

The Revised Bloom's Taxonomy: An Overview



Bloom's Taxonomy as a Framework



A taxonomy of educational objectives “could do much to bring order out of chaos in the field of education. It could furnish the conceptual framework around which our descriptions of educational programs and experiences could be oriented. It could furnish a framework for the development of educational theories and research. It could furnish the scheme needed for training our teachers and for orienting them to the varied possibilities of education”
(Bloom, 1949)

Who were the taxonomists?



- **Post World War II**
- **Students received course credit by passing the examinations (credit-by-examination)**
- **Quite obviously, the exams had to be based on course objectives (validity) and of sufficient length to be reliable.**
- **University Examiners**
- **Responsible for designing or helping to design end-of-course examinations**

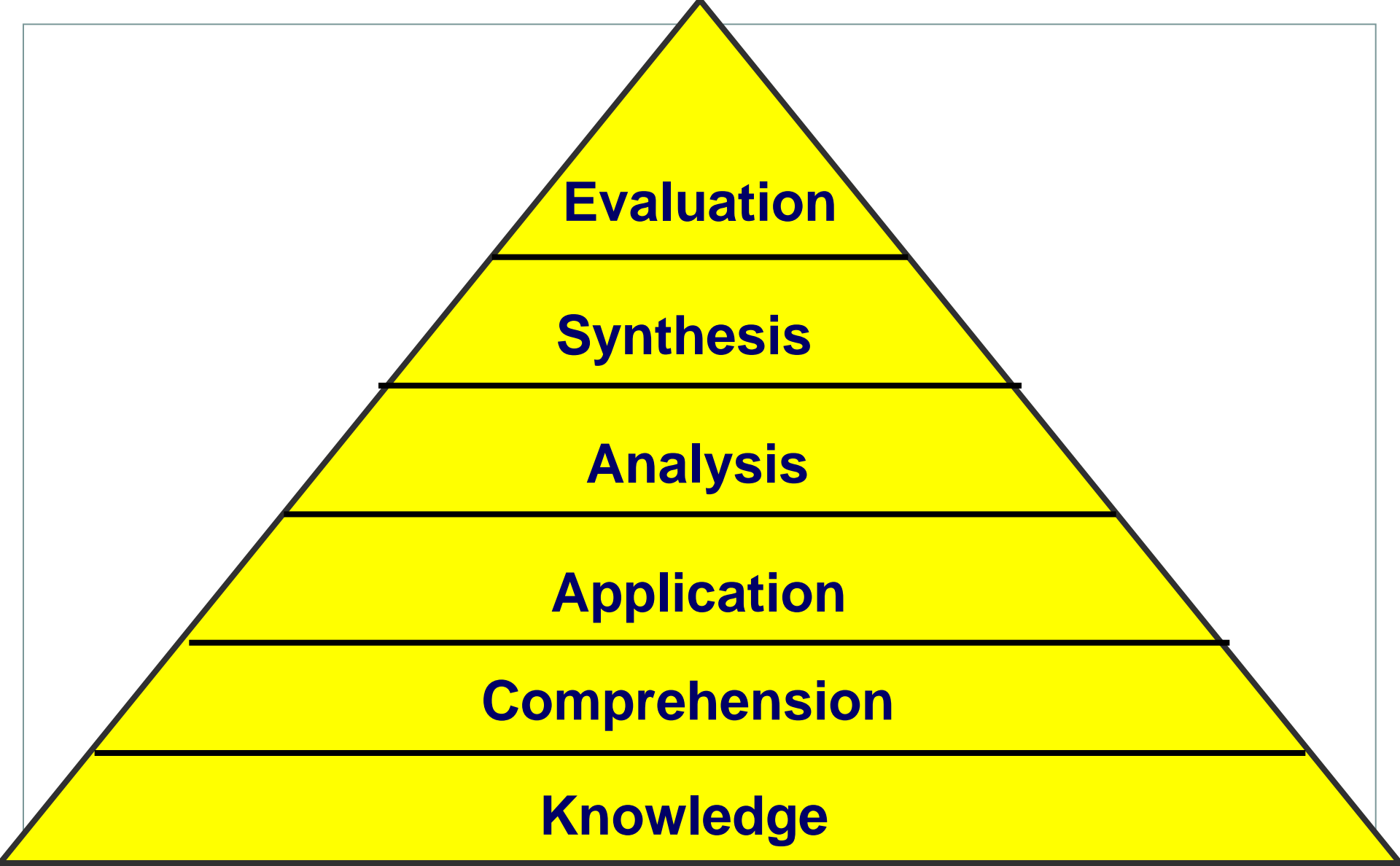
A Set of Categories to Cut Across Subject Areas



