

# Applying a Conceptual Framework for Assessment Literacy

NCME Training Session

San Antonio, Texas  
April 27, 2017

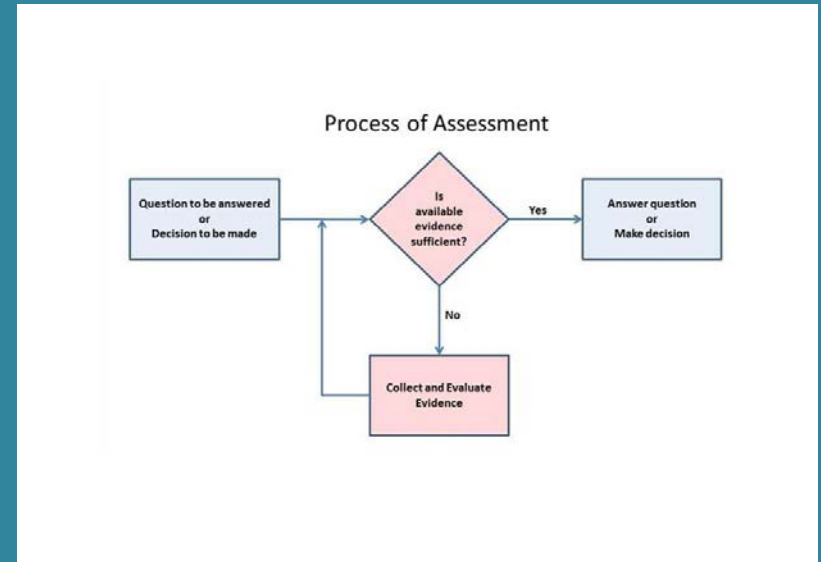
# Current State of Assessment Literacy

- The recent emphasis on data-driven decision making and assessment-based accountability has led to a renewed interest and increased sense of urgency surrounding assessment literacy.
- A wide variety of topics, many of them technical, are placed under the heading of assessment literacy
- One aspect of assessment literacy on which there is little dispute is the lack of it among educators

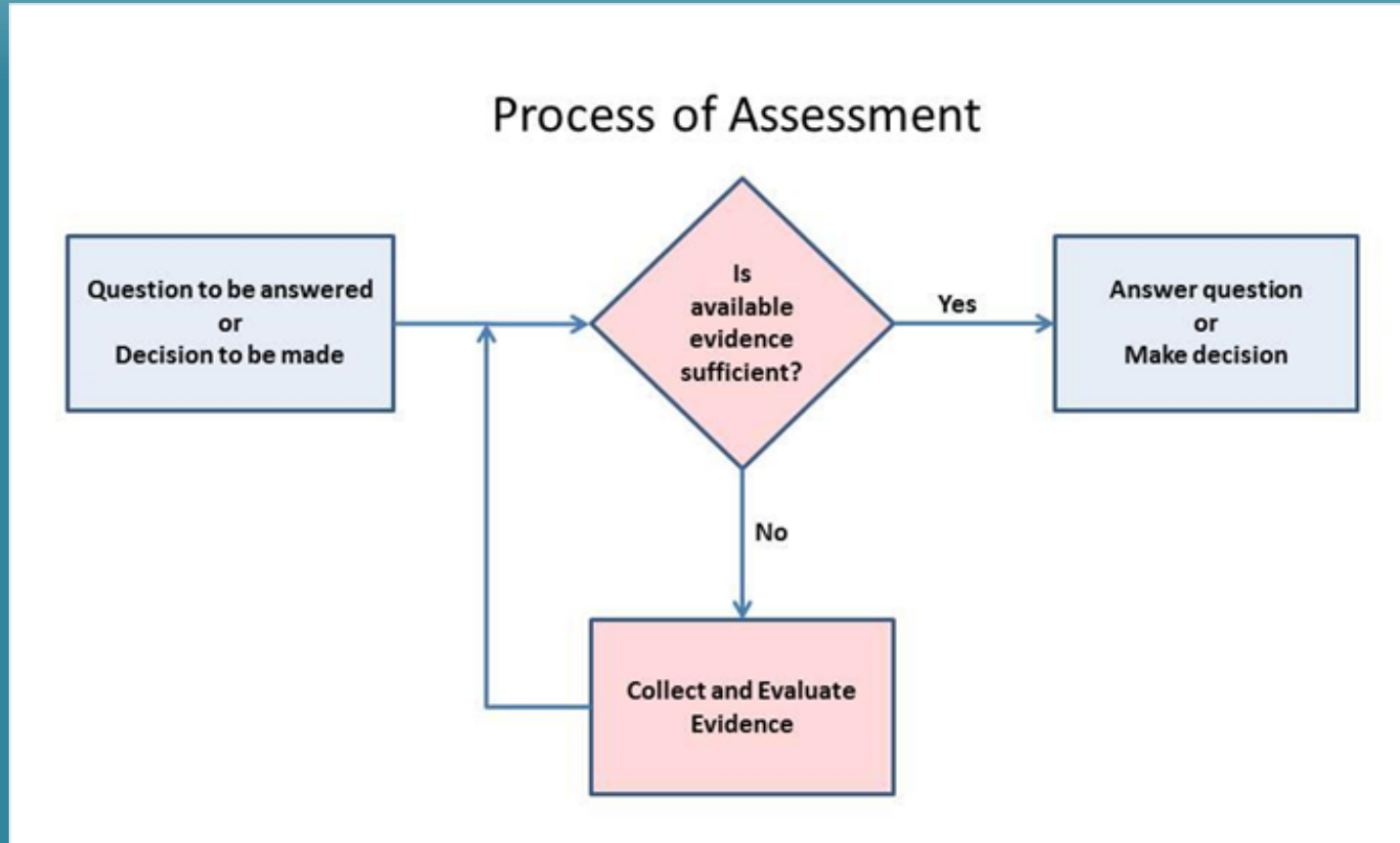
# What is assessment?

