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Center for Higher Education Research and Accreditation

**Room 803, 8 Nguyen Van Trang, Ben Thanh Ward, District 1,
Ho Chi Minh City**

Tel: 028.7309.1991

Ext: 11.320, 11.323, 11.324, 11.325

AN INTRODUCTION TO ASSESSMENT



CATS

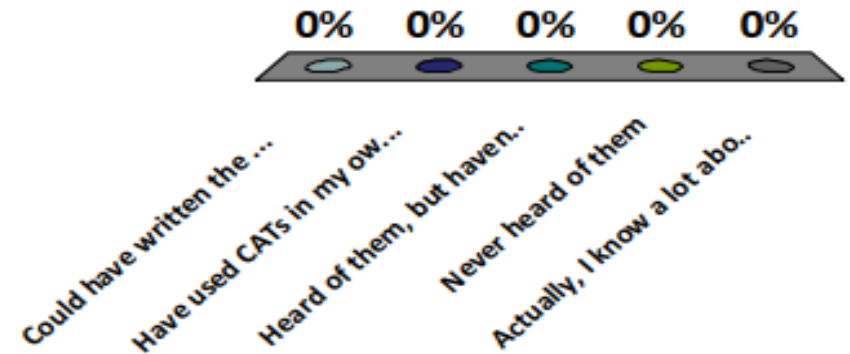


CATs?

CATs =
CLASSROOM
ASSESSMENT
TECHNIQUES

How much do you know about CATs?

- A. Could have written the book myself
- B. Have used CATs in my own teaching
- C. Heard of them, but haven't used them
- D. Never heard of them
- E. Actually, I know a lot about CATs: Garfield, the one in the Hat, etc.



1. CLASSROOM ASSESSMENT

1.1. Definition of Classroom Assessment

Classroom Assessment is an approach designed to help teachers find out what students are learning in the classroom and how well they are learning it.

Angelo, T. A., & Cross, K. P. (1993).

1. 2. The Characteristics of Classroom Assessment (1)

1.2.1. Learner-Centered

- It focuses the primary attention of teachers and students on observing and improving learning, rather than on observing and improving teaching;
- It can provide information to guide teachers and students in making adjustments to improve learning.

1.2. The Characteristics of Classroom Assessment (2)

1.2.2. Teacher-Directed

- ❖ The individual teacher decides
 - what to assess;
 - how to assess;
 - and how to respond to the information gained through the assessment.

1.2. The Characteristics of Classroom Assessment (3)

1.2.3. *Mutually Beneficial*

❖ *Students:*

- reinforce their grasp of the course content
- strengthen their own skills at self-assessment.
- increase their learning motivation.

❖ *Faculty:*

- sharpen their teaching focus by continually asking themselves three questions: What essential skills and knowledge to teach? How to find out whether students are learning them? How to help students learn better?

➡ by answering the questions, faculty improve their teaching skills and gain new insights.

1.2. The Characteristics of Classroom Assessment (4)

1.2.4. Formative

Classroom Assessment's “purpose is to improve the quality of student learning, not to provide evidence for evaluating or grading students

1.2.5. Context-Specific

Classroom Assessments have to respond to:

- the particular needs and characteristics of the teachers;
- students; and
- disciplines to which they are applied...what works well in one class will not necessarily work in another.”

1.2. The Characteristics of Classroom Assessment (5)

1.2.6. Ongoing

Classroom Assessment is an ongoing process.

Faculty:

- employ simple and easy-to-use Classroom Assessment Techniques → get feedback from students on their learning.
- provide students with feedback on the results of the assessment and suggestions for improving learning.

1.2. The Characteristics of Classroom Assessment (6)

1.2.7. Rooted in Good Teaching Practice

- ❖ Classroom Assessment is an attempt to build on existing good practice by making [feedback on students' learning] more systematic, more flexible, and more effective. Teachers ask questions, react to students' questions, monitor body language and facial expressions, read homework and tests, and so on.
- ❖ Classroom Assessment provides a way to integrate assessment systematically and seamlessly into the traditional classroom teaching and learning process.

1.3. Classroom Assessment Process

Step 1: Planning

Decide which class will be selected and which CAT or CATs will be used. Keep things simple.

Step 2: Implementing

Make sure the students know what you are doing and that they clearly understand the procedure. Collect the responses and analyze them as soon as possible.