“Although the objectives ... may be specified in an almost unlimited number of ways, the student behaviors involved in these objectives can be represented by a relatively small number of classes. Therefore, the taxonomy is designed to be a classification of the student behaviors which represent the intended outcomes of the educational process” (p. 18).

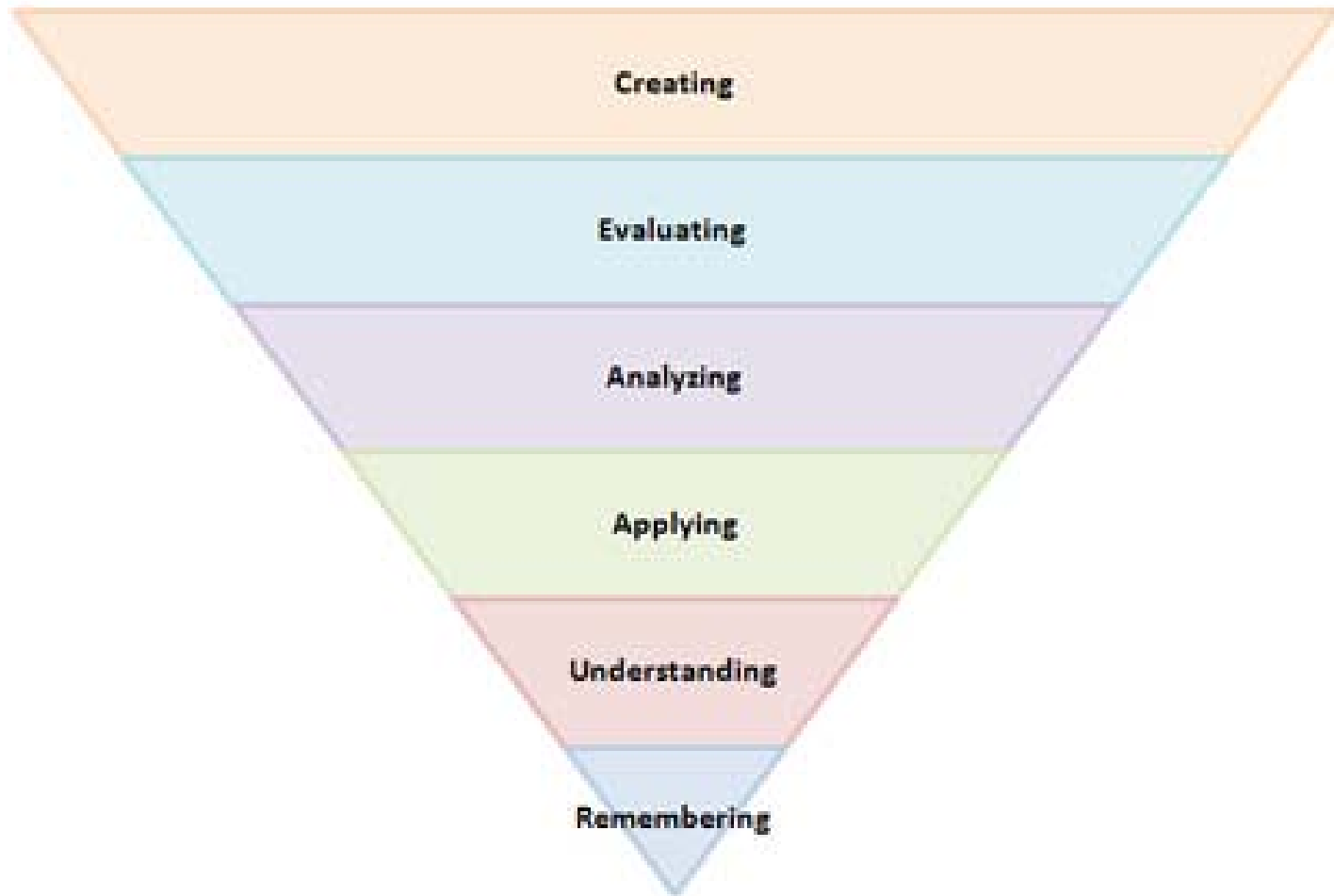
Looking Through a New Lens





The Original Bloom's Taxonomy

Bloom's Taxonomy



Bloom's as a learning process



- Bloom's in its various forms represents the process of learning. It essentially represents how we learn.
 - Before we can **understand a concept we have to remember it**
 - Before we can **apply the concept we must understand it**
 - Before we **analyze it we must be able to apply it**
 - Before we can **evaluate its impact we must have analyzed it**
 - Before we can **create we must have remembered, understood, applied, analyzed, and evaluated.**

