

## ASSESSMENT OF INFORMATION FLUENCY

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### DIAGNOSTIC ASSESSMENT

The measurement of pre-existing knowledge and skills and the identification of misconceptions in order to set goals for new learning.	
Teacher-Led	Learner-Led
Pre-test Pre-performance task Misconceptions assessment	K (Know) of K-W-L chart Concept map

### EXAMPLES OF DIAGNOSTIC ASSESSMENT

#### ***Misconceptions Assessment:***

The teacher/library media specialist begins a unit of study by giving students a list of statements and asking them to agree or disagree with them. The students do not know that some of the statements actually identify commonly held misconceptions. When the correct answers are announced, students are alerted to the misconceptions that they hold. Research has shown that unless learners recognize their own misconceptions, they are not likely to replace them with more accurate or detailed knowledge.

Statement	Agree	Disagree
1. Assessment is the same as evaluation.		
2. Authentic assessment can be defined as "alternative venues for students to demonstrate their learning."		
3. Reflection is an essential component of assessment.		
4. Assessment is out of the hands of library media specialists because information fluency skills are not tested on the standardized, required exams.		

#### ***Concept Map:***

A concept map is a visualization of what a student knows about a topic, including the major ideas and the relationship among ideas. This is a useful tool at the Connect Phase of Inquiry, because it is important for students to recognize what they know and do not know before they start a unit of study. Concept maps are also very useful for bringing misconceptions to the

surface, because students will often draw their understandings in clearer ways than they can express in words. Students can use the following process to create concept maps:

- Create a visual symbol of the main idea for the center of the map.
- Brainstorm all that you already know about the topic using visual symbols or words, writing each on a separate card or slip of paper.
- Prioritize and organize the ideas, placing the major ones in some relationship to the central idea. When you are satisfied that your organization expresses your ideas well, transfer the major ideas to the concept map. Draw appropriate connections among the ideas (arrows, straight lines, question marks).
- Add the rest of your facts and ideas to the concept map where they are most appropriately placed and show the connections and relationships among the ideas by using lines, graphics, or visual placements.

### FORMATIVE ASSESSMENT

The measurement of knowledge and skills during the process of learning in order to inform the next steps.	
Teacher-Led	Learner-Led
Ungraded exams Feedback on drafts Exit cards Graphic organizers Observation checklist Consultation interview Interactive research journal Progress / benchmark checks Rubric	Reflecting <ul style="list-style-type: none"> <li>• Learning log notetaking</li> <li>• Progress log</li> <li>• Process log</li> <li>• Graphic organizer</li> </ul> Questioning <ul style="list-style-type: none"> <li>• Inquiry framework questions</li> <li>• Question stems</li> </ul> Organizing <ul style="list-style-type: none"> <li>• Visualization</li> <li>• Concept map</li> <li>• Simplified outline</li> </ul> Sharing <ul style="list-style-type: none"> <li>• Reciprocal teaching</li> <li>• Thinkaloud</li> </ul> Challenging <ul style="list-style-type: none"> <li>• Peer review and feedback</li> <li>• Challenging questions: What if?; Why?; What else?; Who says?; So what?</li> </ul> Evaluating

	<ul style="list-style-type: none"> <li>• Checklist</li> <li>• Rubric</li> </ul>
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## EXAMPLES OF FORMATIVE ASSESSMENT

### **Exit Cards:**

The library media specialist hands each student a card in the last five to ten minutes of class time in the library. Upper elementary and secondary students are given a specific question to answer about their progress or new understandings (e.g., *What was the most interesting idea you learned today?*, *What question(s) are you having trouble answering through your research?*, *What source did you find today and how did you decide it was valuable?*, *Where are you in your inquiry process and what's your next step?*). Lower elementary students can be asked to rate their own progress on simplified tasks (*Did you find five facts about your animal today?*) with their name and a smiley or frowny face. The students hand in the cards as they leave. The library media specialist responds on the back with specific suggestions, provocative questions, ideas for next steps, or general encouragement.

