

**- Tools for Formative Assessment -**  
**- Techniques to Check for Understanding -**  
**- Processing Activities -**

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| <b>1. Index Card Summaries/ Questions</b> | Periodically, distribute index cards and ask students to write on both sides, with these instructions: (Side 1) Based on our study of (unit topic), list a big idea that you understand and word it as a summary statement. (Side 2) Identify something about (unit topic) that you do not yet fully understand and word it as a statement or question.   |
| <b>2. Hand Signals</b>                    | Ask students to display a designated hand signal to indicate their understanding of a specific concept, principal, or process: - I understand _____ and can explain it (e.g., thumbs up). - I do not yet understand _____ (e.g., thumbs down). - I'm not completely sure about _____ (e.g., wave hand).   |
| <b>3. One Minute Essay</b>                | A one-minute essay question (or one-minute question) is a focused question with a specific goal that can, in fact, be answered within a minute or two.  |
| <b>4. Analogy Prompt</b>                  | Present students with an analogy prompt: (A designated concept, principle, or process) is like _____ because _____.   |
| <b>5. Web or Concept Map</b>              | Any of several forms of graphical organizers which allow learners to perceive relationships between concepts through diagramming key words representing those concepts.<br><a href="http://www.graphic.org/concept.html">http://www.graphic.org/concept.html</a>  |
| <b>6. Misconception Check</b>             | Present students with common or predictable misconceptions about a designated concept, principle, or process. Ask them whether they agree or disagree and explain why. The misconception check can also be presented in the form of a multiple-choice or true-false quiz.   |
| <b>7. Student Conference</b>              | One on one conversation with students to check their level of understanding.  |
| <b>8. 3-Minute Pause</b>                  | The Three-Minute Pause provides a chance for students to stop, reflect on the concepts and ideas that have just been introduced, make connections to prior knowledge or experience, and seek clarification. <ul style="list-style-type: none"> <li>• I changed my attitude about...</li> <li>• I became more aware of...</li> <li>• I was surprised about...</li> <li>• I felt...</li> <li>• I related to...</li> <li>• I empathized with...</li> </ul> |
| <b>9. Observation</b>                     | Walk around the classroom and observe students as they work to check for learning. Strategies include: <ul style="list-style-type: none"> <li>•Anecdotal Records</li> <li>•Conferences</li> <li>•Checklists</li> </ul>  |
| <b>10. Self-Assessment</b>                | A process in which students collect information about their own learning, analyze what it reveals about their progress toward the intended learning goals and plan the next steps in their learning.  |
| <b>11. Exit Card</b>                      | Exit cards are written student responses to questions posed at the end of a class or learning activity or at the end of a day.  |
| <b>12. Portfolio Check</b>                | Check the progress of a student's portfolio. A portfolio is a purposeful collection of significant work, carefully selected, dated and presented to tell the story of a student's achievement or growth in well-defined areas of performance, such as reading, writing, math, etc. A portfolio usually includes personal reflections where the student explains why each piece was chosen and what it shows about his/her growing skills and abilities. |
| <b>13. Quiz</b>                           | Quizzes assess students for factual information, concepts and discrete skill. There is usually a single best answer. Some quiz examples are: <ul style="list-style-type: none"> <li>• Multiple Choice</li> </ul>  |

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|  | <ul style="list-style-type: none"> <li>• True/False</li> <li>• Short Answer</li> <li>• Paper and Pencil</li> <li>• Matching</li> <li>• Extended Response</li> </ul>   |
| <b>14. Journal Entry</b>                           | Students record in a journal their understanding of the topic, concept or lesson taught. The teacher reviews the entry to see if the student has gained an understanding of the topic, lesson or concept that was taught.   |
| <b>15. Choral Response</b>                         | In response to a cue, all students respond verbally at the same time. The response can be either to answer a question or to repeat something the teacher has said.  |
| <b>16. A-B-C Summaries</b>                         | Each student in the class is assigned a different letter of the alphabet and they must select a word starting with that letter that is related to the topic being studied.  |
| <b>17. Debriefing</b>                              | A form of reflection immediately following an activity.   |
| <b>18. Idea Spinner</b>                            | The teacher creates a spinner marked into 4 quadrants and labeled "Predict, Explain, Summarize, Evaluate." After new material is presented, the teacher spins the spinner and asks students to answer a question based on the location of the spinner. For example, if the spinner lands in the "Summarize" quadrant, the teacher might say, "List the key concepts just presented."  |
| <b>19. Inside-Outside Circle</b>                   | Inside and outside circles of students face each other. Within each pair of facing students, students quiz each other with questions they have written. Outside circle moves to create new pairs. Repeat.   |
| <b>20. Reader's Theater</b>                        | From an assigned text have students create a script and perform it.   |
| <b>21. One Sentence Summary</b>                    | Students are asked to write a summary sentence that answers the "who, what where, when, why, how" questions about the topic.  |
| <b>22. Summary Frames</b>                          | <u>Description:</u> A _____ is a kind of _____ that ...<br><u>Compare/Contrast:</u> _____ and _____ are similar in that they both.... but _____, while _____.....<br><u>Problem/Solution:</u> _____ wanted....., but ....., so .....<br><u>Cause/Effect:</u> _____ happens because ....   |
| <b>23. One Word Summary</b>                        | Select (or invent) one word which best summarizes a topic.  |
| <b>24. Think-Pair- Share/ Turn to Your Partner</b> | Teacher gives direction to students. Students formulate individual response, and then turn to a partner to share their answers. Teacher calls on several random pairs to share their answers with the class.  |
| <b>25. Think-Write-Pair-Share</b>                  | Students think individually, write their thinking, pair and discuss with partner, then share with the class.  |
| <b>26. Talk a Mile a Minute</b>                    | Partner up – giver and receiver... Kind of like "Password" or "Pyramid." Both know the category, but the receiver has his back to the board/screen. A set of terms will appear based on the category – giver gives clues, while receiver tries to guess the terms. First group done stands up   |
| <b>27. Oral Questioning</b>                        | <ul style="list-style-type: none"> <li>- How is _____ similar to/different from _____?</li> <li>- What are the characteristics/parts of _____?</li> <li>- In what other ways might we show show/illustrate _____?</li> <li>- What is the big idea, key concept, moral in _____?</li> <li>- How does _____ relate to _____?</li> <li>- What ideas/details can you add to _____?</li> <li>- Give an example of _____?</li> <li>- What is wrong with _____?</li> <li>- What might you infer from _____?</li> <li>- What conclusions might be drawn from _____?</li> <li>- What question are we trying to answer? What problem are we trying to solve?</li> </ul> |