Bloom

Revised Bloom

- Evaluation

- Synthesis

- Analysis

- Application

- Comprehension

- Knowledge

- Create

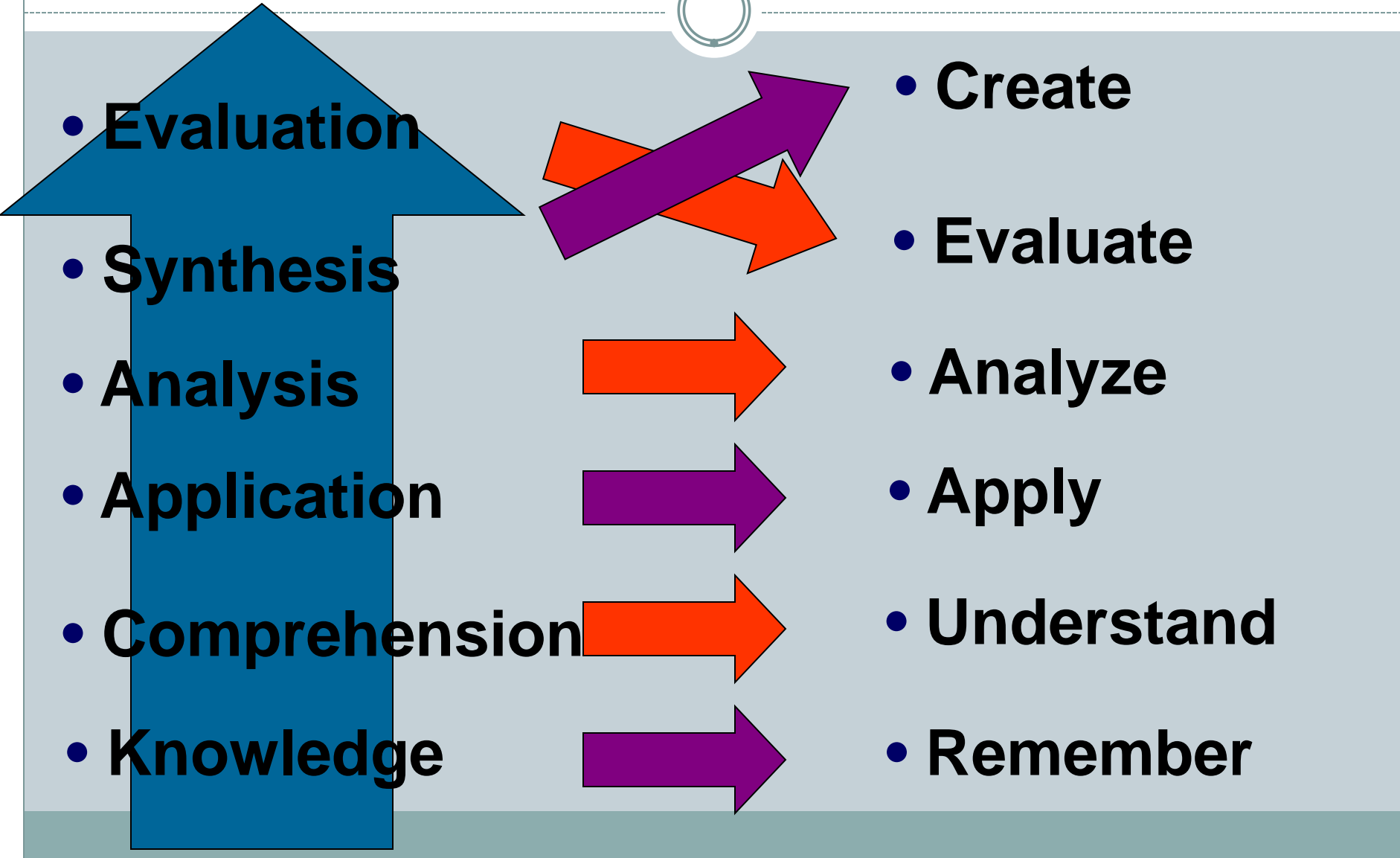
- Evaluate

- Analyze

- Apply

- Understand

- Remember