# Assessment is a Process

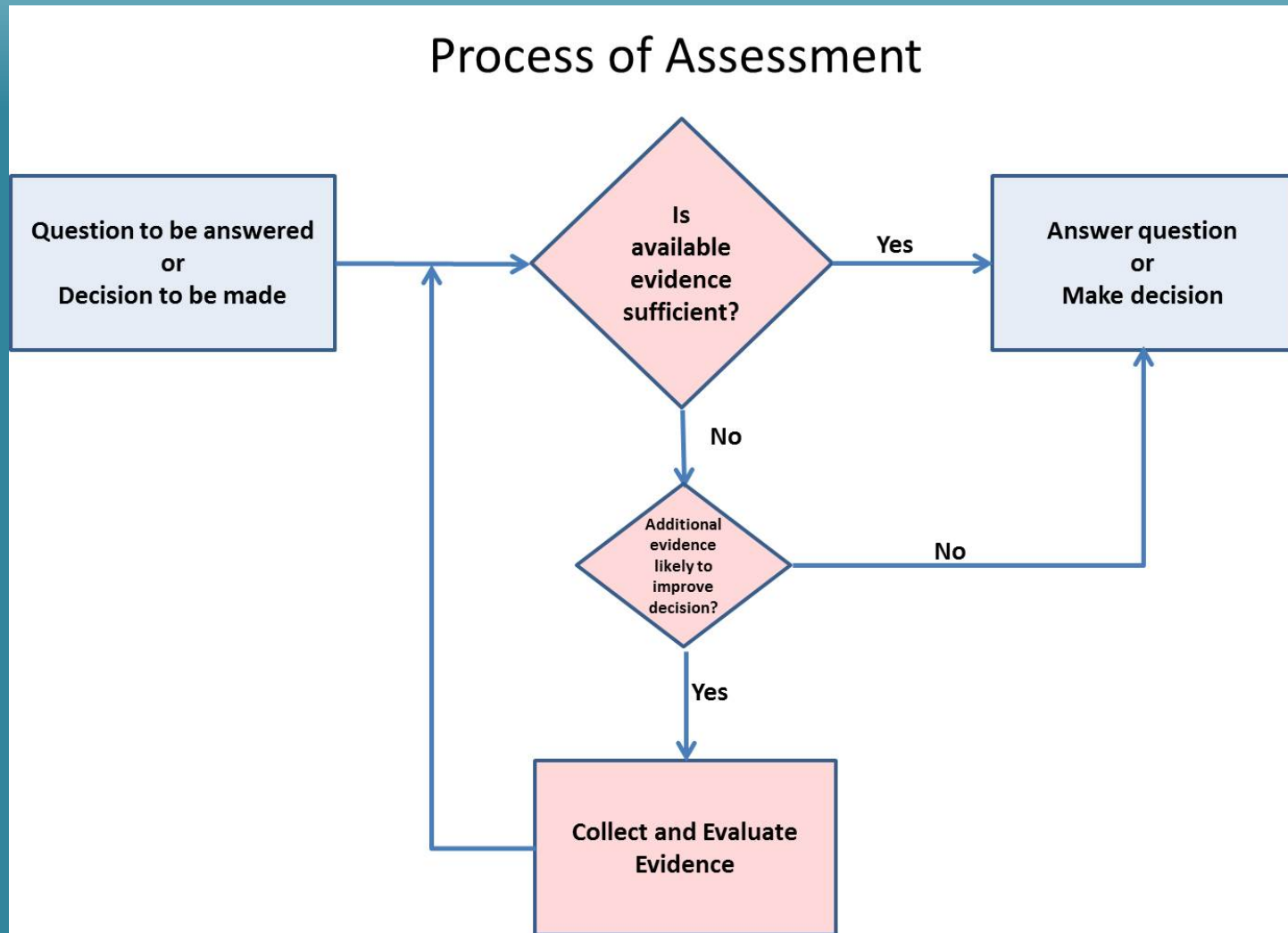
- Assessment is a process that involves the collection and evaluation of evidence to answer a specific question.
- A critical point in the assessment process is determining whether there is sufficient evidence available to answer that question.
- If there is sufficient evidence, the question can be answered.
- If not, additional evidence must be collected and evaluated.