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|   | <ul style="list-style-type: none"> <li>- What are you assuming about _____?</li> <li>- What might happen if _____?</li> <li>- What criteria would you use to judge/evaluate _____?</li> <li>- What evidence supports _____?</li> <li>- How might we prove/confirm _____?</li> <li>- How might this be viewed from the perspective of _____?</li> <li>- What alternatives should be considered _____?</li> <li>- What approach/strategy could you use to _____?</li> </ul>   |
| <b>28. Tic-Tac-Toe/<br/>Think-Tac-Toe</b>   | A collection of activities from which students can choose to do to demonstrate their understanding. It is presented in the form of a nine square grid similar to a tic-tac-toe board and students may be expected to complete from one to "three in a row". The activities vary in content, process, and product and can be tailored to address DOK levels.   |
| <b>29. Four Corners</b>                     | <p>Students choose a corner based on their level of expertise of a given subject.<br/>Based on your knowledge of _____, which corner would you choose?</p> <p>Corner 1: The Dirt Road<br/>–(There's so much dust, I can't see where I'm going! Help!!)</p> <p>Corner 2: The Paved Road (It's fairly smooth, but there are many potholes along the way.)</p> <p>Corner 3: The Highway ( I feel fairly confident but have an occasional need to slowdown.)</p> <p>Corner 4: The Interstate (I 'm traveling along and could easily give directions to someone else.)</p> <p>Once students are in their chosen corners, allow students to discuss their progress with others. Questions may be prompted by teacher.</p> <p>Corner One will pair with Corner Three; Corner Two will pair with Corner Four for peer tutoring.</p> |
| <b>30. Muddiest (or<br/>Clearest) Point</b> | This is a variation on the one-minute paper, though you may wish to give students a slightly longer time period to answer the question. Here you ask (at the end of a class period, or at a natural break in the presentation), "What was the "muddiest point" in today's lecture?" or, perhaps, you might be more specific, asking, for example: "What (if anything) do you find unclear about the concept of 'personal identity' ('inertia', 'natural selection', etc.)?"   |
| <b>31. 3-2-1</b>                            | 3 things you found out<br>2 interesting things<br>1 question you still have   |
|   | 3 differences between ____<br>2 effects of __ on ____<br>1 question you still have about the topic  |
|   | 3 important facts<br>2 interesting ideas<br>1 insight about yourself as a learner   |
|   | 3 key words<br>2 new ideas<br>1 thought to think about  |
|   | Write 3 questions about the text (unfamiliar words, confusing passages or ideas)<br>Write 2 predictions based on the text (what will happen next based on the reading)<br>Make one connection based on the text (connect to something you know or have experienced)   |
| <b>32. Cubing</b>                           | Display 6 questions from the lesson Have students in groups of 4.<br>Each group has 1 die. Each student rolls the die and answers the question with the corresponding number. If a number is rolled more than once the student may elaborate on the previous response or roll again. Responses may also be written.   |

