to state content standards; activities, materi.1ts .and assessments that: o are aligned to state stando1rds. o olre 5equenced from bo1sic to comple,x. o build on prior student knowledge . o proVlde appropriate tnne for student work,and lesson and unit closure; evidence that plan isappropriate for the age, knowledge, and interests of most learners;and evidence that the plan provides some opportunities to accomm()(qte individual student needs.	Instructional plans include: few goals aliened to state content standards; actiY1ties, materials, .and assessments that:. o are raretv altgned to state standards. o are raretv k>giatty sequenced. o rolrely build on prior student knowledge . o inconsistently provide time for student work ,and lesson and unit dosure; little evrdencethat the plan provides some opportunitie, to accommodate individua l student needs.
Student Work D	Assi1nments require students to: organize, interpret, M\atyze, synthesize, ind evaluate Informa tion rather than reproduce It; draw conclusions .make generalizations.and produce argumen ts that are supported through extended wnting; and connect what they are learning to eKperiences, observations, feelinas, or situation, stlmfkant in their dailv lives both inside and outside of schoot	ASStgnments require studentsto: interpret information rather than reproduce it; draw conclusk,ns and support them through writing.: and connect what they are arning to prior learning and somelife e>:penences.	Assignments require students to: mostly reproduce information; rarely draw conclusions and support them through writing; and rarely connect what they are learning to prior leaming or hfe eKper,ences.
Assessment D	Assessment Plans: are aligned wath state content standard.s; have <:ar me.nurement criteria; mea.sure student pef'formance in more than three waVJ (e.a., in the form of a project, experiment, presentation, essay, short answer, or multiple chotte test); .■¬u lre extended written tasks; areportfoUo-based with dear Illustrations of student progress toward state content standards; and include descriptions of how assessment result5 will be used to inform future instruction .	Asseument Plans: are aligned with statecontent standards; have measurement criteria; measure student performance ,n more than two waVJ (e.1, in the form of a project ,experiment, presentatK>n, essay ,short answer, or multip choke test); require written tasks;and Include performance checks throughout the school year.	Assessment Plans: areraretv aligned with statecontent standards; have ambiguous measurement critena; measure student pef'formance in less than two ways (e.g., in the form of a project, experiment, presentation, essiy, short answer, or multiple choke test); and include performance checks,althOtJgh the purpose of these che-cks Is not dear.

Assess

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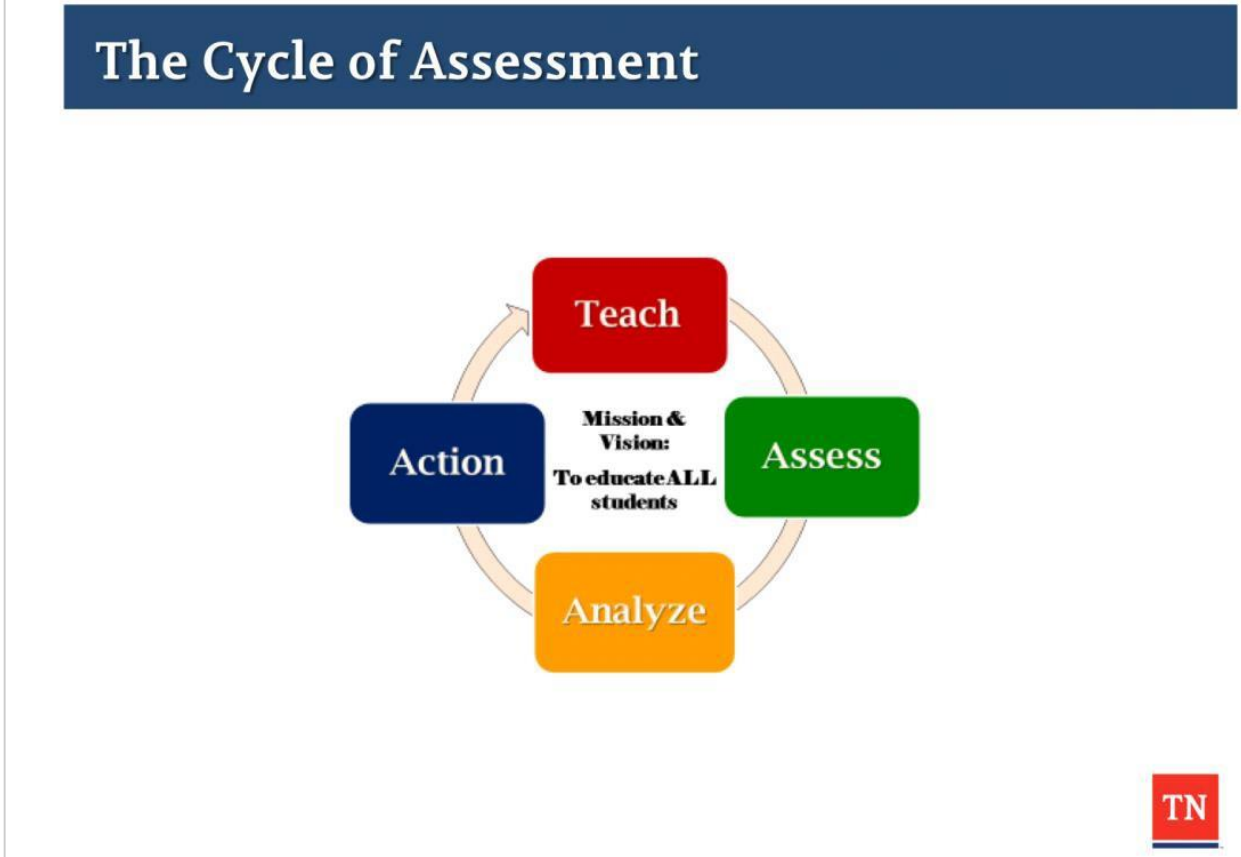