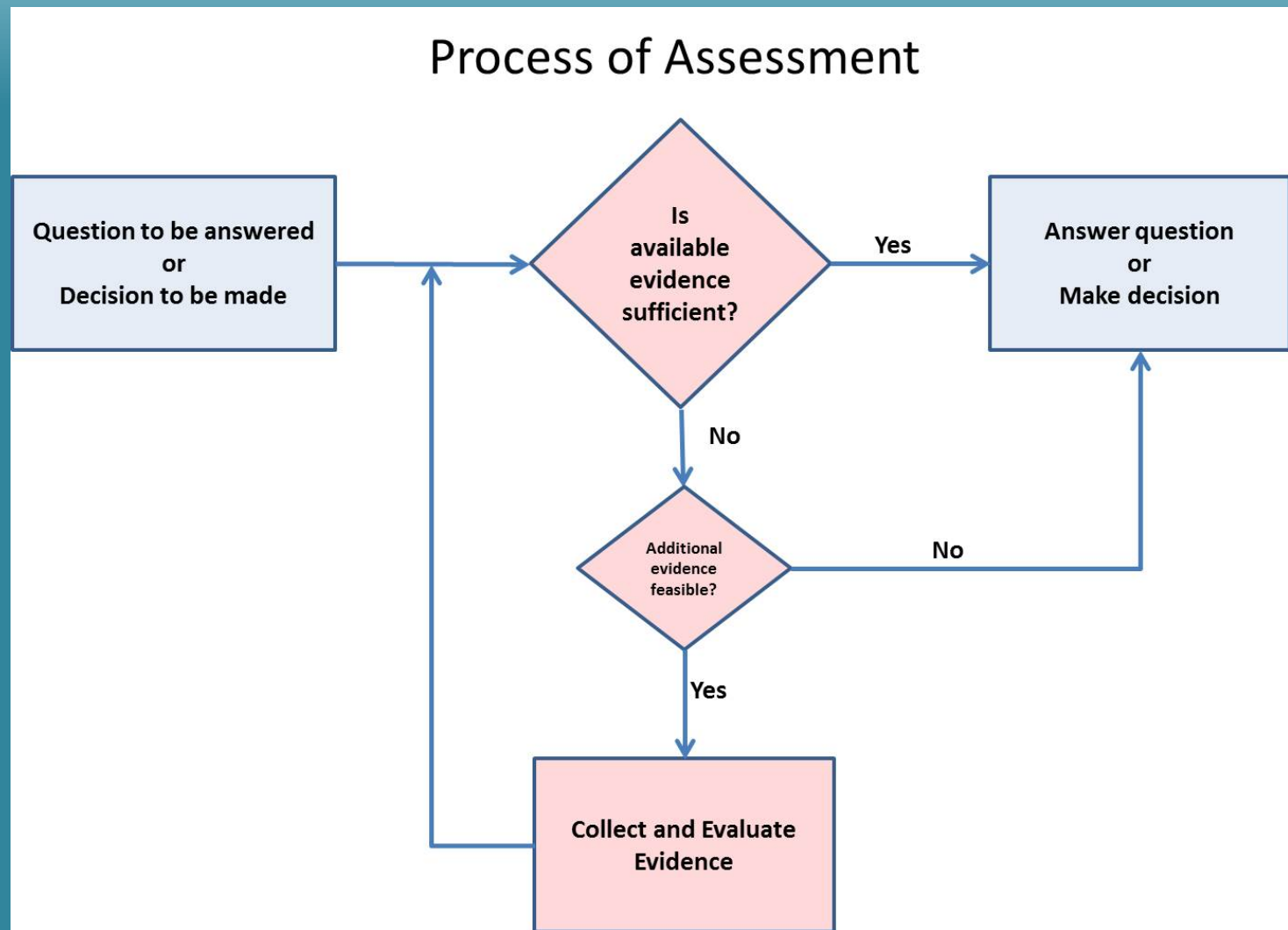
# Assessment process in its basic form



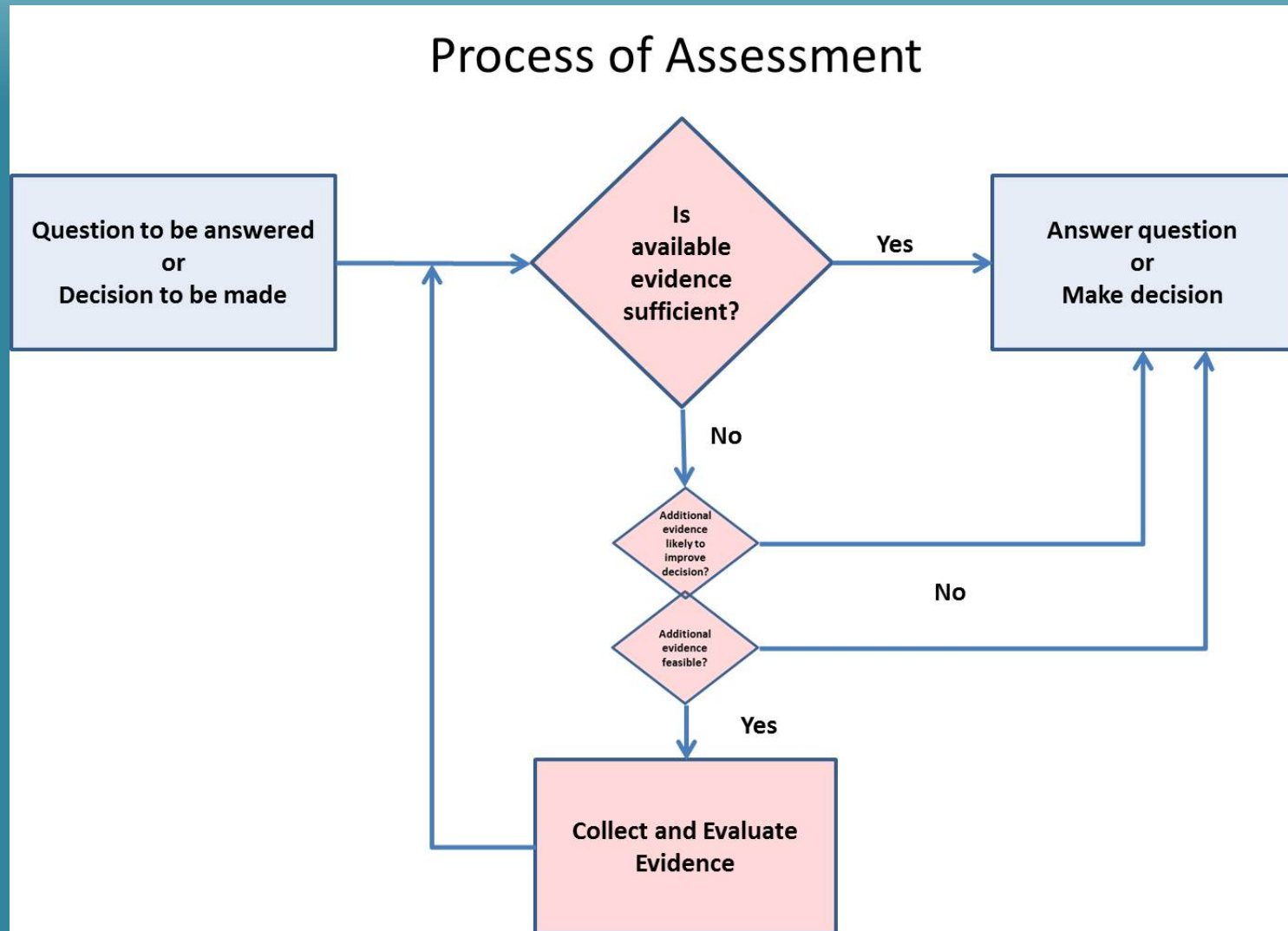
# Assessment process – adding complexity