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| 33. Quick Write           | The strategy asks learners to respond in 2–10 minutes to an open-ended question or prompt posed by the teacher before, during, or after reading.   |
| 34. Directed Paraphrasing | Students summarize in well-chosen (own) words a key idea presented during the class period or the one just past.   |
| 35. RSQC2                 | In two minutes, students <i>recall</i> and list in rank order the most important ideas from a previous day's class; in two more minutes, they <i>summarize</i> those points in a single sentence, then write one major <i>question</i> they want answered, then identify a thread or theme to <i>connect</i> this material to the course's major goal.   |
| 36. Writing Frames        | <p style="text-align: center;">Problem/Solution Paragraph</p> <p>_____ present(s) a dilemma that is _____. The problem is _____<br/>         _____. This <i>has/have</i> occurred because _____<br/>         _____. A resolution <i>is/was</i> possible. To solve <i>it/this</i>, it<br/> <i>will be/has been</i> necessary to _____. The solution(s) include(s)<br/>         _____.</p> <p style="text-align: center;">Compare and Contrast Paragraph</p> <p>There are several differences between _____ and _____. They _____<br/>         _____. In contrast to _____, _____ has _____<br/>         _____. Unlike _____, _____ does not _____<br/>         _____. On the other hand, _____<br/>         _____.</p> <p style="text-align: center;">Description Paragraph</p> <p>Have you ever _____? _____ <i>has/have</i> very interesting characteristics.<br/> <i>It/they has/have</i> _____. For instance, <i>it/they</i><br/> <i>has/have</i> _____ which enhances<br/>         _____. <i>It/they</i> also _____. For these reasons,<br/>         _____.</p> <p style="text-align: center;">Cause and Effect Paragraph</p> <p>_____ is influenced by _____. Since _____<br/>         _____ happened, then _____.<br/>         Therefore, _____. This provides explanation for _____<br/>         _____ and _____. The<br/>         impact is _____.</p> <p style="text-align: center;">Sequence Paragraph</p> <p>The <i>events/process</i> of _____ is _____. The first _____<br/>         _____. Then, _____<br/>         _____. Next, _____<br/>         _____. Finally, _____.</p> |

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| <b>37. Decisions, Decisions (Philosophical Chairs)</b> | Given a prompt, class goes to the side that corresponds to their opinion on the topic, side share out reasoning, and students are allowed to change sides after discussion  |
| <b>38. Somebody Wanted But So</b>                      | Students respond to narrative text with structured story grammar either orally, pictorially, or in writing. (Character(s)/Event/Problem/Solution)   |
| <b>39. Likert Scale</b>                                | <p>Provide 3-5 statements that aren't clearly true or false, but are somewhat debatable. The purpose is to help students reflect on a text and engage in discussion with their peers afterwards. These scales focus on generalizations about characters, themes, conflicts, or symbolism. There are no clear cut answers in the book. They help students to analyze, synthesize and evaluate information)</p> <p>One question on a Likert Scale might look like this:</p> <p>1. The character (name) should not have done (action).</p> <hr/> <p>strongly agree                      disagree                      agree                      strongly agree</p>  |
| <b>40. I Have the Question, Who Has the Answer?</b>    | The teacher makes two sets of cards. One set contains questions related to the unit of study. The second set contains the answers to the questions. Distribute the answer cards to the students and either you or a student will read the question cards to the class. All students check their answer cards to see if they have the correct answer. <i>A variation is to make cards into a chain activity:</i> The student chosen to begin the chain will read the given card aloud and then wait for the next participant to read the only card that would correctly follow the progression. Play continues until all of the cards are read and the initial student is ready to read his card for the second time.                                  |
| <b>41. Whip Around</b>                                 | The teacher poses a question or a task. Students then individually respond on a scrap piece of paper listing at least 3 thoughts/responses/statements. When they have done so, students stand up. The teacher then randomly calls on a student to share one of his or her ideas from the paper. Students check off any items that are said by another student and sit down when all of their ideas have been shared with the group, whether or not they were the one to share them. The teacher continues to call on students until they are all seated. As the teacher listens to the ideas or information shared by the students, he or she can determine if there is a general level of understanding or if there are gaps in students' thinking." |
| <b>42. Word Sort</b>                                   | Given a set of vocabulary terms, students sort in to given categories or create their own categories for sorting  |
| <b>43. Triangular Prism (Red, Yellow, Green)</b>       | Students give feedback to teacher by displaying the color that corresponds to their level of understanding  |
| <b>44. Take and Pass</b>                               | Cooperative group activity used to share or collect information from each member of the group; students write a response, then pass to the right, add their response to next paper, continue until they get their paper back, then group debriefs.  |
| <b>45. Student Data Notebooks</b>                      | A tool for students to track their learning: Where am I going? Where am I now? How will I get there?  |
| <b>46. Slap It</b>                                     | Students are divided into two teams to identify correct answers to questions given by the teacher. Students use a fly swatter to slap the correct response posted on the wall.  |
| <b>47. Say Something</b>                               | Students take turns leading discussions in a cooperative group on sections of a reading or video  |
| <b>48. Flag It</b>                                     | Students use this strategy to help them remember information that is important to them. They will "flag" their ideas on a sticky note or flag die cut...  |