Step 3: Responding

Let students know the results of the CAT and what you plan to do based on that information

2. CLASSROOM ASSESSMENT TECHNIQUES



2.1. Definition of Classroom Assessment Techniques

Classroom Assessment Techniques (CATs) are generally simple, non-graded, anonymous, in-class activities designed to give you and your students useful feedback on the teaching-learning process as it is happening.

Vanderbilt – Center for Teaching. *Classroom Assessment Techniques (CATs).*

<https://cft.vanderbilt.edu/guides-sub-pages/cats/>

2.1. Definition of Classroom Assessment Techniques

Classroom Assessment Techniques (CATs) are a set of specific activities that instructors can use to quickly gauge students' comprehension.

Carnegie Mellon University, Eberly Center, *Using Classroom Assessment Techniques.*

<https://www.cmu.edu/teaching/assessment/assessmentlearning/CATs.html>

2.2. Benefits of Using CATs

- ❖ Provide just-in-time feedback about the teaching-learning process;
- ❖ Provide information about student learning with less work than traditional assignments (tests, papers, etc.);
- ❖ Encourage the view that teaching is an ongoing process of inquiry, experimentation, and reflection;
- ❖ Help students become better monitors of their own learning;
- ❖ Help students feel less anonymous, even in large courses;
- ❖ Provide concrete evidence that the instructor cares about learning;

2.3. Types of CATs

- 2.3.1. Techniques for Assessing Course-Related Knowledge & Skills
- 2.3.2. Techniques for Assessing Learner Attitudes, Values, and Self-Awareness
- 2.3.3. Techniques for Assessing Learner Reactions to Instruction

2.3.1. Techniques for Assessing Course-Related Knowledge & Skills

- A. Assessing Prior Knowledge, Recall, and Understanding
- B. Assessing Skill in Analysis and Critical Thinking
- C. Assessing Skill in Synthesis and Creative Thinking
- D. Assessing Skill in Problem Solving
- E. Assessing Skill in Application and Performance

2.3.1. Techniques for Assessing Course-Related Knowledge & Skills

A. Assessing Prior Knowledge, Recall, and Understanding (7 techniques)

- ❖ Purpose: to focus on assessing declarative learning – the content of a particular subject.
- *Background Knowledge Probe*: Short, simple questionnaires prepared by instructors for use at the beginning of a course or at the start of new units or topics; can serve as a pretest.
- *Focused Listing*: Focuses students' attention on a single important term, name, or concept from a lesson or class session and directs students to list ideas related to the “focus”.

2.3.1. Techniques for Assessing Course-Related Knowledge & Skills

A. Assessing Prior Knowledge, Recall, and Understanding

- *Misconception/Preconception Check*: Intended to uncover prior knowledge or beliefs that may hinder or block new learning; can be designed to uncover incorrect or incomplete knowledge, attitudes, or values.
- *Empty Outlines*: In a limited amount of time students complete an empty or partially completed outline of an in-class presentation or homework assignment.
- *Memory Matrix*: Students complete a table about course content in which row and column headings are complete but cells are empty.

2.3.1. Techniques for Assessing Course-Related Knowledge & Skills

A. Assessing Prior Knowledge, Recall, and Understanding

- *Minute Paper*: The most frequently used CAT; students answer 2 questions (What was the most important thing you learned during this class? What important question remains unanswered?)
- *Muddiest Point*: Considered by many as the simplest CAT; students respond to the question "What was the most unclear or confusing point in (lecture, homework, discussion)?"

B. Assessing Skill in Analysis and Critical Thinking (5 techniques)

- ❖ Purpose: to focus on analysis—the breaking down of information, questions, or problems to facilitate understanding and problem solving.
- *Categorizing Grid*: Student complete a grid containing 2 or 3 overarching concepts and a variety of related subordinate elements associated with the larger concepts.
- *Defining Features Matrix*: Students categorize concepts according to the presence or absence of important defining features.

2.3.1. Techniques for Assessing Course-Related Knowledge & Skills

B. Assessing Skill in Analysis and Critical Thinking

- *Pro and Con Grid*: Students list pros/cons, costs/benefits, advantages/disadvantages of an issue, question, or value of competing claims.
- *Content, Form, and Function Outlines*: In an outline form, students analyze the “what” (content), “how” (form), and “why” (function) of a particular message (e.g. poem, newspaper story, critical essay); also called “What, How, & Why Outlines”.
- *Analytic Memos*: Students write a one- or two-page analysis of a specific problem or issue to help inform a decision-maker.