# Assessment process – adding complexity



# Assessment process – tradeoffs





# Questions and Decisions

- What is a common question that educators want to answer? Or
- What is an important decision that educators need to make?
- Consider your own perspective or the perspective of a key stakeholder
  - Teachers
  - Building Administrators
  - Policymakers
  - Parents, students, general public

# Evidence

- What evidence is needed to answer the question?
- Two critical questions
  - What is acceptable evidence?
    - Defining the evidence
    - Collecting the evidence
  - How much evidence do I need?

# What is acceptable evidence?

- Defining the evidence
  - What is it? and
  - What makes it acceptable?
  - Why?
- Collecting the evidence
  - When
  - How
  - from Whom

# Working through examples

# How much evidence do I need?

- What are the consequences of a bad decision or incorrect answer?
  - What are the stakes associated with the decision?
- What types of error are most serious?
- How fine a distinction is needed?
  - What level of precision and/or accuracy is required?
  - Where along the ‘performance continuum’ and distribution of people is the decision point?

# How much evidence do I need?

To determine whether

A student  
performing here

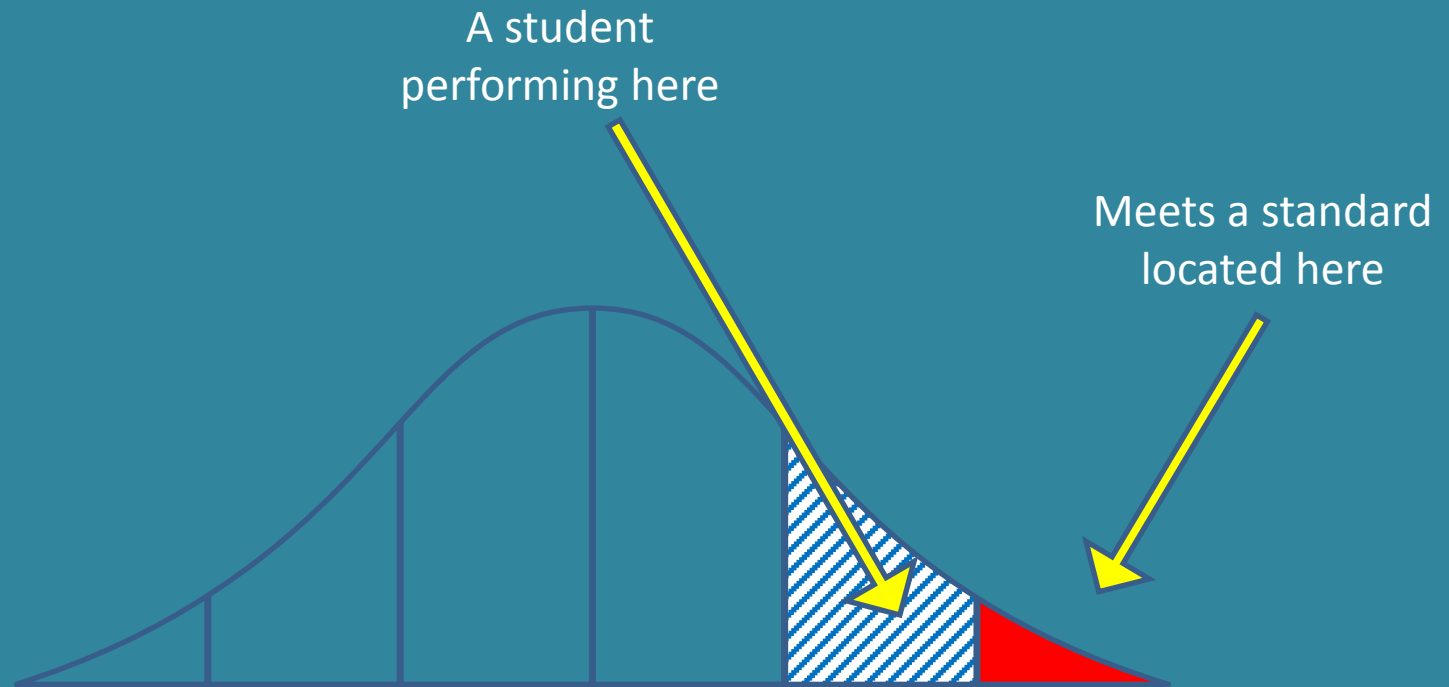


Meets a standard  
located here



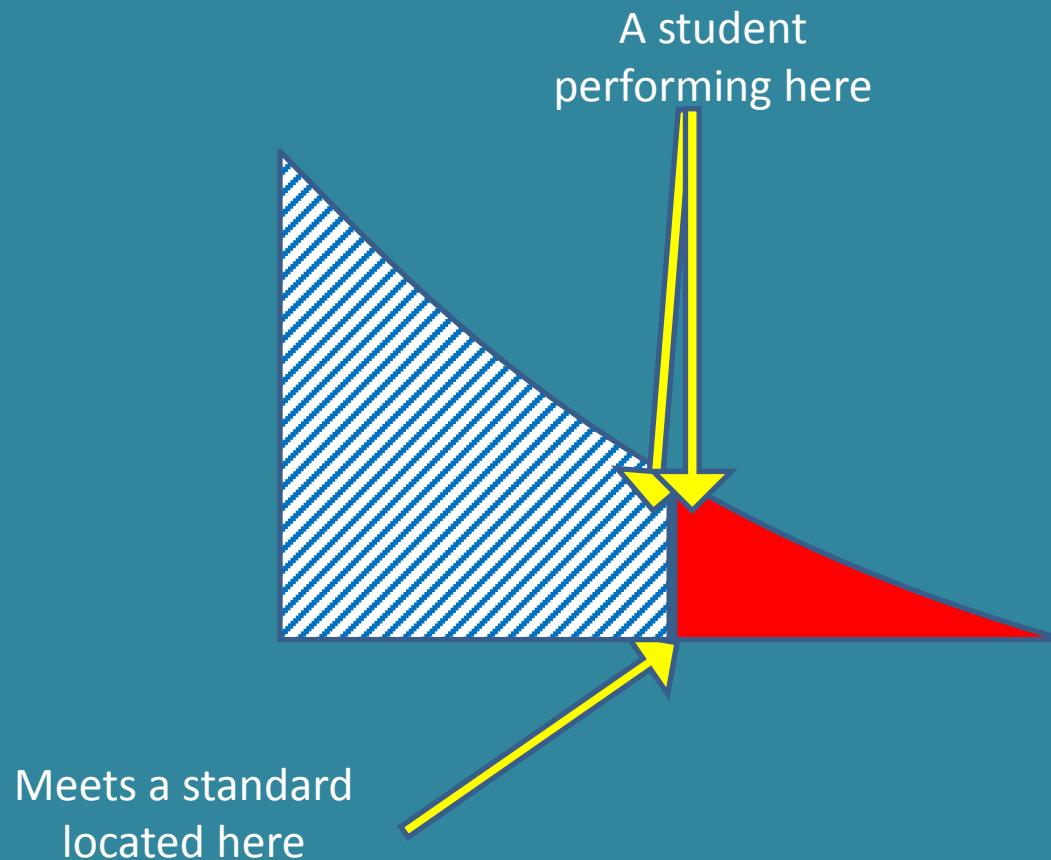
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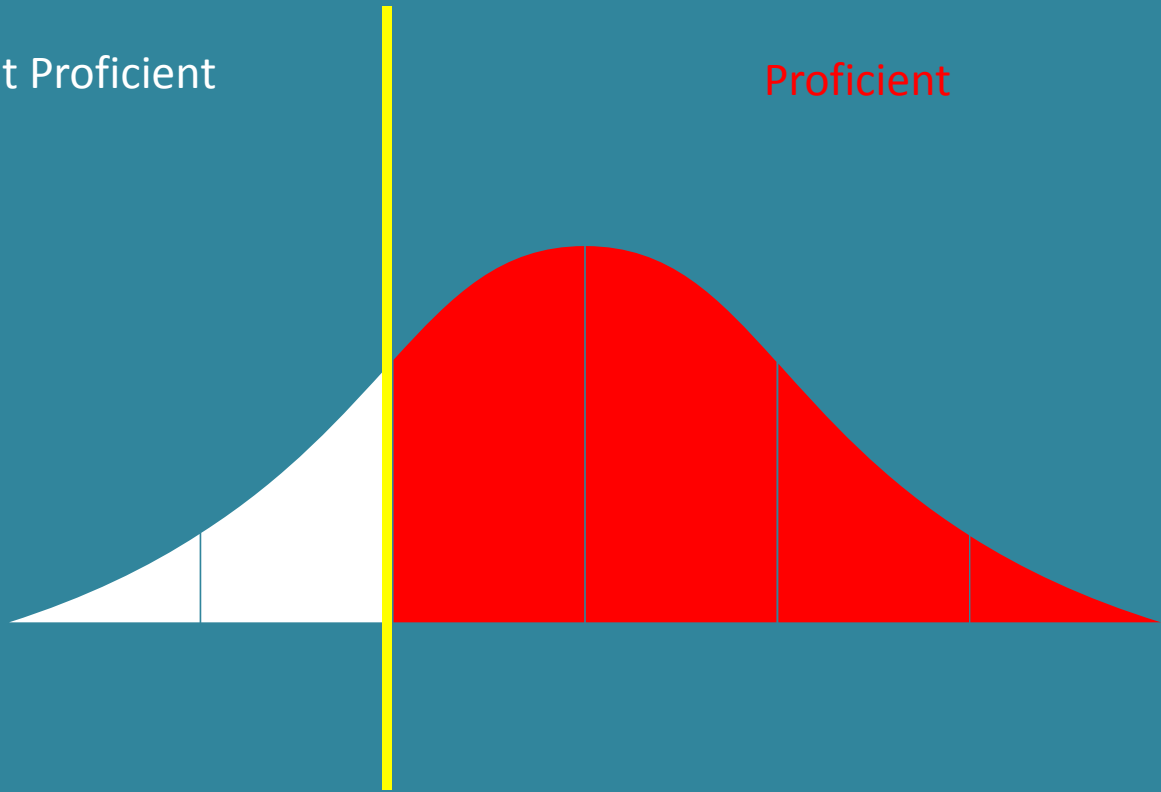