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| <b>49. Fill In Your Thoughts</b>           | Written check for understanding strategy where students fill the blank. (Another term for rate of change is ____ or ____.)  |
| <b>50. Circle, Triangle, Square</b>        | Something that is still going around in your head (Triangle) Something pointed that stood out in your mind (Square) Something that “Squared” or agreed with your thinking.  |
| <b>51. ABCD Whisper</b>                    | Students should get in groups of four where one student is A, the next is B, etc. Each student will be asked to reflect on a concept and draw a visual of his/her interpretation. Then they will share their answer with each other in a zigzag pattern within their group.   |
| <b>52. Onion Ring</b>                      | Students form an inner and outer circle facing a partner. The teacher asks a question and the students are given time to respond to their partner. Next, the inner circle rotates one person to the left. The teacher asks another question and the cycle repeats itself.   |
| <b>53. ReQuest/ Reciprocal Questioning</b> | ReQuest, or reciprocal questioning, gives the teacher and students opportunities to ask each other their own questions following the reading of a selection. The ReQuest strategy can be used with most novels or expository material. It is important that the strategy be modeled by the teacher using each genre. A portion of the text is read silently by both the teacher and the students. The students may leave their books open, but the teacher's text is closed. Students then are encouraged to ask the teacher and other students questions about what has been read. The teacher makes every attempt to help students get answers to their questions. The roles then become reversed. The students close their books, and the teacher asks the students information about the material. This procedure continues until the students have enough information to predict logically what is contained in the remainder of the selection. The students then are assigned to complete the reading |
| <b>54. K-W-L &amp; KWL+</b>                | Students respond as whole group, small group, or individually to a topic as to “What they already Know, what they want to learn, what they have learned”. PLUS (+) asks students to organize their new learnings using a concept map or graphic organizer that reflects the key information. Then, each student writes a summary paragraph about what they have learned.  |
| <b>55. Choral Reading</b>                  | Students mark the text to identify a particular concept and chime in, reading the marked text aloud in unison   |
| <b>56. Socratic Seminar</b>                | Students ask questions of one another about an essential question, topic, or selected text. The questions initiate a conversation that continues with a series of responses and additional questions.   |
| <b>57. Newspaper Headline</b>              | Create a newspaper headline that may have been written for the topic we are studying. Capture the main idea of the event.   |
| <b>58. Numbered Heads Together</b>         | Students sit in groups and each group member is given a number. The teacher poses a problem and all four students discuss. The teacher calls a number and that student is responsible for sharing for the group.  |
| <b>59. Gallery Walk</b>                    | After teams have generated ideas on a topic using a piece of chart paper, they appoint a “docent” to stay with their work. Teams rotate around examining other team’s ideas and ask questions of the docent. Teams then meet together to discuss and add to their information so the docent also can learn from other teams. 6.Graffiti – Groups receive a large piece of paper and felt pens of different colors. Students generate ideas in the form of graffiti. Groups can move to other papers and discuss/add to the ideas.   |
| <b>60. One Question and One Comment</b>    | Students are assigned a chapter or passage to read and create one question and one comment generated from the reading. In class, students will meet in either small or whole class groups for discussion. Each student shares at least one comment or question. As the discussion moves student by student around the room, the next person can answer a previous question posed by another student, respond to a comment, or share their own comments and questions. As the activity builds around the room, the conversation becomes in-depth with opportunity for all students to learn new perspectives on the text.  |



## EXAMPLE OF INFORMATIVE SPEECH OUTLINE

Sarah Putnam  
Informative Outline

Topic: The Titanic

General Purpose: To Inform

Specific Purpose: To inform my audience about one of the most famous tragedies in history, the Titanic.

Thesis: From the disaster to the movie, the sinking of the Titanic remains one of the most famous tragedies in history.

### I. Introduction

- A. Attention Getter: An American writer named Morgan Robertson once wrote a book called *The Wreck of the Titan*. The book was about an “unsinkable” ship called the Titan that set sail from England to New York with many rich and famous passengers on board. On its journey, the Titan hit an iceberg in the North Atlantic and sunk. Many lives were lost because there were not enough lifeboats. So, what is so strange about this? Well, *The Wreck of the Titan* was written 14 years before the Titanic sank.
- B. Reason to Listen: The sinking of the Titanic was one of the largest non-war related disasters in history, and it is important to be knowledgeable about the past.
- C. Thesis Statement: From the disaster to the movie, the sinking of the Titanic remains one of the most famous tragedies in history.
- D. Credibility Statement:
  - 1. I have been fascinated by the history of the Titanic for as long as I can remember.
  - 2. I have read and studied my collection of books about the Titanic many times, and have done research on the Internet.
- E. Preview of Main Points:
  - 1. First, I will discuss the Titanic itself.



2. Second, I will discuss the sinking of the ship.
  3. Finally, I will discuss the movie that was made about the Titanic.
- II. From the disaster to the movie, the sinking of the Titanic remains one of the most famous tragedies in history.
- A. The Titanic was thought to be the largest, safest, most luxurious ship ever built.
1. At the time of her launch, she was the biggest existing ship and the largest moveable object ever built.
    - a. According to Geoff Tibbals, in his 1997 book *The Titanic: The extraordinary story of the “unsinkable” ship*, the Titanic was 882 feet long and weighed about 46,000 tons.
    - b. This was 100 feet longer and 15,000 tons heavier than the world’s current largest ships.
    - c. Thresh stated in *Titanic: The truth behind the disaster*, published in 1992 that the Titanic accommodated around 2,345 passengers and 860 crew-members.
  2. The beautiful accommodations of the Titanic were decorated and furnished with only the finest items.
    - a. According to a quotation from *Shipbuilders* magazine that is included in Peter Thresh’s 1992 book *Titanic*, “Everything has been done in regard to the furniture and fittings to make the first class accommodation more than equal to that provided in the finest hotels on shore” (p. 18).
    - b. Fine parlor suites located on the ship consisted of a sitting room, two bedrooms, two wardrobe rooms, a private bath, and a lavatory.
    - c. The first class dining room was the largest on any liner; it could serve 500 passengers at one sitting.
    - d. Other first class accommodations included a squash court, swimming pool, library, barber’s shop, Turkish baths, and a photographer’s dark room.
  3. The Titanic was widely believed to be the safest ship ever built.