Without the Lens



The student will recall the names of the parts of a flower.

With the Lens



The student will recall the names of the parts of a flower.

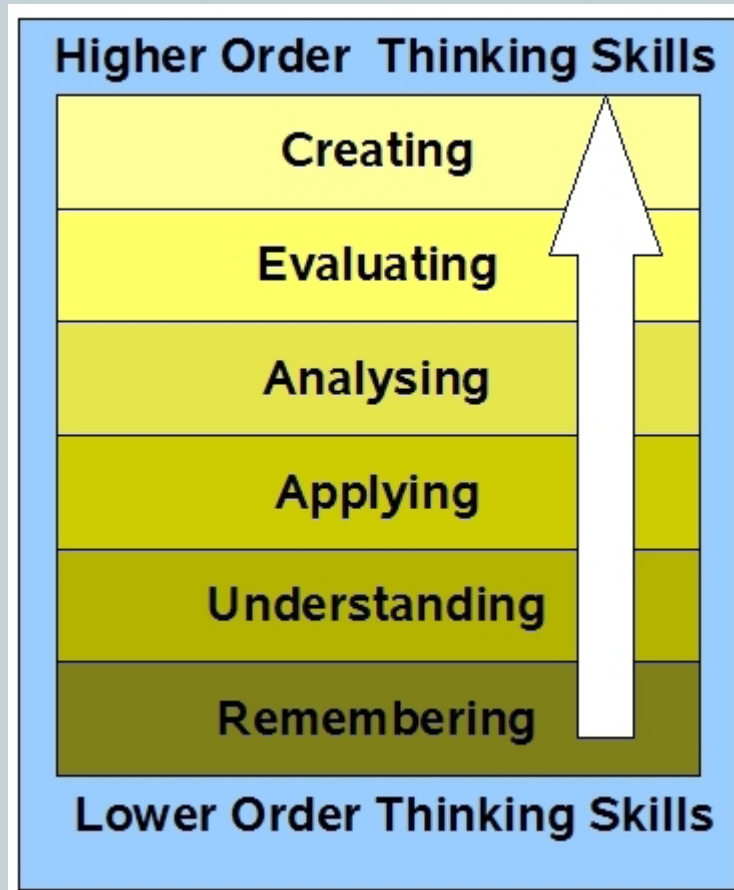
This is a knowledge objective.