# How much evidence do I need?

To determine whether more than 50% of students are Proficient

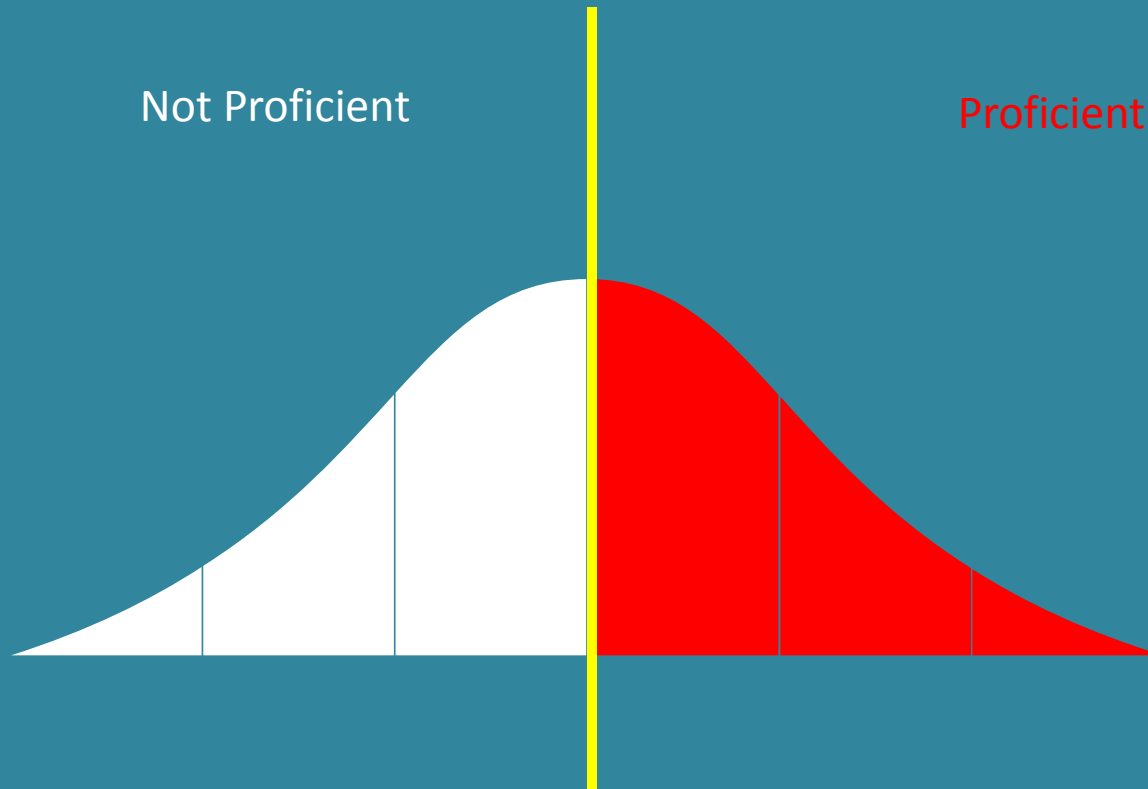
Not Proficient

Proficient



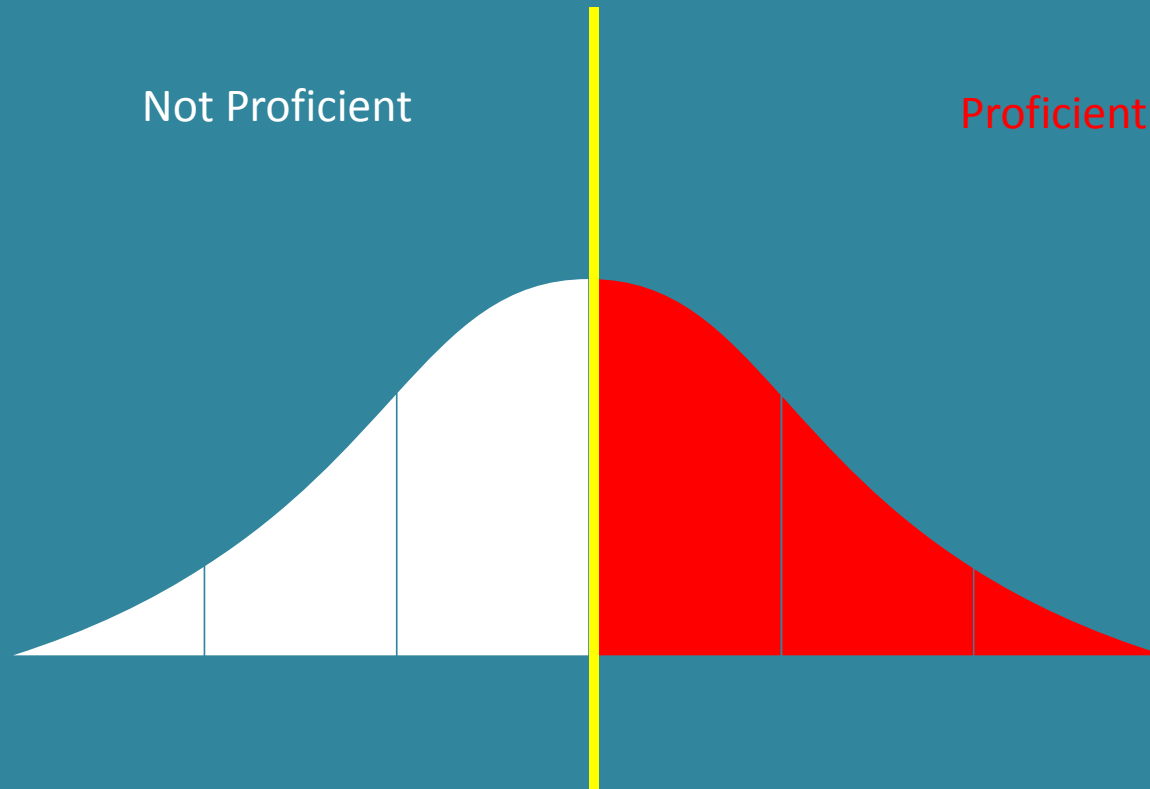
# How much evidence do I need?