- a. Tibbals, as previously cited, described the Titanic as having an outer layer that shielded an inner layer – a ‘double bottom’ – that was created to keep water out of the ship if the outer layer was pierced.
- b. The bottom of the ship was divided into 16 watertight compartments equipped with automatic watertight doors.
- c. The doors could be closed immediately if water were to enter into the compartments.
- d. Because of these safety features, the Titanic was deemed unsinkable.

Transition: Now that I’ve discussed the Titanic itself, I will now discuss the tragedy that occurred on its maiden voyage.

B. The Titanic hit disaster head-on when it ran into an iceberg four days after its departure.

- 1. The beginning of the maiden voyage was mostly uneventful.
  - a. Tibbals (1997) stated that the ship departed from Queenstown in Ireland at 1:30 pm on April 10<sup>th</sup>, 1912, destined for New York.
  - b. The weather was perfect for sailing – there was blue sky, light winds, and a calm ocean.
  - d. According to Walter Lord in *A Night to Remember* from 1955, the Atlantic Ocean was like polished plate glass on the night of April 14.
- 2. The journey took a horrible turn when the ship struck an iceberg and began to sink.
  - a. In the book *Titanic: An illustrated history* from 1992, Lynch explains that the collision occurred at 11:40 pm on Sunday, April 14.
  - b. According to Robert Ballard’s 1988 book *Exploring the Titanic*, the largest part of the iceberg was under water.
  - c. Some of the ship’s watertight compartments had been punctured and the first five compartments rapidly filled with water.

- d. Tibbals (1997) wrote that distress rockets were fired and distress signals were sent out, but there were no ships close enough to arrive in time.
- 3. As the ship went down, some were rescued but the majority of passengers had no place to go.
  - a. Thresh (1992) stated that there were only 20 lifeboats on the ship.
  - b. This was only enough for about half of the 2,200 people that were on board.
  - c. The lifeboats were filled quickly with women and children loaded first.
- 4. The ship eventually disappeared from sight.
  - a. Tibbals (1997) explains that at 2:20 am on Monday, the ship broke in half and slowly slipped under the water.
  - b. At 4:10 am, the Carpathia answered Titanic's distress call and arrived to rescue those floating in the lifeboats.
  - c. Lynch (1992) reported that in the end, 1,522 lives were lost.

Transition: Now that we have learned about the history of the Titanic, I will discuss the movie that was made about it.

- C. A movie depicting the Titanic and a group of fictional characters was made.
  - 1. The movie was written, produced, and directed by James Cameron.
    - a. According to Marsh in *James Cameron's Titanic* from 1997, Cameron set out to write a film that would bring the event of the Titanic to life.
    - b. Cameron conducted six months of research to compile a highly detailed time line so that the film would be realistic.
    - c. Cameron spent more time on the Titanic than the ships' original passengers because he made 12 trips to the wreck site that lasted between ten and twelve hours each.
  - 2. Making *Titanic* was extremely expensive and involved much hard work.
    - a. According to a 1998 article from the *Historical Journal of Films*,

*Radio, and Television*, Kramer stated that the film had a 250 million dollar budget.

- b. A full-sized replica of the ship was constructed in Baja California, Mexico in a 17 million gallon oceanfront tank.
  - c. Cameron assembled an expedition to dive to the wreck on the ocean floor to film footage that was later used in the opening scenes of the movie.
  - d. Marsh (1997) further explained that the smallest details were attended to, including imprinting the thousands of pieces china, crystal, and silver cutlery used in the dining room scenes with White Star's emblem and pattern.
3. The movie was extremely successful.
- a. Kramer (1998) reported that *Titanic* made approximately 600 million dollars in the United States, making it the #1 movie of all time.
  - b. It made approximately 1.8 billion dollars world-wide and is also the #1 movie of all time world-wide.
  - c. *Titanic* was nominated for a record eight Golden Globe Awards only a few weeks after its release, and won four.
  - d. It was also nominated for a record fourteen Academy Awards, and it won eleven.

### III. Conclusion

#### A. Review of Main Points:

1. Today I first discussed the Titanic itself.
2. Second, I discussed the sinking of the ship.
3. Finally, I discussed the movie that was made about the Titanic.

B. Restate Thesis: From the disaster to the movie, the sinking of the Titanic remains one of the most famous tragedies in history.

C. Closure: In conclusion, remember *The Wreck of the Titan*, the story written fourteen years before the Titanic sank. It now seems as if it was an eerie prophecy, or a case of life

imitating art. Whatever the case, the loss of lives on the Titanic was tremendous, and it is something that should never be forgotten.

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## Writing Effective Learning Objectives<sup>1</sup>

### What are learning objectives?

Learning objectives are statements that describe what students should be able to do upon successfully completing a course or session. There are several benefits to clearly articulating your learning objectives, for both you and your students.

Learning objectives:

- ◆ help the instructor organize their course or session, select content, and choose pedagogies, activities, and assessments.
- ◆ provide students with information about the instructor's intentions so that they can better monitor their progress and direct their learning.