Characteristics of Formative Assessment	Characteristics of Summative Assessment

Formative Assessment (*for* learning)

"Formal and informal processes teachers and students use to gather evidence for the purpose of improving learning."

Difference - ***PURPOSE***

Summative Assessment (*of* learning)

"Assessments that provide evidence of student achievement for the purpose of making a judgment about student competence or program effectiveness."[1]

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What do we want assessments to tell us?

School and District Level

- *Where are we going?*
  What are the grade-level expectations for mastery?
- *Where are we now?*
  In what areas were students successful and in what areas could they improve?
- *How do we close the gap?*
  What supports are needed to improve assessment practices?

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What do we want assessments to tell us?

Classroom Level

- ***Where are we going?***
  How do I ensure alignment of my assessment and the standards?
- ***Where are we now?***
  How well are my students mastering content standards and where are they falling short?
- ***How do I close the gap?***
  How can I use student assessment to better design my instruction?

What do we want assessments to tell us?

Student Level

- ***Where are we going?***
  What are the expectations for mastery?
- ***Where are we now?***
  How well did I understand the content?
- ***How do we close the gap?***
  In which areas did I show mastery and which areas do I need to improve?

	Reflection on Assessments	
Where are we now at our school?	**Where are we going?**	**As a leader, how can I close the gap?**

Using the Data

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Application

As we hold students responsible for high academic standards, we must develop assessment methods that accurately measure, interpret, and communicate what students know and the depth to which they know it.

To see how this works, let's compare two classrooms.

(Scenario 1 & 2)

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Scenario 1

Scenario 1: Mr. Jamison's Sixth-Grade Math Class

Mr. Jamison teaches sixth-grade mathematics at Littlepoint Middle School. In teaching a unit on measurement, he used direct instruction, followed by an assignment out of the math book. Each day, as students entered the classroom, he asked them to take out their math assignments and exchange papers, and then they orally graded the papers. Mr. Jamison would then ask students to let him know which problem was the most difficult, and they would work it out on the board and discuss it. At the end of the measurement unit, Mr. Jamison gave a final assessment to determine how well his students understood the important concepts from the unit.

Questions to consider:
- Where are we going?
- Where are we now?
- How do we close the gap?

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Scenario 2

Scenario 2: Ms. Gonzales' Eighth-Grade Math Class

Ms. Gonzales, who teaches eighth-grade math at Rockview Middle School, took a very different approach. She divided her unit on measurement into four natural segments: 1) geometric properties and attributes, 2) the transformation of shapes, 3) spatial relationships using coordinate geometry, and 4) units and techniques of measurement. In addition to receiving daily direct instruction, students used math journals to record their understanding at the end of each day. After reading the journal entries and looking at student work, Ms. Gonzales worked with small groups of students who had similar skill levels. At the end of each of the measurement segments, she gave the students a small project to complete to demonstrate their understanding of the segment's goals. When all four of the measurement segments were fully explored and Ms. Gonzales felt most students were confident, she asked each of them to create a project board to display all of their segment mini projects, as well as their final journal entry, which detailed their understanding of each of the four segments. The project board served as a final compilation of the many activities they had created throughout the learning experience.