To determine whether more than 50% of students are Proficient



# How much evidence do I need?

To determine whether 54% of students are Proficient



# *Is available evidence sufficient?*

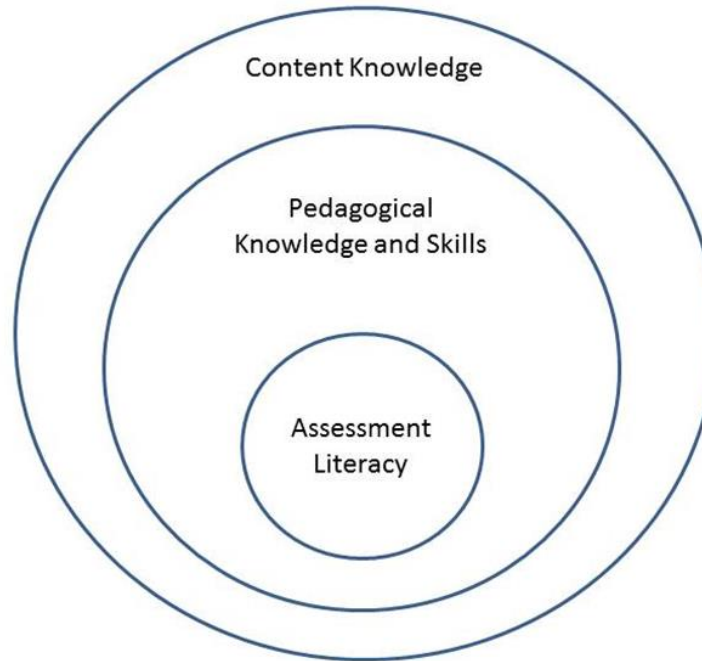
- Consider the knowledge and skills needed to answer that question?
  - It first requires an understanding of what evidence is appropriate, necessary
    - This often comes from a deep knowledge of the topic area
  - It also requires an understanding of the context
    - How much precision and accuracy is needed?
    - What are the consequences of various types of error?

# *Is available evidence sufficient?*





- We can couch the previous questions in measurement terms as validity and reliability...
- In reality, however, they require a pre-existing knowledge base that is external to the assessment process.
- All assessment is situated within a broader context.
- **An understanding of that context, therefore, is a necessary condition for assessment literacy**

# Assessment Literacy is always *nested*

Assessment Literacy for Teachers Nested within Content and Pedagogy



# Context varies across stakeholders

- The questions asked and evidence needed to answer those questions will vary across stakeholders.
  - Teachers, administrators, policymakers, parents, students, and the public at large
- Therefore, the required prior knowledge base will also vary across stakeholders
- Communication and interactions among stakeholder groups, however, requires some shared understanding; for example
  - Administrators  Teachers
  - Policymakers  Administrators
  - Teachers  Parents
  - Policymakers  Public

# Context across stakeholders

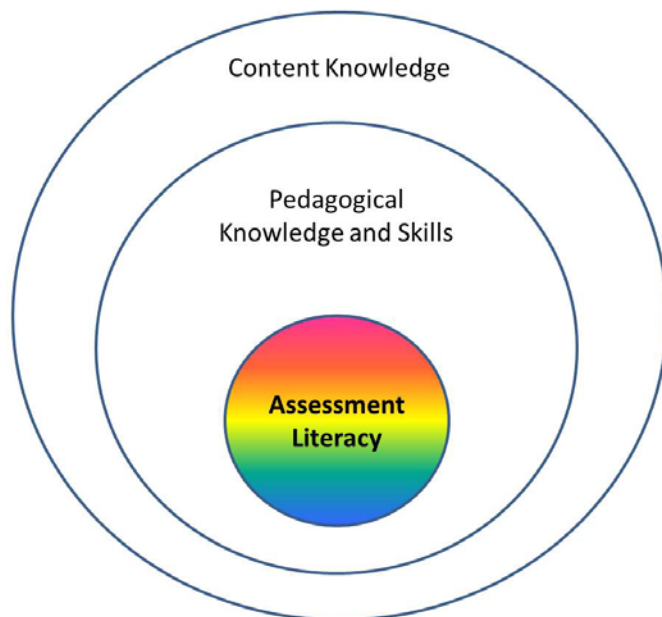
- What would the *nesting* picture look like for various stakeholders?
  - School administrators
  - State Policymakers
  - Parents
- What knowledge and skills do they need to answer questions and make decisions?
- What knowledge and skills do they need to make judgments about evidence?



# Work through Examples

# Assessment Literacy

Assessment Literacy for Teachers Nested within Content and Pedagogy



- Accepting that assessment literacy is nested within a broader context
- What are the knowledge and skills that are needed to be an assessment literate teacher, administrator, policymaker, ...?