2.3.1. Techniques for Assessing Course-Related Knowledge & Skills

C. Assessing Skill in Synthesis and Creative Thinking (6 techniques)

- ❖ Purpose: to focus on synthesis — stimulating the student to create and allowing the faculty to assess original intellectual products that result from a synthesis of course content and the students' intelligence, judgment, knowledge, and skills.
- *One sentence summary*: Students answer the questions “**Who** Does **What** to **Whom**, **When**, **Where**, **How**, and **Why**?” about a given topic and then create a single informative, grammatical, and long summary sentence.

CATs

Who?
Does what?
To whom?
When?
How?
Why?

Teachers
assess
their students' learning
regularly during the semester
using classroom assessment techniques
so that they can understand and improve
teaching effectiveness and the quality of
student learning.



2.3.1. Techniques for Assessing Course-Related Knowledge & Skills

C. Assessing Skill in Synthesis and Creative Thinking

- *Word Journal*: Involves a 2 part response; 1st the student summarizes a short text in a single word and 2nd the student writes 1-2 paragraphs explaining the word choice.
- *Approximate Analogies*: Students simply complete the 2nd half of an analogy—a is to b as ? is to ?; described as approximate because the rigor of formal logic is not required.
- *Concept Maps*: Students draw or diagram the mental connections they make between a major concept and other concepts they have learned.

2.3.1. Techniques for Assessing Course-Related Knowledge & Skills

C. Assessing Skill in Synthesis and Creative Thinking

- *Invented Dialogues*: Students synthesize their knowledge of issues, personalities, and historical periods into the form of a carefully structured illustrative conversation; students can select and weave quotes from primary sources or invent reasonable quotes that fit characters and context.
- *Annotated Portfolios*: Students assemble a very limited number of examples of creative work and supplement them with their own commentary on the significance of examples.

2.3.1. Techniques for Assessing Course-Related Knowledge & Skills

D. Assessing Skill in Problem Solving (4 techniques)

- ❖ Purpose: to focus on problem solving skills — recognizing different types of problems, determining the principles and techniques to solve them, perceiving similarities of problem features, and being able to reflect and then alter solution strategies.
- *Problem Recognition Tasks*: Students recognize and identify particular problem types.
- *What's the Principle?*: Students identify the principle or principles to solve problems of various types.

2.3.1. Techniques for Assessing Course-Related Knowledge & Skills

D. Assessing Skill in Problem Solving

- *Documented Problem Solutions*: Students track in a written format the steps they take to solve problems as if for a “show & tell”.
- *Audio- and Videotaped Protocols*: Students work through a problem solving process and it is captured to allow instructors to assess metacognition (learner’s awareness of and control of thinking).

E. Assessing Skill in Application and Performance

(5 techniques)

- ❖ Purpose: to focus on students' application of conditional knowledge – knowing when and where to apply what they know and can do.
- *Directed Paraphrasing*: Students paraphrase part of a lesson for a specific audience demonstrating ability to translate highly specialized information into language the clients or customers can understand.
- *Application Cards*: Students generate examples of real-world applications for important principles, generalizations, theories, or procedures.

2.3.1. Techniques for Assessing Course-Related Knowledge & Skills

E. Assessing Skill in Application and Performance

- *Student-Generated Test Questions:* Students generate test questions and model answers for critical areas of learning.
- *Human Tableau or Class Modeling:* Students transform and apply their learning into doing by physically modeling a process or representing an image.
- *Paper or Project Prospectus:* Students create a brief plan for a paper or project based on your guiding questions.

2.3.2. Techniques for Assessing Learner Attitudes, Values, and Self-Awareness

- A. Assessing Students' Awareness of Their Attitudes and Values
- B. Assessing Students' Self-Awareness as Learners
- C. Assessing Course-Related Learning and Study Skills, Strategies, and Behaviors

2.3.2. Techniques for Assessing Learner Attitudes, Values, and Self-Awareness

A. Assessing Students' Awareness of Their Attitudes and Values (5 techniques)

- ❖ Purpose: to assist instructors in developing students' attitudes, opinions, values, and self-awareness within the course curriculum.
- *Classroom Opinion Polls*: Students indicate degree of agreement or disagreement with a statement or prompt.
- *Double-entry Journals*: Students record and respond to significant passages of text.