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Thinking about the observations you have completed this year, do you have evidence that **teachers and students** can answer the following questions daily?

- Where are we going?
- Where are we now?
- How can I close the gap?

As a leader, how do we support teachers in expanding their understanding of assessment *for* learning?

Analyze

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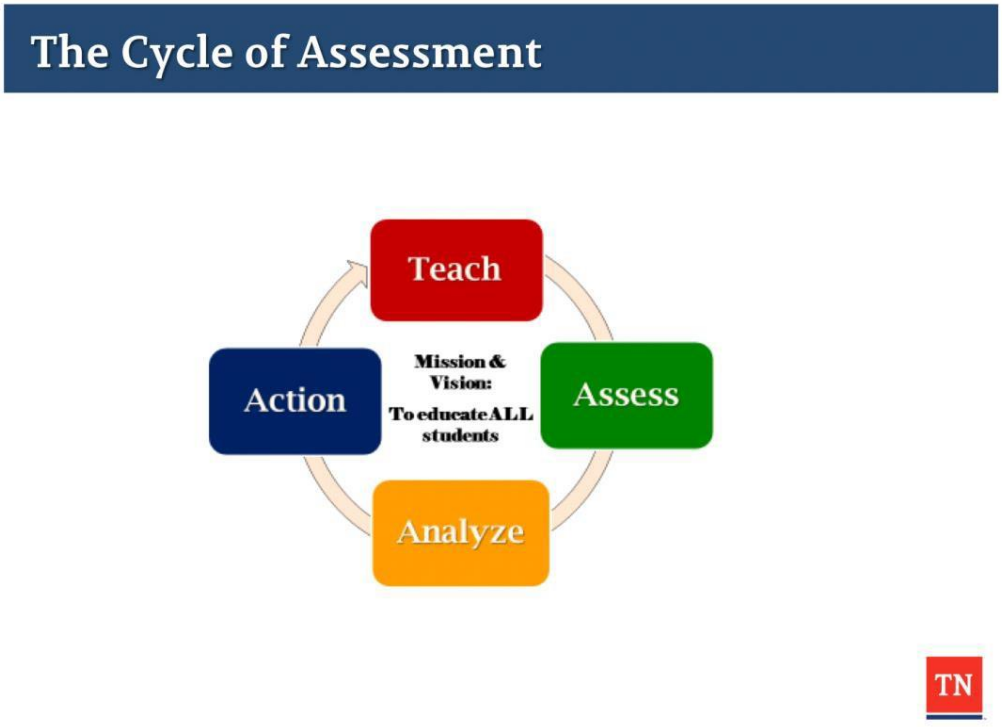
NOTE: The videos used here will be available under the "Resources" tab at the end of this section.



Types of Analysis

Specific Analysis	Global Analysis
What does the student work show that the students know?	How well did my class do as a whole?
What does the student work show that the students do not know?	What are the strengths and weaknesses in the standards?
What are the students thinking?	Who are strong and weak students?
What gaps exist in the students' thinking?	What do our TVAAS reports say about our students?
What are the implications of this work for instruction?	Who should be in tier 2 or tier 3 intervention?

Video Clip 1:

As you watch this clip, think about your role as the coach.

- How would you help her as the coach?

- What specific evidence do you have to build upon for improvement?

Analyze—What's the Point?

Good assessments provide good data, but this is useless unless you know how to read it and DIG through the data to IMPROVE instruction.

Analysis: Examine the results of assessments to identify the causes of both strengths and shortcomings.

Notes:

Task Predicts Performance

Task predicts performance. What determines what students know and are able to do is not what the curriculum says they are supposed to do, nor even what the teacher thinks he or she is asking students to do. What predicts performance is what students are actually doing.

Richard F. Elmore (2008)

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Implications for Improvement in Instruction

- If the "task predicts performance" then more specific data will come from more rigorous assessment tasks.

- The more we focus on student work the stronger our analysis and action will become.

Student Work Sample

What's the Point? Task

Mr. Williams asks his Algebra 1 class to find the solutions to an equation in two variables with domain the set of real numbers.

Colton correctly creates the table below using values from the domain of the equation. He then uses his table to create a graph.