Clear, effective learning objectives exhibit the following features (Ambrose, et al., 2010):

- ◆ Student-centered: stated from the student's perspective, as in "Students will be able to..."
- ◆ Use action verbs: focus on explicit and observable actions and behaviors
- ◆ Measurable: Instructors can assess whether students have mastered a learning outcome

| Vague   | Better   | Best  |
|---|--|---|
| Students will develop problem-solving and conflict resolution skills. | Students will demonstrate critical thinking skills, such as problem solving, as it relates to social issues. | Students will analyze and respond to arguments about racial discrimination. |

### Bloom's Taxonomy: What is it and how can it be used to write learning objectives?

Instructors may choose to use Bloom's Taxonomy (Bloom, 1956) to help them write clear, action- oriented, measurable learning objectives. The taxonomy, which was originally proposed in 1956 by Benjamin Bloom, and revised more recently (Anderson & Krathwohl, 2001), is still used today by educators around the world. The taxonomy articulates six levels of learning, from simply remembering information to creating new knowledge. There are a variety of verbs that can be used to describe actions typically associated with each level of learning. However, it is worth noting that the six levels are not necessarily distinct, but rather they fall on a continuum; many of the verbs listed below may be useful across multiple levels.

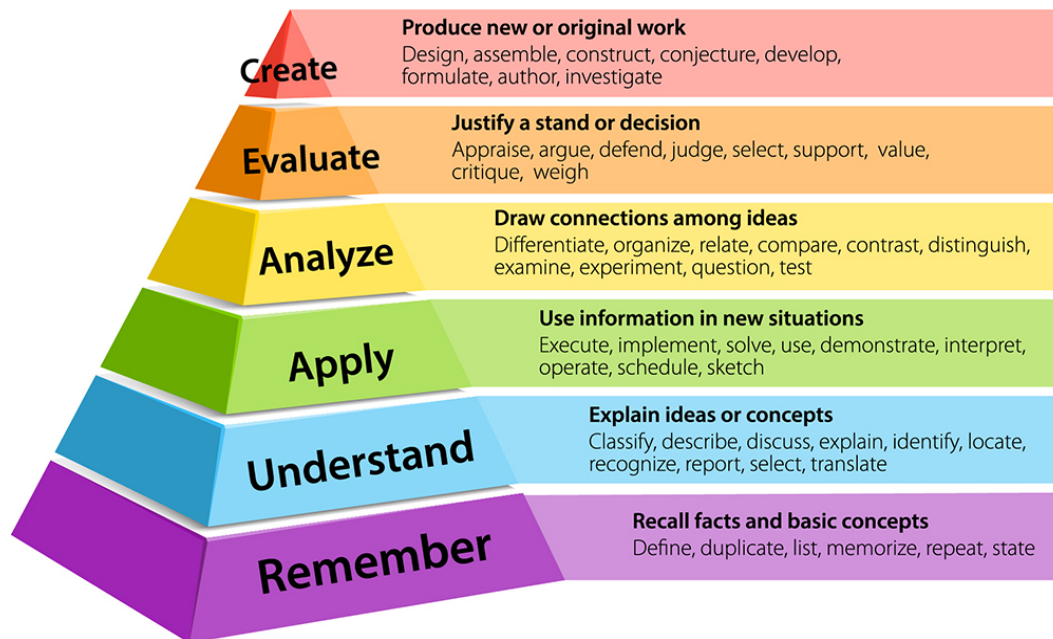
<sup>1</sup> This handout was developed using information from <https://tips.uark.edu>, Ambrose et al. (2010), and Handelsman et al. (2006). See references for full bibliographic information

| <b>Remember</b> | <b>Understand</b> | <b>Apply</b> | <b>Analyze</b> | <b>Evaluate</b> | <b>Create</b>        |
|-----------------|-------------------|--------------|----------------|-----------------|----------------------|
| Arrange         | Associate         | Calculate    | Break down     | Appraise        | Assemble             |
| Define          | Classify          | Construct    | Categorize     | Argue           | Build                |
| Describe        | Compare           | Demonstrate  | Combine        | Assess          | Compose              |
| Duplicate       | Contrast          | Develop      | Compare        | Check           | Construct            |
| Identify        | Describe          | Employ       | Contrast       | Conclude        | Derive               |
| Label           | Differentiate     | Estimate     | Criticize      | Convince        | Design               |
| List            | Discuss           | Examine      | Debate         | Critique        | Develop<br>Formulate |
| Locate          | Exemplify         | Execute      | Diagram        | Defend          | Generate             |
| Name            | Explain           | Formulate    | Examine        | Determine       | Integrate            |
| Outline         | Infer             | Implement    | Experiment     | Judge           | Invent               |
| Recall          | Interpret         | Model        | Extrapolate    | Justify         | Produce              |
| Recite          | Paraphrase        | Modify       | Formulate      | Monitor         | Propose              |
| Recognize       | Restate           | Perform      | Illustrate     | Rank            | Rearrange            |
| Reproduce       | Summarize         | Present      | Organize       | Rate            | Set up               |
| Select          | Translate         | Sketch       | Predict        | Recommend       | Transform            |
| State           |                   | Solve        | Question       | Relate          |                      |
|                 |                   | Use          |                | Select          |                      |
|                 |                   |              |                | Test            |                      |
|                 |                   |              |                | Weigh           |                      |



## ***Hierarchy of Bloom's Taxonomy***

Bloom's taxonomy is hierarchical, meaning that learning at the higher levels is dependent on having attained prerequisite knowledge and skills at lower levels. For this reason, Bloom's taxonomy is often displayed as a pyramid. However, each course is not expected to start at the lower order skills and move up through the entire taxonomy. When considering what Bloom's levels are appropriate for course learning objectives, instructors should consider what students should know and be able to do coming into the course, and what they need to know and be able to do by the end of the course, based on course sequences, major and minor requirements, general education or other requirements. Considering pre- and post-requisites for a course helps instructors articulate appropriate learning objectives for their course.



