

# Creating tests/assignments that encourage learning





**WHAT IS THE MAIN  
PURPOSE OF YOUR  
TESTS/ASSIGNMENTS?**



**Grading directs time and energy**

**Grading is teaching**



## Summative

- Use multiple methods
- Assess multiple dimensions
- Use multiple assessors
- Assess over time

## Formative

- Frequent and timely feedback
- Precise feedback
- Students using feedback
- Changing course content or teaching methods when needed

# Steps for creating assessments

1. Identify Learning Outcomes
2. Match assessments to outcomes
3. Provide students with opportunities to achieve those outcomes (practice)
4. Design specific assessments
  - Match items to desired outcomes
  - Pilot test
  - Administer
  - Grade
  - Review results with students/feedback
  - Conduct item analysis

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# The Importance of Learning Outcomes

**3 Questions**

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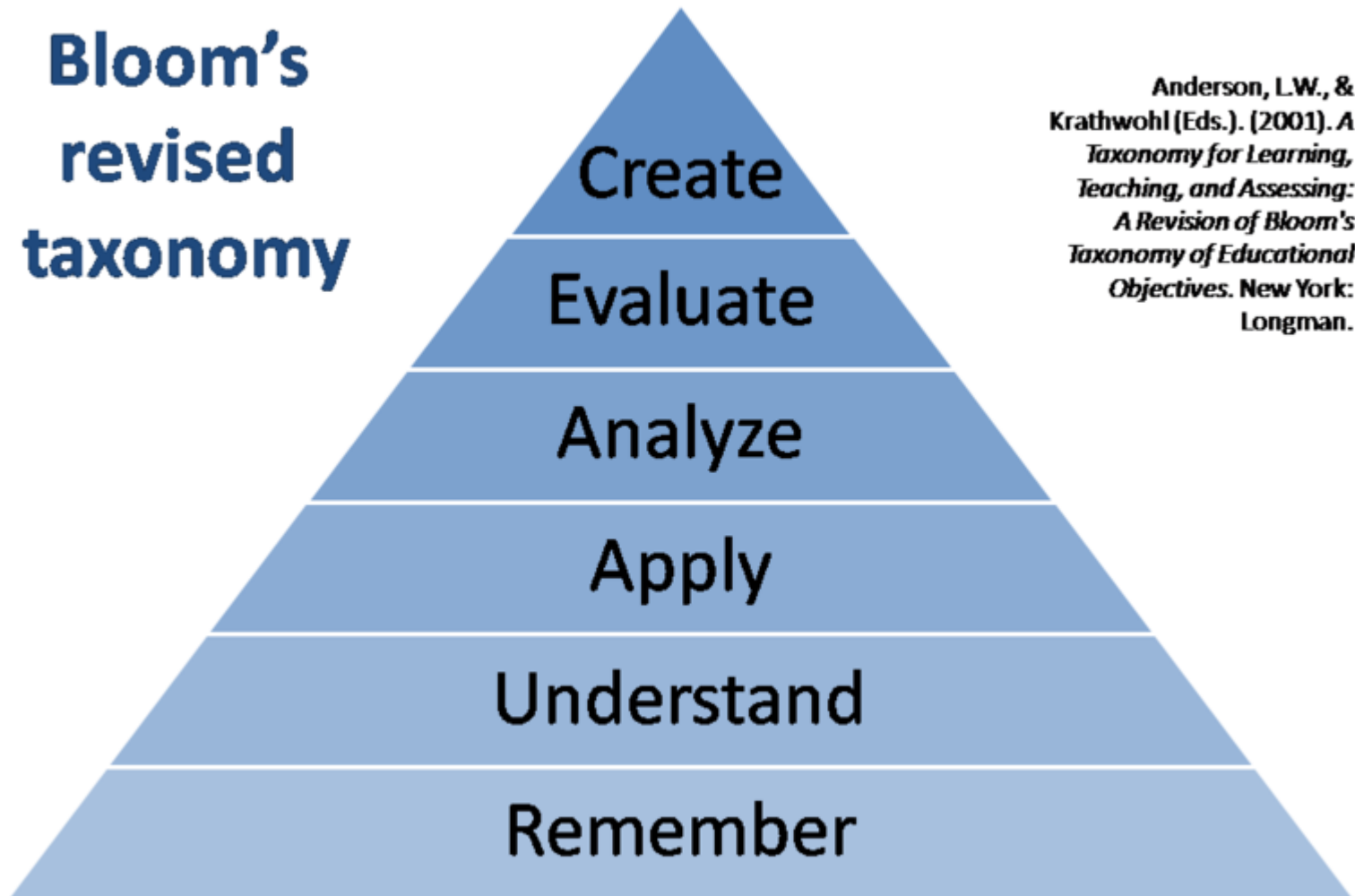
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# Examples