### **Observation Checklist:**

Because information fluency assessment is largely a measure of students' ability "to do," library media specialists can develop checklists of observable behaviors that signify students' use of information fluency skills. Checklists measure completion of work, but generally they are not a good instrument to measure quality of work. Observation checklists are most valuable when developed as a matrix with students' names on one side and the observable behaviors on the other.

	Geraldo	Chymeka	Steven	Stephanie	Jamal
<b>Elementary:</b>					
Predicted what a book would be about from its title					
Took notes on at least two facts to answer each question					
Used pictures to find answers to questions					
<b>Secondary:</b>					
Developed at least three focusing questions					
Set up notetaking log sheets with a question at the top of each					
Found and took notes from a magazine article					

Found and took notes from two books					
Evaluated a website using the criteria established by the class					

**Learning Log Notetaking:**

Notes	Reactions
<p>Learning logs can be used any time a student is responsible for writing down information (from library sources, interviews, lecture notes, websites)</p> <p>Students write notes in their own words in the left column and react to those notes in the right column.</p> <p>The purpose of a learning log is to help students learn to interact mentally and emotionally with their notes while they are in the process of taking them. Not only do they learn more while they are taking notes, but they also can identify areas where they need additional information or different perspectives.</p>	<p>Reactions can include:</p> <ul style="list-style-type: none"> <li>• Personal comments or feeling about the information (<i>I think companies that dump toxic waste should be heavily fined.</i>)</li> <li>• Questions (<i>What are the laws on toxic-waste dumping? What source will give me another perspective on this issue?</i>)</li> <li>• Notes about organization (<i>Use this information in my introduction.</i>)</li> <li>• Connections to previous knowledge (<i>Toxic-waste dumping is worse than oil spills because it's intentional. I think this information is true because it agrees with 2 other sources.</i>)</li> </ul>

**Inquiry Framework Questions:**

Students should reflect throughout their inquiry experience in order to self-regulate their progress through this recursive process. See the questions before and after each phase of inquiry in the *Empire State Information Fluency Continuum*.

**Reciprocal Teaching:**

Students pair with a fellow student to teach a new understanding they have gained about the content or process of their inquiry. Elementary students, for example, might explain how they used the table of contents an index to find information on their topics. Secondary students might teach their peers how they figured out what were the main ideas and what was supporting evidence. Students should be given a protocol to follow:

- Student One teaches for 5-10 minutes, with the other student taking brief notes.
- The other student asks clarifying questions for 2-3 minutes to be sure he or she understands what the first student said (*Did you say. . ., What did you mean when you said. . .*).
- The students switch roles and go through the process again.

## SUMMATIVE ASSESSMENT

The measurement of knowledge and skills at the end of a process of learning in order to determine the amount and quality of learning.	
<b>Teacher-Led</b>	<b>Learner-Led</b>
Authentic product Presentation or exhibition Performance task Portfolio / Process folio Checklist Rubric	Concept map Final reflection Authentic product Presentation or exhibition Portfolio / Process folio Checklist Rubric

## CHARACTERISTICS OF SUMMATIVE ASSESSMENT

### ***Authentic Assessment:***

The characteristics of authentic learning\* identified by Newmann et al. may be translated into characteristics of authentic assessment.

\*Newmann, Fred M. et al. *A Guide to Authentic Instruction and Assessment: Vision, Standards, and Scoring*. Madison, WI: Wisconsin Center for Education Research, 1995)

<b>CHARACTERISTICS OF AUTHENTIC LEARNING*</b>	<b>CHARACTERISTICS OF AUTHENTIC ASSESSMENT</b>
Worthwhile, significant, and meaningful	An authentic assessment product allows students to demonstrate meaningful answers to important questions.
Construction of knowledge	An authentic assessment product requires students to construct meaning rather than simply copy facts. The meaning is converted to understanding when students are expected to apply their knowledge and skills in a new context through creation of their assessment product.
Disciplined inquiry	The information fluency skills embedded in a framework of inquiry provide the structure and mental discipline that lead to authentic learning and assessment.