2.3.2. Techniques for Assessing Learner Attitudes, Values, and Self-Awareness

A. Assessing Students' Awareness of Their Attitudes and Values

- *Profiles of Admiral Individuals*: Students write a brief description of the characteristics of a person they admire in a field related to the course.
- *Everyday Ethical Dilemma*: Students respond to a case study that poses a discipline-related ethical dilemma.
- *Course-related Self-Confidence Surveys*: Students complete an anonymous survey indicating their level of confidence in mastering the course material.

2.3.2. Techniques for Assessing Learner Attitudes, Values, and Self-Awareness

B. Assessing Students' Self-Awareness as Learners

(4 techniques)

- ❖ Purpose: to help students articulate their goals and self-concepts in order to make connections between their goals and those of the course.
- *Focused Autobiographical Sketches*: Students write a brief description of a successful learning experience they had relevant to the course material.
- *Interest/Knowledge/Skills Checklists*: Students complete a checklist survey to indicate their knowledge, skills and interest in various course topics.

2.3.2. Techniques for Assessing Learner Attitudes, Values, and Self-Awareness

B. Assessing Students' Self-Awareness as Learners

(4 techniques)

- *Goal Ranking and Matching*: Students list and prioritize 3 to 5 goals they have for their own learning in the course.
- *Self-Assessment Ways of Learning*: Students compare themselves with several different “learning styles” profiles to find the most likely match.

2.3.2. Techniques for Assessing Learner Attitudes, Values, and Self-Awareness

C. Assessing Course-Related Learning and Study Skills, Strategies, and Behaviors (4 techniques)

- ❖ Purpose: to assist students in focusing attention on the behaviors they engage in when trying to learn.
- *Productive Study-Time Logs*: Students complete a study log to record the quantity and quality of time spent studying for a specific course.
- *Punctuated Lectures*: Students briefly reflect then create a written record of their listening level of a lecture. Repeat twice in the same lecture and 2- 3 times over 2 to 3 weeks.

2.3.2. Techniques for Assessing Learner Attitudes, Values, and Self-Awareness

C. Assessing Course-Related Learning and Study Skills, Strategies, and Behaviors

- *Process Analysis*: Students outline the process they take in completing a specified assignment.
- *Diagnostic Learning Logs*: Students write to learn by identifying, diagnosing, and prescribing solutions to their own learning problems.

2.3.3. Techniques for Assessing Learner Reactions to Instruction

- A. Assessing Learner Reactions to Teachers and Teaching
- B. Assessing Learner Reactions to Class Activities, Assignments, and Materials

2.3.3. Techniques for Assessing Learner Reactions to Instruction

A. Assessing Learner Reactions to Teachers and Teaching (5 techniques)

- ❖ Purpose: to provide context-specific feedback that can improve teaching within a course.
- *Chain Notes*: On an index card that is distributed in advance, each student responds to an open-ended prompt about his or her mental activity that is answered in less than a minute.
- *Electronic Survey Feedback*: Students respond to a question or short series of questions about the effectiveness of the course.

2.3.3. Techniques for Assessing Learner Reactions to Instruction

A. Assessing Learner Reactions to Teachers and Teaching (5 techniques)

- *Teacher-designed Feedback Forms*: Students respond to specific questions through a focused feedback form about the effectiveness of a particular class session.
- *Group Instructional Feedback Technique*: Students respond to three questions related to their learning in the course (basically, what works, what doesn't, and how it can be improved).
- *Classroom Assessment Quality Circles*: Groups of students provide the instructor with ongoing assessment of the course through structured interactions.

2.3.3. Techniques for Assessing Learner Reactions to Instruction

B. Assessing Learner Reactions to Class Activities, Assignments, and Materials (5 techniques)

- ❖ Purpose: to provide instructors with information that will help them improve their course materials and assignments
- *RSQC2 (Recall, Summarize, Question, Connect and Comment)*: Students write brief statements that recall, summarize, question, connect and comment on meaningful points from previous class.
- *Group-Work Evaluation*: Students complete a brief survey about how their group is functioning and make suggestions for improving the group process.