For example, an introductory level course in a major may focus on ensuring that students are able to remember and understand the important concepts that provide the foundations of that field. In upper-level courses, those students may be asked to go beyond demonstrating that they can remember concepts by being asked to apply them or use them to evaluate a new situation.

Each lesson, class session, or unit may have more specific objectives used to demonstrate that a student has mastered a course level outcome. Lesson level objectives directly support the course level objectives. Instructors may use Bloom's taxonomy to check that the lesson level objectives build up to the course level objectives.

## Backward design: How does articulating course-level or session-level learning objectives help with teaching?

Instructors should clarify course or session learning objectives before attempting to plan learning experiences, instruction, and assessments. An ideal framework for approaching course design is backward design (Wiggins & McTighe, 1998), which involves three general steps:

- ◆ Clarify intended learning objectives
- ◆ Determine valid evidence to demonstrate achievement of learning objectives
- ◆ Plan learning experiences and instruction to help students achieve those objectives

Instructors should plan instructional strategies and assessments based on the level of learning reflected in the learning outcome. For instance, lecturing and showing videos in a class can be effective ways of presenting information to students that they need to remember, but those methods may be less effective at preparing students to analyze concepts in new situations. In terms of assessing student learning, multiple choice exams are effective at monitoring students' ability to remember and understand, but projects or papers may be more effective at allowing students to analyze, apply, or evaluate information. Instructors should plan learning experiences, instructions, and assessments based on the learning objectives they define and the evidence necessary for students to demonstrate achievement of those objectives at the end of the course or session.

### Examples of Learning Objectives

#### Example #1: Introduction to Audiology

|   | <b>Bloom's Level</b> |
|---|----------------------|
| Describe the principles of ethical practice and the current scope of practice in the profession of audiology.   | Understand           |
| Explain the basic principles and procedures for behavioral and physiological tests of hearing in infants, children, and adults.                           | Apply                |
| Interpret behavioral and physiological test results and communicate findings to patients or professionals.  | Analyze              |
| Develop rehabilitation plans related to devices, counseling, and other rehabilitation strategies used in the management of hearing and balance disorders. | Create               |

#### Example #2: Principles of Genetics

|   | <b>Bloom's Level</b> |
|---|----------------------|
| Describe the molecular mechanisms underlying the connection between genes and how mutation affects this process.  | Understand           |
| Apply bioinformatic software and the scientific literature to test hypotheses investigating the function and evolution of a single representative gene. | Apply                |
| Describe the methods underlying genetic technologies and distinguish between them in order to understand how they are applied in genetic research.      | Analyze              |

<sup>1</sup> This handout was developed using information from <https://tips.uark.edu>, Ambrose et al. (2010), and Handelsman et al. (2006). See references for full bibliographic information

| <b>Example #3: Introduction to Health Policy and Services</b>   | <b>Bloom's Level</b> |
|---|----------------------|
| Compare and contrast health care systems in other nations to the U.S. health care system.   | Analyze              |
| Examine the differences between public and private health care payers and the barriers to care that might be experienced in each.                           | Analyze              |
| Predict the impact of different payment incentives on health care delivery, clinical practice, and provider behavior.                                       | Analyze              |
| Select an appropriate health insurance plan based upon individual needs, cost sharing requirements, benefits, types of plans (HMO, PPO, etc.) and premiums. | Evaluate             |
| Synthesize information on health policy and clearly explain it to a lay audience through a public presentation.   | Create               |

### References

Ambrose, S.A., Bridges, M.W., DiPietro, M., Lovett, M.C., & Norman, M.K. (2010). *How learning works: Seven research-based principles for smart teaching*. San Francisco, CA: Jossey-Bass.

Anderson, L. W., & Krathwohl, D. R. (Eds.). (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. New York: Longman.

Bloom, B.S. (Ed.) (1956). *Taxonomy of educational objectives: Handbook 1: Cognitive domain*. New York: David McKay. Handelsman J, Miller S., & Pfund C. (2007). *Scientific teaching*. New York: W.H. Freeman.

Shabatu, J. (2013, September 27). Using Bloom's Taxonomy to Write Effective Learning Objectives [Blog post]. Retrieved from <https://tips.uark.edu/using-blooms-taxonomy/>

Wiggins, G. & McTighe, J. (1998). *Understanding by design*. Alexandria, VA: Association for Supervision and Curriculum Development.