- Given a short story, the student will write a different but plausible ending.
- From memory, with 80 percent accuracy, the student will match each United States General with his most famous battle.
- Given fractions not covered in class, the student will multiply them on paper with 85 percent accuracy.
- Given a description of a country's economic system, the student will defend it by basing arguments on principles of socialism

*Examples from: Writing Good Multiple-Choice Exams, Dawn M. Zimmaro, Ph.D., University of Texas at Austin*

# **Bloom's revised taxonomy**



Anderson, L.W., &  
Krathwohl (Eds.). (2001). *A  
Taxonomy for Learning,  
Teaching, and Assessing:  
A Revision of Bloom's  
Taxonomy of Educational  
Objectives*. New York:  
Longman.

|               | Topic A     | Topic B     | Topic C     | Topic D     | TOTAL         |
|---------------|-------------|-------------|-------------|-------------|---------------|
| Knowledge     | 1           | 2           | 1           | 1           | 5<br>(12.5%)  |
| Comprehension | 2           | 1           | 2           | 2           | 7<br>(17.5%)  |
| Application   | 4           | 4           | 3           | 4           | 15<br>(37.5%) |
| Analysis      | 3           | 2           | 3           | 2           | 10<br>(25%)   |
| Synthesis     |             | 1           |             | 1           | 2<br>(5%)     |
| Evaluation    |             |             | 1           |             | 1<br>(2.5%)   |
| TOTAL         | 10<br>(25%) | 10<br>(25%) | 10<br>(25%) | 10<br>(25%) | 40            |

| CONTENT                 | TASK                 |                      |                    | TOTALS    |
|-------------------------|----------------------|----------------------|--------------------|-----------|
|                         | Knows Specific Facts | Understands Concepts | Applies Principles |           |
| Newton's Laws of Motion | 4                    | 4                    | 12                 | 20        |
| Types of Forces         | 4                    | 2                    | 7                  | 13        |
| Buoyancy                | 2                    | 4                    | 4                  | 10        |
| Acceleration of Gravity | 2                    | 3                    | 5                  | 10        |
| Friction                | 2                    | 2                    | 3                  | 7         |
| <b>TOTALS</b>           | <b>14</b>            | <b>15</b>            | <b>31</b>          | <b>60</b> |


From B. B. Zimmerman, R. R. Sudweeks, M. F. Shelley, and B. Wood's How to Prepare Better Tests: Guidelines for University Faculty, 1990, Brigham Young University.

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## World War II was:


- a) The result of the failure of the League of Nations.
- b) Horrible.
- c) Fought in Europe, Asia, and Africa.
- d) Fought during the period of 1939-1945.



During what age period is thumb-sucking likely to produce the greatest psychological trauma?


- a) Infancy
- b) Preschool period
- c) Before adolescence
- d) During adolescence
- e) After adolescence





Frequent use of sprays, oils, and antiseptics in the nose during a bad cold may result in:

- a) congestion
- b) olfactory nerve
- c) the spreading of the infection to the sinuses



In 1965, the death rate from accidents of all types per 100,000 population in the 15-24 age group was:

- a) 59.0
- b) 59.1
- c) 59.2
- d) 59.3

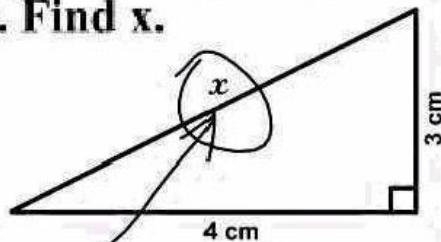
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3. Find x.



Here it is

PETER

1.21

4b) Expand

$$(a+b)^n$$

$$= (a + b)^n$$

$$= (a + b)^n$$

$$= (a$$

*Very funny, Peter.*

$$b)^n$$

etc -

(d) Explain why phosphorus trichloride ( $\text{PCl}_3$ ) is polar.

God made it that way.