The Revision



- Began in November 1996
- Led by David Krathwohl
- Involved cognitive psychologists, curriculum theorists, teacher educators, and measurement and assessment specialists.
- Group met twice a year for four years.
- Draft completed in 2000; text published in 2001.
- Two books – soft cover for teachers and other “practitioners” and hard cover for academicians.

Low to High





In education, objectives are statements of what we want students to learn as a result of the instruction we provide. Standards are simply mandated objectives.

The Common Format of Objectives



Subject

S

Verb

V

Object

O

The SUBJECT is the Learner or the Student.



THE STUDENT (WILL)
THE STUDENT (SHOULD)
THE STUDENTS (MIGHT)

Quite often, the subject is implicit or understood.

Cognitive Processes



- **Remember**

Objective: to find out about or recall facts

Skills: list, match, recall, recognize

Example: The Three Little Pigs

What were the houses made of?

- **Recognizing**
- **Recalling**

Cognitive Processes



- **Understand**

Objective: To understand well enough to explain

Skills: restate, describe, explain, paraphrase

Example: The Three Little Pigs

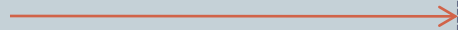
Why didn't the brick house blow down?

- **Interpreting**
- **Exemplifying**
- **Classifying**
- **Summarizing**
- **Inferring**
- **Comparing**
- **Explaining**

Cognitive Processes (continued)



- **Application**



Objective: to show an understanding by using the knowledge in a new situation

Skills: organize, group, summarize, code

Example: The Three Little Pigs

What else could the pigs have used to get rid of the wolf?

- **Executing**

- **Implementing**

Cognitive Processes (continued)



- **Analyze**

Objective: To see the parts

Skills: combine, take apart, dissect, pattern

Example: The Three Pigs

In what way is The Three Little Pigs like Little Red Riding Hood?

- **Differentiating**

- **Organizing**

- **Attributing**

Cognitive Processes (continued)



- **Evaluate**

Objective: to accept or reject the knowledge based on a standard

Skills: judge, interpret, justify, criticize

Example: The Three Little Pigs

Did the three little pigs make the right decision?

- **Checking**

- **Critiquing**

Cognitive Processes (continued)



- **Create**

Objective: To use the knowledge to create something unique

Skills: translate, extend, alter, modify

Example: The Three Little Pigs

Tell your own version of this story.

- **Generating**

- **Planning**

- **Producing**

Benefits

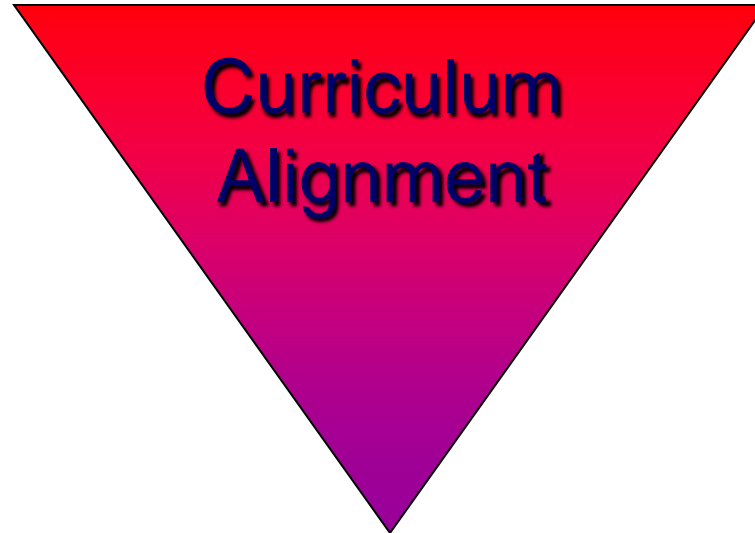


- Increase curriculum alignment
- Improve validity of assessments
- Improve quality of instruction
 - BEGIN WITH THE END IN MIND
 - Test what you teach and teach what you test

Curriculum Alignment

Assessments

Objectives



**Instructional Activities/
Materials**

How to Write Objectives



- **Remember: SVO – The student will...**
- **And the behavior you want to see**
 - It must be measurable!