### SCHEDULE INFORMATIVE PRESENTATIONS

| Term        | Course   | Time              | Section |
|-------------|----------|-------------------|---------|
| Spring-2024 | COMM-107 | 2:00 PM - 3:15 PM | 9909    |

#### First Day: Feb.15

| S. No | Students Names          | Timing of the Presentation |
|-------|-------------------------|----------------------------|
| 1.    | Abakah, Michael Kwasi   | 2:05-2:09                  |
| 2.    | Ahuja, Naina            | 2:10-2:14                  |
| 3.    | Carmeli, Jennifer Emily | 2:15-2:19                  |
| 4.    | Cristales, Belen Eunice | 2:20-2:24                  |
| 5.    | Ford, Katherine Eleanor | 2:25-2:29                  |
| 6.    | Fuchs, Alexis Rachael   | 2:30-2:34                  |
| 7.    | Gong, Sabrina Michelle  | 2:35-2:39                  |
| 8.    | Henoke, Eyoha           | 2:40-2:44                  |
| 9.    | Hundia, Nishkal         | 2:45-2:49                  |
| 10.   | Lee, Daphne Julieann    | 2:50-2:55                  |

#### Second Day: Feb.19

| S. No | Students Names             | Timing of the Presentation |
|-------|----------------------------|----------------------------|
| 11.   | Luo, Dahong                | 2:05-2:09                  |
| 12.   | Marsalis, Ella Leona       | 2:10-2:14                  |
| 13.   | Sandel, Alexander Arthur   | 2:15-2:19                  |
| 14.   | Schmid, Akash              | 2:20-2:24                  |
| 15.   | Sethuraman, Shasshank      | 2:25-2:29                  |
| 16.   | Sheeler, McKenzie Patricia | 2:30-2:34                  |
| 17.   | Villa, Amaro Jr            | 2:35-2:39                  |
| 18.   | White, Elliot David        | 2:40-2:44                  |
| 19.   | Xu, Molly Huang            | 2:45-2:49                  |

### SCHEDULE for INFORMATIVE FEEDBACK

| Term        | Course   | Time              | Section |
|-------------|----------|-------------------|---------|
| Spring-2024 | COMM-107 | 2:00 PM - 3:15 PM | 9909    |

#### First Instructor Feed back Day: Feb.27

| S. No | Students Names          | Timing of the Presentation |
|-------|-------------------------|----------------------------|
| 1.    | Abakah, Michael Kwasi   | 2:05-2:10                  |
| 2.    | Ahuja, Naina            | 2:11-2:15                  |
| 3.    | Carmeli, Jennifer Emily | 2:16-2:20                  |
| 4.    | Cristales, Belen Eunice | 2:21-2:25                  |
| 5.    | Ford, Katherine Eleanor | 2:26-2:30                  |
| 6.    | Fuchs, Alexis Rachael   | 2:31-2:35                  |
| 7.    | Gong, Sabrina Michelle  | 2:36-2:40                  |
| 8.    | Henoke, Eyoha           | 2:41-2:45                  |
| 9.    | Hundia, Nishkal         | 2:46-2:50                  |
| 10.   | Lee, Daphne Julieann    | 2:51-2:55                  |

#### Second Instructor Feedback Day: Feb.29

| S. No | Students Names             | Timing of the Presentation |
|-------|----------------------------|----------------------------|
| 11.   | Luo, Dahong                | 2:05-2:10                  |
| 12.   | Marsalis, Ella Leona       | 2:11-2:15                  |
| 13.   | Sandel, Alexander Arthur   | 2:16-2:20                  |
| 14.   | Schmid, Akash              | 2:21-2:25                  |
| 15.   | Sethuraman, Shasshank      | 2:26-2:30                  |
| 16.   | Sheeler, McKenzie Patricia | 2:31-2:35                  |
| 17.   | Villa, Amaro Jr            | 2:36-2:40                  |
| 18.   | White, Elliot David        | 2:41-2:45                  |
| 19.   | Xu, Molly Huang            | 2:46-2:50                  |

**SCHEDULE INFORMATIVE PRESENTATIONS**

| Term        | Course   | Time           | Section |
|-------------|----------|----------------|---------|
| Spring-2024 | COMM-107 | 12:30- 1:45 PM | 9902    |

**First Day: Feb.15**

| S. No | Students Names              | Timing of the Presentation |
|-------|-----------------------------|----------------------------|
| 1.    | Ba, Lamine Moctar           | 12:35-12:39                |
| 2.    | Baca-Villarroel, Kimberly M | 12:40-12:44                |
| 3.    | Chon, Alexander Woo-Sung    | 12:45-12:49                |
| 4.    | Fowler, Oscar Nilo          | 12:50-12:54                |
| 5.    | Gambuzza, Anthony Ryan      | 19:55-12:59                |
| 6.    | Huber, Cassandra Erin       | 1:00-1:04                  |
| 7.    | Hwang, Gyuwon               | 1:05-1:09                  |
| 8.    | Isper, Barbara              | 1:10:1:14                  |
| 9.    | Jester, Abigail Noel        | 1:15-1:19                  |
| 10.   | Kwong, Tyler Daniel         | 1:20-1:24                  |

**Second Day: Feb.19**

| S. No | Students Names            | Timing of the Presentation |
|-------|---------------------------|----------------------------|
| 11.   | Lansaw, Colin Timothy     | 12:35-12:39                |
| 12.   | Munkhbat, Munkh-Irmuun    | 12:40-12:44                |
| 13.   | Narayanan, Preethi        | 12:45-12:49                |
| 14.   | Preller, Christopher Adam | 12:50-12:54                |
| 15.   | Ruggieri, Abigail Morrow  | 19:55-12:59                |
| 16.   | Spurrier, Chase Bennett   | 1:00-1:04                  |
| 17.   | Stock, John Lawrence      | 1:05-1:09                  |
| 18.   | Vescio, Catarina Anne     | 1:10:1:14                  |
| 19.   | Wood, Isabella Luella     | 1:15-1:19                  |

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