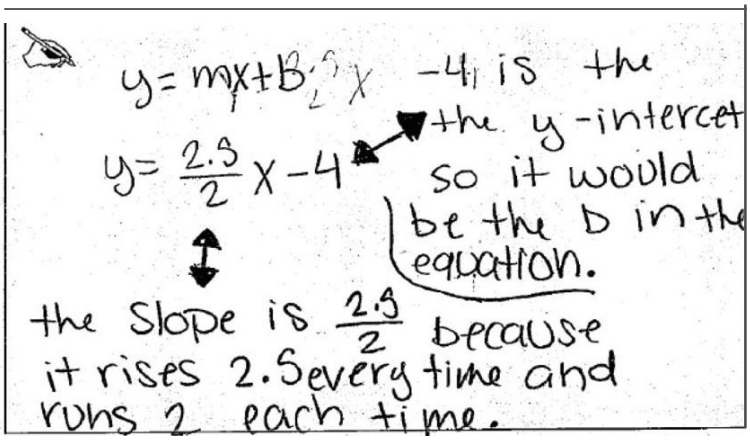
Cotton's **Table**

	y
0	−4
2	−1.6
−2	-5
5	2.25
	−14
10	8.5

Colton's Graph

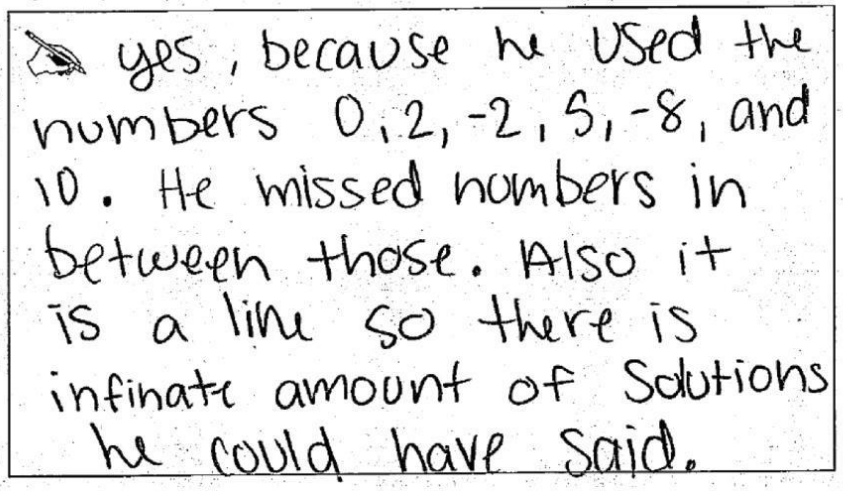
Student Work Sample

a. Determine the equation Colton used to create the table. Use mathematical reasoning to justify that the equation is correct.



Student Work Sample

b. Destiny sees Colton's work and argues that any table that can be made would contain some but not all of the solutions to Mr. Williams' equation. Do you agree or disagree with Destiny? Explain why or why not.

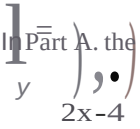


Discussion: What are your instructional suggestions for this student?

Analysis:

Total Content Points: 2 (A-CED.A.2. A-REI.D.10)

Total Practice Points: 1 (MP6)



In Part A. the student correctly determines the equation Colton used to create the table (A-CED.A.2). In Part B, the student agrees with Destiny and indicates that there are an infinite number of solutions to a linear equation (it is a line so there is infinate amount of solutions"") (A-REI.D.10). By not demonstrating that any of the points make the equation a true statement. the student does not justify that the equation can be used to create the table and graph (no credit for MP3). Although the student completes both patts of the task. the student does not test any of the points in the table (no credit for MP1). The student accurately calculates the slope and determines the y-intercept. and uses mathematical language and notation precisely (MP6).

Total Awarded Points: 3 out of 5

II

Implications for Instruction - Action

Create an Action Plan

Effective action plans:

- **Are based on a CORRECT analysis**
- **Include NEW instructional strategies (not just teaching content over)**
- **Have specific TIMES for implementation**
- **Include the students:**
  - Are results SHARED and do students understand their progress?
  - Are students INVOLVED in next steps?