CHARACTERISTICS OF AUTHENTIC LEARNING*	CHARACTERISTICS OF AUTHENTIC ASSESSMENT
Value beyond school	Authentic assessment has value beyond the classroom because the ideas have real-world significance, the student has discovered personal connections to them, and the product has a real context or format.

***Assessment Products at Different Levels of Thinking:***

Summative assessment products can be designed for different levels of thinking, depending on the requirements of the assignment and the depth of learning expected. If students are offered choices in assessment products to allow for different learning styles, then the alternatives must be carefully designed so that they require the same level of thinking (e.g., a Hall of Fame poster does not require the same level of thinking as a debate). Library media specialists collaborate with classroom teachers to design assessment products that challenge students to think, connect, construct, and demonstrate their learning in creative and enjoyable ways.

The following is an adapted excerpt from Stripling, Barbara K. and Judy M. Pitts. *Brainstorms and Blueprints: Teaching Library Research as a Thinking Process*. Englewood, CO: Libraries Unlimited, 1988.

Level	Verbs	Sample Assessment Products
Recalling  <i>Recalling and reporting the main facts discovered; Making no attempt to analyze the information or reorganize it for comparison purposes</i>	Arrange; cluster; define; find; identify; label; list; locate; match; name; recall; recount; repeat; reproduce; select; sort; state	<ul style="list-style-type: none"> <li>• <u>Select</u> 5-10 accomplishments of the person you have researched. Produce a "Hall of Fame" (or "Hall of Shame") poster with your biographee's photocopied picture and list of accomplishments.</li> <li>• <u>List</u> five "Do's and Don'ts" about a social issue that you have researched.</li> <li>• Based on your research, <u>state</u> five questions a television reporter might ask if he/she were preparing a feature news story on your subject. Answer the questions.</li> </ul>
Analyzing  <i>Breaking a subject into its component parts (causes, effects, problems, solutions);</i>	analyze; apply; arrange; associate; break down; categorize; change; characterize; classify; compare; compile; construct; contrast; correlate; diagram;	<ul style="list-style-type: none"> <li>• <u>Construct</u> a carefully organized web page to examine a social issue.</li> <li>• <u>Characterize</u> your researched historical person in an obituary which makes clear his/her role in the conflicts of the day.</li> </ul>

Level	Verbs	Sample Assessment Products
<i>Comparing one part with another</i>	differentiate; discriminate; dissect; distinguish; divide; examine; group; interpret; map; modify; organize; outline; question; reconstruct; relate; rewrite; scrutinize; select; separate; sequence; sift; simplify; solve; transplant; verify	<ul style="list-style-type: none"> <li>• <u>Compare</u> your lifestyle and neighborhood to those of people living in the time or place you have researched.</li> <li>• Write a letter to the editor <u>scrutinizing</u> a local issue. Support your opinions with specific details from your research.</li> </ul>
Transforming  <i>Bringing together more than one piece of information, forming own conclusion, and presenting that conclusion in a creative new format.</i>	blend; build; combine; compile; compose; conclude; construct; convince; create; decide; design; develop; dramatize; elaborate; express; forecast; formulate; generate; imagine; modify; persuade; plan; predict; pretend; produce; propose; revise; speculate; structure	<ul style="list-style-type: none"> <li>• <u>Design</u> and <u>produce</u> a television commercial or a whole advertising campaign that presents your research results to the class.</li> <li>• <u>Create</u> a board game that incorporates the major conclusions you reached about your researched subject.</li> <li>• Write a poem or short story that <u>expresses</u> your new knowledge or insight.</li> <li>• <u>Dramatize</u> a famous historical event. The dramatization should make clear your interpretation of the event.</li> <li>• <u>Compose</u> a speech that an historical person might deliver about a present-day national issue. <u>Compose</u> a speech that a current public person might deliver about an historical issue.</li> </ul>

### GUIDELINES FOR DEVELOPING ASSESSMENTS OF INFORMATION FLUENCY

- Establish clear information fluency learning goals
- Define clear criteria for successful application of information fluency skills
- Align goals and criteria with assignment
- Move to student self-assessment
- Make assessments a natural part of teaching and learning throughout the process of learning