2.3.3. Techniques for Assessing Learner Reactions to Instruction

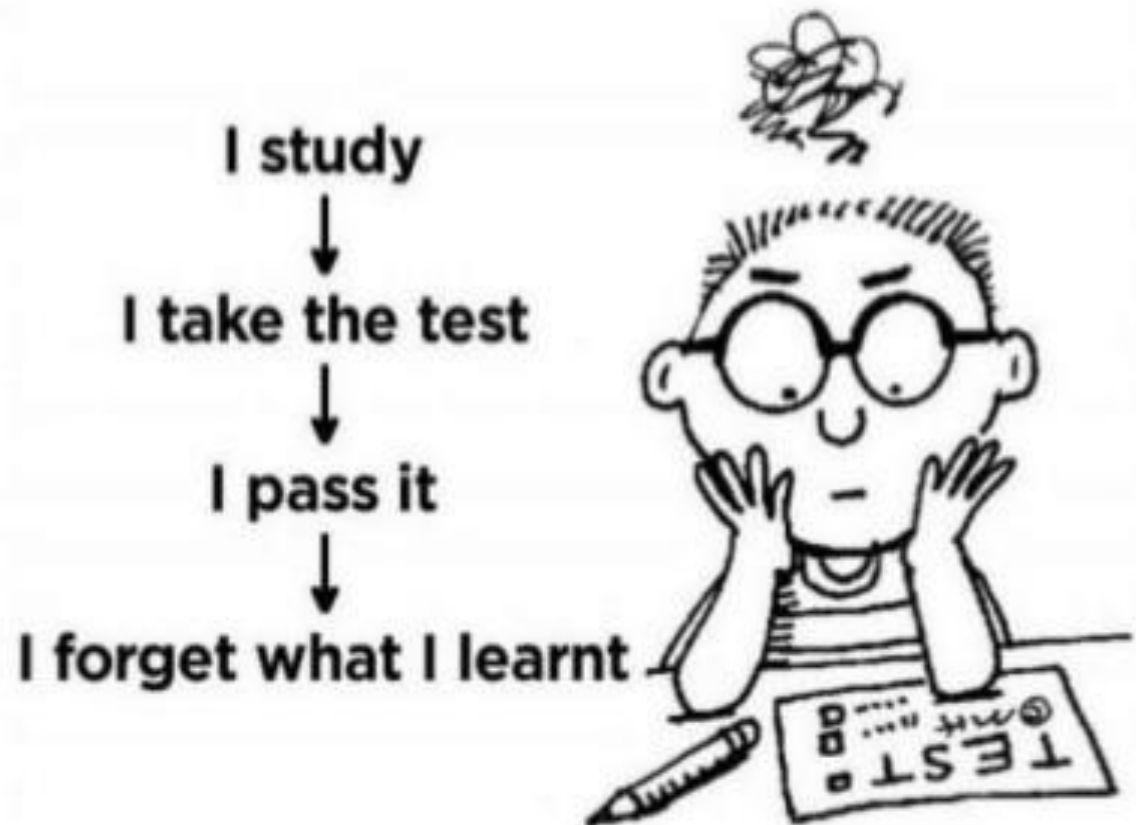
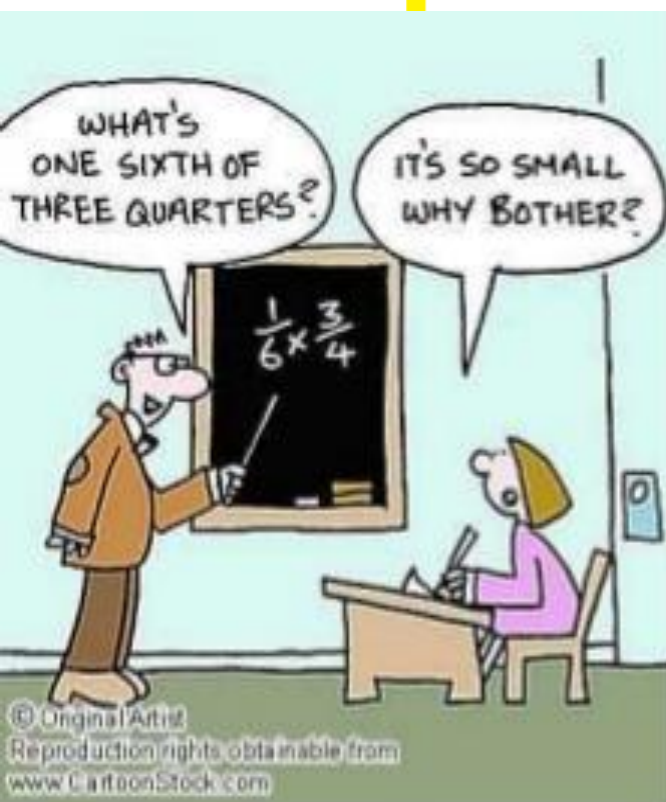
B. Assessing Learner Reactions to Class Activities, Assignments, and Materials (5 techniques)