Is this a Measurable Objective?



“The student will know the fifty capitals of the United States.”

No, it is not measurable. We can't reach into a student's brain to see what they *know*. We need to make them DO something with it. The student will LIST, IDENTIFY, MAP...these words are measurable.

Is this a Measurable Objective?



“The student will understand the concept of postmodernism.”

Critical Thinking Activity [arranged lowest to highest]	Relevant Sample Verbs	Sample Assignments	Sample Sources or Activities
<p>1. Remembering Retrieving, recognizing, and recalling relevant knowledge from long-term memory, eg. find out, learn terms, facts, methods, procedures, concepts</p>	<p>Acquire, Define, Distinguish, Draw, Find, Label, List, Match, Read, Record</p>	<p>1. Define each of these terms: encomienda, conquistador, gaucho 2. What was the <i>Amistad</i>?</p>	<p>Written records, films, videos, models, events, media, diagrams, books.</p>
<p>2. Understanding Constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining. Understand uses and implications of terms, facts, methods, procedures, concepts</p>	<p>Compare, Demonstrate, Differentiate, Fill in, Find, Group, Outline, Predict, Represent, Trace</p>	<p>1. Compare an invertebrate with a vertebrate. 2. Use a set of symbols and graphics to draw the water cycle.</p>	<p>Trends, consequences, tables, cartoons</p>

Critical Thinking Activity [arranged lowest to highest]	Relevant Sample Verbs	Sample Assignments	Sample Sources or Activities
3. Applying Carrying out or using a procedure through executing, or implementing. Make use of, apply practice theory, solve problems, use information in new situations	Convert, Demonstrate, Differentiate between, Discover, Discuss, Examine, Experiment, Prepare, Produce, Record	1. Convert the following into a real-world problem: velocity = dist./time. 2. Experiment with batteries and bulbs to create circuits.	Collection of items, diary, photographs, sculpture, illustration
4. Analyzing Breaking material into constituent parts, determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing. Take concepts apart, break them down, analyze structure, recognize assumptions and poor logic, evaluate relevancy	Classify, Determine, Discriminate, Form generalizations, Put into categories, Illustrate, Select, Survey, Take apart, Transform	1. Illustrate examples of two earthquake types. 2. Dissect a crayfish and examine the body parts.	Graph, survey, diagram, chart, questionnaire, report

Critical Thinking Activity [arranged lowest to highest]	Relevant Sample Verbs	Sample Assignments	Sample Sources or Activities
<p>5. Evaluating Making judgments based on criteria and standards through checking and critiquing. Set standards, judge using standards, evidence, rubrics, accept or reject on basis of criteria</p>	<p>Argue, Award, Critique, Defend, Interpret, Judge, Measure, Select, Test, Verify</p>	<p>1. Defend or negate the statement: "Nature takes care of itself." 2. Judge the value of requiring students to take earth science.</p>	<p>Letters, group with discussion panel, court trial, survey, self-evaluation, value, allusions</p>
<p>6. Creating Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing. Put things together; bring together various parts; write theme, present speech, plan experiment, put information together in a new & creative way</p>	<p>Synthesize, Arrange, Blend, Create, Deduce, Devise, Organize, Plan, Present, Rearrange, Rewrite</p>	<p>1. Create a demonstration to show various chemical properties. 2. Devise a method to teach others about magnetism.</p>	<p>Article, radio show, video, puppet show, inventions, poetry, short story</p>

Let's give it a try!