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II

Wrap-Up and Reflection

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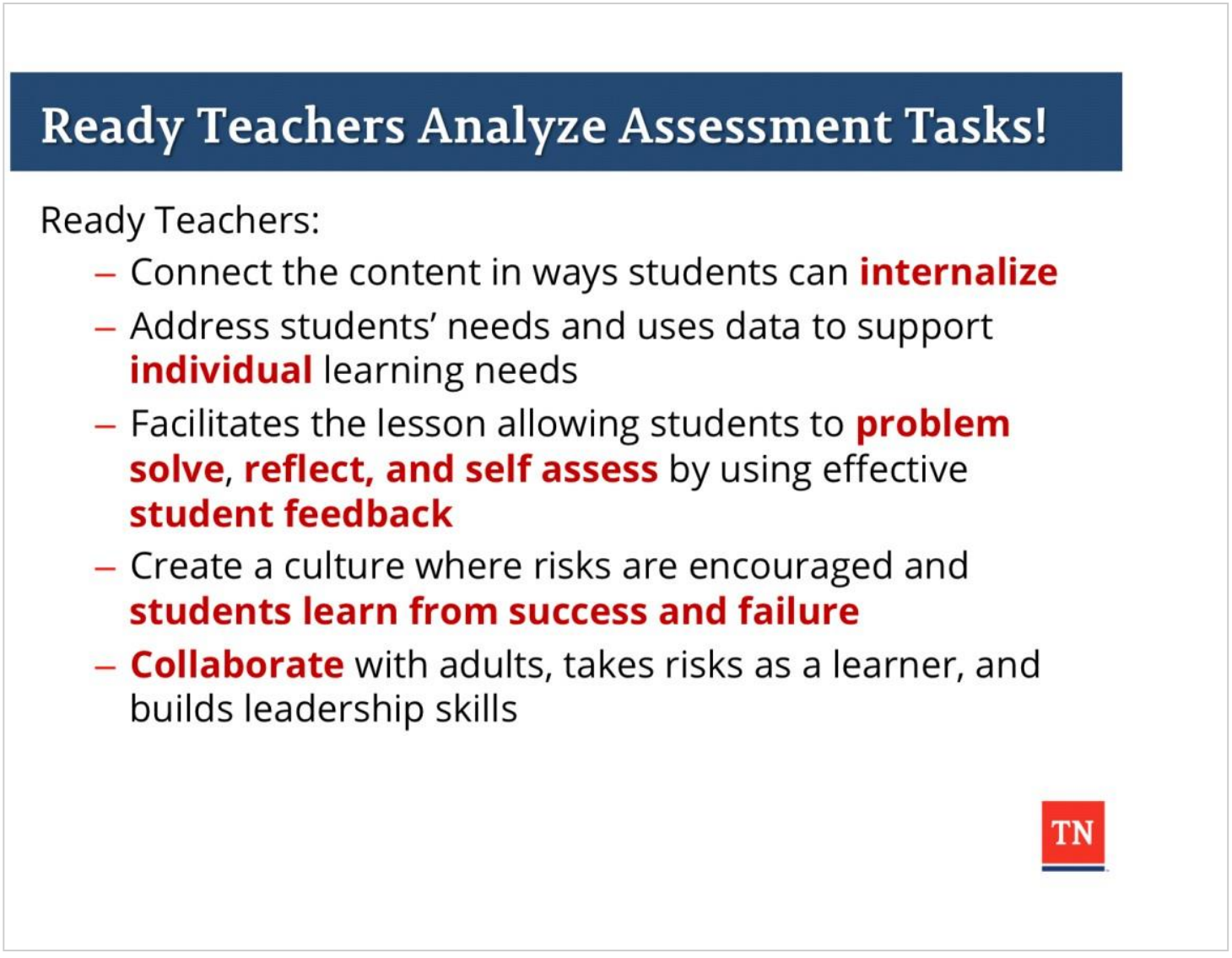
Wrap-Up and Key Takeaways

Core Ideas	Final Thoughts
Standards are meaningless until you define how you will assess them! Assessments are not the END of the teaching and learning process—they are the STARTING POINT! Get a view from the pool! Don't just read the newspaper! Data-driven student engagement occurs when students know the end goal, how they are doing , and what actions they can take to improve.	Teaching is different than Learning. Match the data you collect to your desires for proficiency (rigor). Use data to know when to make changes in your classroom. Data: More than just numbers! Quantitative vs. Qualitative



- What assessments are aligned and working well in your building/district? Why are they working well? Teacher leadership? Your guidance? Instructional Coaching? Other?

- What assessment analysis practices are working well in your building/district? Why are they working well? Teacher leadership? Your guidance? Instructional Coaching? Other?

- How do you celebrate these practices and expand them?

- How do you support these practices to ensure student success?

Resources

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Videos:

"Man on Fire" Videos

Assessment Task Force Report