- *Reading Rating Sheets*: Students complete a form that rates the effectiveness of the assigned readings.
- *Assignment Assessments*: Students respond to 2 or 3 open-ended questions about the value of an assignment to their learning.
- *Exam Evaluations*: Students provide feedback about an exam's learning value and/or format.

2.4. Strategies for Using CATs

- ❖ Decide what you want to assess about your students' learning from a CAT;
- ❖ Choose a CAT that provides this feedback, is consistent with your teaching style, and can be implemented easily in your class;
- ❖ Explain the purpose of the activity to students, and then conduct it;
- ❖ After class, review the results, determine what they tell you about your students' learning, and decide what changes to make, if any;
- ❖ Let your students know what you learned from the CAT and how you will use this information.

3. STUDENT ASSESSMENT



Students don't actually understand why they are assessed!

3.1. What Is Student Assessment?

Martha L. A. Stassen et al. define assessment as “the systematic collection and analysis of information to improve student learning.”
(Stassen et al., 2001, pg. 5)

3.2. Why Is Student Assessment Important?

- ❖ provides useful feedback to both lecturers and students about the extent to which students are successfully meeting course learning objectives.
- ❖ enables lecturers to determine the metrics of measurement for student understanding of and proficiency in course learning objectives.
- ❖ encourages lecturers and curriculum planners to first ‘think like an assessor’ before designing specific units and lessons, and thus to consider up front how they will determine if students have attained the desired understandings.”

3.3. Types of Student Assessment

- 3.1. Diagnostic Assessment
- 3.2. Formative Assessment
- 3.3. Summative Assessment

3.3. Types of Student Assessment

3.1. Diagnostic Assessment (1)

3.1.1. Purpose:

- Diagnostic assessment is used to identify current knowledge and/or misconceptions about a topic.
- It is good for pre and post assessments.

3.1.2. Diagnostic examples:

- Pre and post-tests
- Self-assessments
- Discussion board responses
- Entry/exit tickets
- Interviews

3.3. Types of Student Assessment

3.1. Diagnostic Assessment (2)

3.1.1. Purpose:

- Diagnostic assessment is used to identify current knowledge and/or misconceptions about a topic.
- It is good for pre and post assessments.

3.1.2. Diagnostic examples:

- Pre and post-tests
- Self-assessments
- Discussion board responses
- Entry/exit tickets
- Observations
- Polling
- Interviews

3.3. Types of Student Assessment

3.2. Formative Assessment (1)

3.2.1. Purpose:

- Formative assessment is used to provide feedback during the instructional process.
- It is good for viewing growth overtime.

3.2.2. Formative examples:

- Student observations
- Homework
- Reflection journals/Sketched books
- Socratic discussions
- Student/Teacher conferences

3.3. Types of Student Assessment

3.2. Formative Assessment (2)

3.2.2. Formative examples:

- Peer reviews
- Informal presentations
- Portfolios-on-going
- Project phases submitted overtime
- Think/Pair/Share
- Visual Thinking Strategies
- Critiques

3.3. Types of Student Assessment

3.3. Summative Assessment (1)

3.3.1. Purpose:

- Summative assessment is used to sum up learning at the end of the instructional process.
- It is good for assessing mastery and performance/production levels

3.3.2. Formative examples:

- High-stakes tests
- Multiple choice
- Checklists
- Portfolios – culmination
- Performances

3.3. Types of Student Assessment

3.3. Summative Assessment (2)

3.3.2. Formative examples:

- Rubrics
- Teacher-created tests
- Essays
- Capstone projects

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Thank
You