□ □ □

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# Item Difficulty

- Who wrote The Great Gatsby?

|                |          |
|----------------|----------|
| a) Faulkner    | 4        |
| b) *Fitzgerald | 16       |
| c) Hemingway   | 5        |
| d) Steinbeck   | <u>0</u> |
| Total students | 25       |

$$16/25 = .64$$



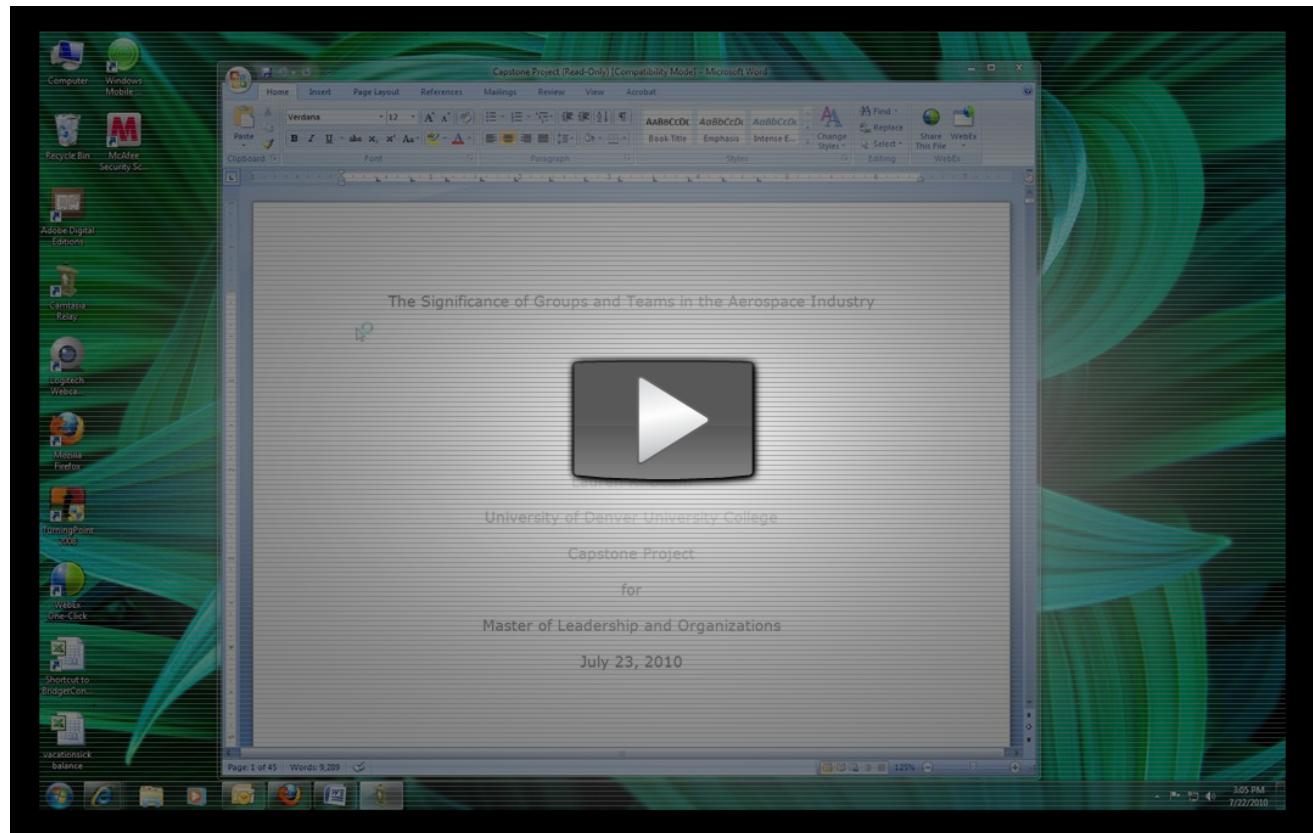


# Formative/CATS



# **TECHNOLOGIES THAT SUPPORT GRADING**

# Audio/Video Enhanced Grading



- [http://flashmedia2.du.edu/relay/RobinBrown - Web \(1024x768\) - 20100221 12.05.29PM.html](http://flashmedia2.du.edu/relay/RobinBrown - Web (1024x768) - 20100221 12.05.29PM.html)
- [http://flashmedia2.du.edu/relay/Lauren Beam Capstone Review 072210 - Flash \(Large\) - 20100722 03.25.44PM.html](http://flashmedia2.du.edu/relay/Lauren Beam Capstone Review 072210 - Flash (Large) - 20100722 03.25.44PM.html)