	REMEMBERING	UNDERSTANDING	APPLYING	ANALYSING	EVALUATING	CREATING
VERBS	Tell, List, Describe, Relate, Locate, Write, Find, State, Name, Identify, Label, Recall, Define, Recognise, Match, Reproduce, Memorise, Draw, Select, Write, Recite	Explain, Interpret, Outline, Discuss, Distinguish, Predict, Restate, Translate, Compare, Describe, Relate, Generalise, Summarise, Put into your own words, Paraphrase, Convert, Demonstrate, Visualise, Find out more information about	Solve, Show, Use, Illustrate, Construct Complete, Examine Classify, Choose Interpret, Make Put together, Change, Apply, Produce, Translate, Calculate, Manipulate, Modify, put into practice	Analyse, Distinguish, Examine, Compare Contrast, Investigate Categorise, Identify Explain, Separate Put together, Take apart Differentiate, Subdivide, deduce,	Judge, Select, Choose, Decide, Justify, Debate, Verify, Argue, Recommend, Assess, Discuss, Rate, Prioritise, Determine, Critique, Evaluate, Criticise, Weigh, Value, estimate, defend	Create, Invent, Compose, Predict Plan, Construct Design, Imagine Propose, Devise Formulate, Combine, Hypothesize, Originate, Add to, Forecast,
MATERIALS SITUATIONS	Events, people, newspapers, magazine articles, definitions, videos, dramas, textbooks, films, television programs, recordings, media presentations	Speech, stories, drama, cartoons, diagrams, graphs, summaries, outlines, analogies, posters, bulletin boards.	Diagrams, sculptures, illustrations, dramatisations, forecasts, problems, puzzles, organisations, classifications, rules, systems, routines.	Surveys, questionnaires, arguments, models, displays, demonstrations, diagrams, systems, conclusions, reports, graphed information	Recommendations, self-evaluations, group discussions, debates, court trials, standards, editorials, values.	Experiments, games, songs, reports, poems, speculations, creations, art, inventions, drama, rules.
POTENTIAL ACTIVITIES & PRODUCTS	Make a list of the main events . Make a timeline of events. Make a facts chart. Write a list of any pieces of information you can remember. List all the ...in the story. Make a chart showing.. Make an acrostic. Recite a poem	Cut out or draw pictures to show a particular event. Illustrate what you think the main idea was. Make a cartoon strip showing the sequence of events. Retell the story in your own words. Paint a picture of some aspect you like. Write a summary report of an event. Prepare a flow chart to illustrate the sequence of events. Make a colouring book.	Construct a model to demonstrate how it will work. Make a diorama to illustrate an important event. Make a scrapbook about the areas of study. Make a papier-mache map to include relevant information about an event. Take a collection of photographs to demonstrate a particular point. Make up a puzzle game showing the ideas from an area of study. Make a clay model of an item in the area. Design a market strategy for your product. Dress a doll in costume. Paint a mural. Write a textbook outline.	Design a questionnaire to gather information. Write a commercial to sell a new product. Conduct an investigation to produce information to support a point of view. Construct a graph to illustrate selected information. Make a jigsaw puzzle. Make a family tree showing relationships. Put on a play about t he study area. Write a biography of the study person. Prepare a report. Arrange a party and record as a procedure. Review apiece of art including form, colour and texture	Prepare a list of criteria to judge ashow? Remember to indicate priorities and ratings. Conduct a debate about a special issue. Make a booklet about 5 rules you see as important to convince others. Form a panel to discuss views. Write a letter to advising on changes needed at ... Write a half yearly report. Present your point of view.	Invent a machine to do a specific task. Design a building to house your study. Create a new product, give it a name and then devise a marketing strategy. Write about your feeling sin relation to ... Design a record, book or magazine cover. Sell an idea. Devise a way to ... Compose a rhythm or put new words to an old song.