# Assessment Literacy

- Assessment Literacy comprises three types of literacy
  - Testing Literacy – the understanding of the fundamental principles of test design, development, and use.
  - Measurement Literacy – the understanding of fundamental measurement principles, particularly those related to validity and the uncertainty of measurement
  - Data Literacy – the possession of the basic skills needed to organize and manipulate data so that it can be analyzed, interpreted, and used appropriately
- They are applied together, but each is a distinct body of knowledge and skills.
- The particular skills needed within each of the three types of literacy are context dependent

# Testing Literacy (sample knowledge and skills)

- Properties of various item types
- Principles for item development
  - Development and use of scoring rubrics
- Methods for aggregating items scores to generate test scores
- Time needed to respond to items
- Issues related to bias and sensitivity

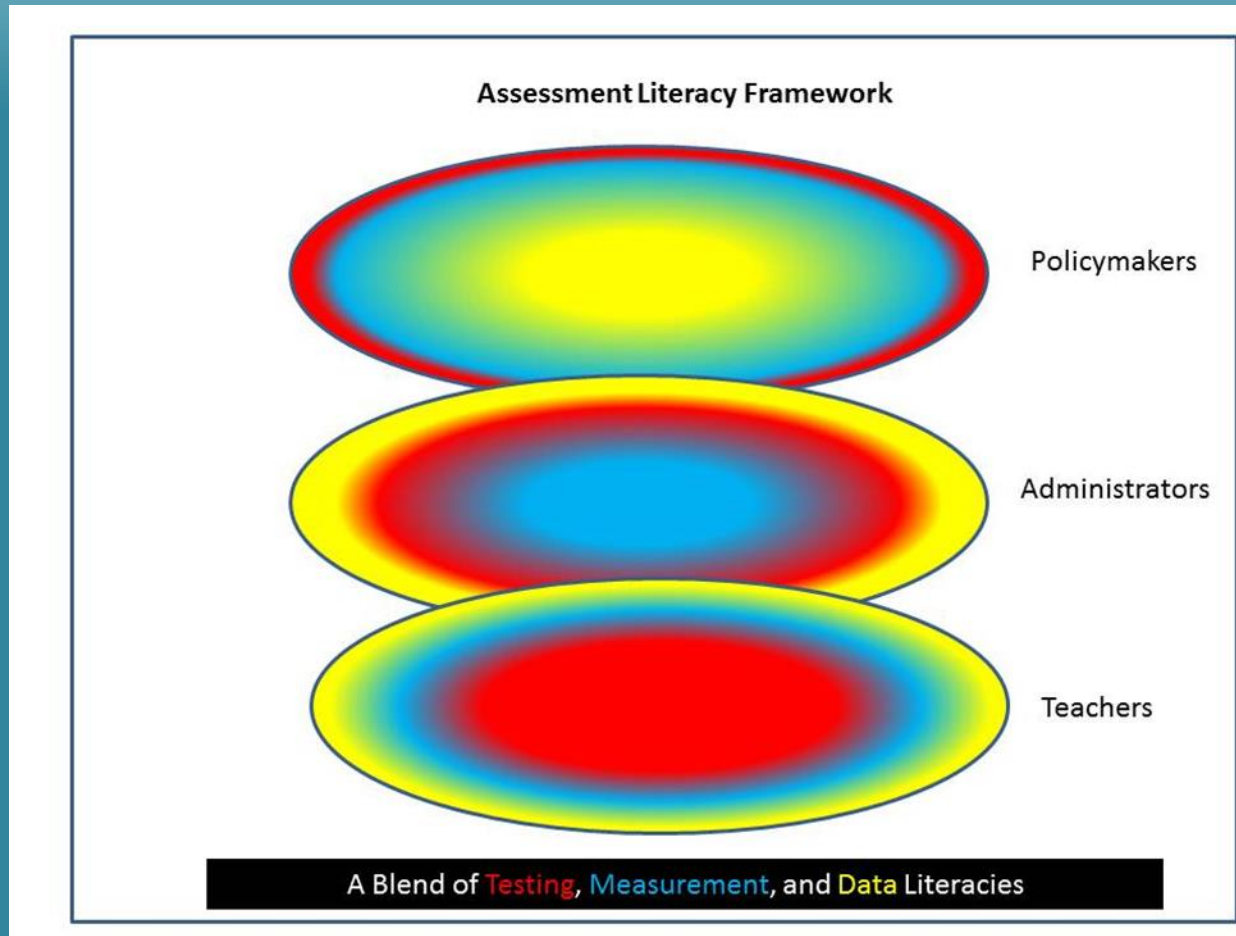
# Measurement Literacy (sample knowledge and skills)

- Understanding Uncertainty due to
  - Students, Items, Testing conditions, etc.
- Balancing standardization and flexibility
- Interpreting Norm- and criterion-referenced scores
- Comparing scores across
  - Students
  - Classes or schools
  - Different tests
  - Time
- Interpreting individual student and group scores

# Data Literacy (sample knowledge and skills)

- Sorting Items or Students
- Selecting or filtering groups of students
- Examining relationships between variables
  - Generating and interpreting basic charts and graphs
  - Generating and interpreting two-way tables
- Generating and interpreting summaries of group performance
- Combining information from multiple sources

# A conceptual framework



# Applying the conceptual framework

- In developing the Assessment Literacy Framework, our focus was the efforts needed to develop, support, and sustain assessment literacy.
- Through the proposed assessment literacy framework, we hope to provide a comprehensive picture of assessment literacy
  - a view of assessment literacy that is multidimensional, grounded in practice, and nested within the role-specific knowledge and skills of teachers, administrators, and policymakers.
- The framework should serve as a useful tool for states, local education agencies, educator preparation programs, and others developing programs and materials to increase assessment literacy and improve the instruction and learning of all students.



# For more information

Center for Assessment  
[www.nciea.org](http://www.nciea.org)

