



## Compliance with assessment of student learning outcomes...

- Ebbs and flows in timing with the accreditation cycle of a university
- If externally imposed, is often viewed as a “burden” or “added responsibility”
- Resistance to compliance means a short term commitment from faculty
- Learning outcomes are developed with little thought or faculty and student input just for expediency

# The toughest job of all is assessing and documenting student learning

## Why aren't grades enough?

- Grades evaluate a limited set of objectives which may or may not be related to the program objectives
- They tend to be inconsistent from section-to-section and from term-to-term to be a valid overall program assessment tool
- There is a conflict of interest when the instructor is the only evaluator of whether students have met program objectives
- Grades do not reflect long term learning and accomplishments
- Many times they do little to capture perceptions, attitudes, and skills



# Why bother with learning outcomes?

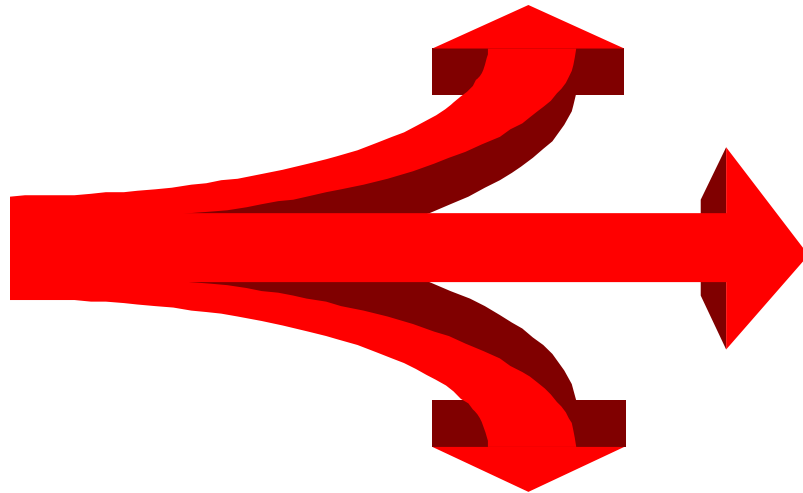
## Supporters assert...

- They help students learn more effectively
- Students know what to expect from a particular course or program
- Learning outcomes help instructors
  - Design their materials more effectively
  - Select the appropriate teaching strategy and technology
  - Design examinations which reflect what was taught



# Learning Outcomes can be defined at three levels:

Within each **course**



At the **program** level

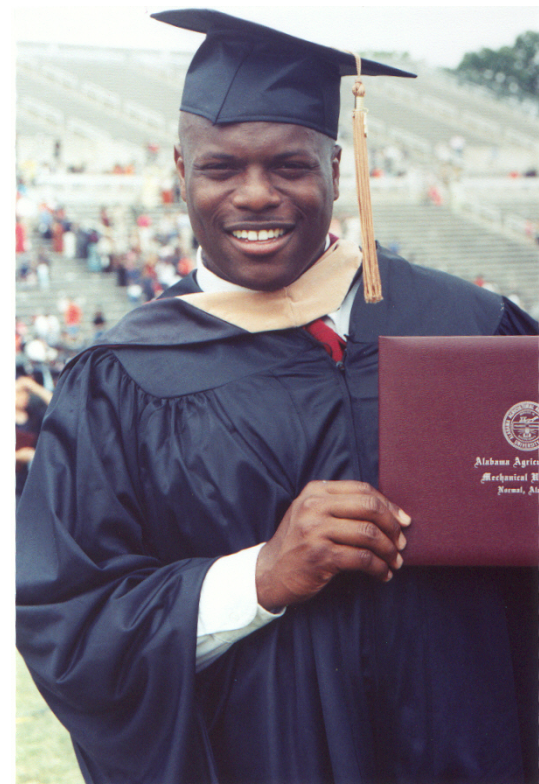
At the **institutional** level

**At the institutional level, will the learning outcomes be the same for the student...**



At the completion of the freshman core or the general education core?

At graduation?



## **What do you need?**

Program mission

Program goals and objectives

Learning outcomes for each goal

Assessment methods

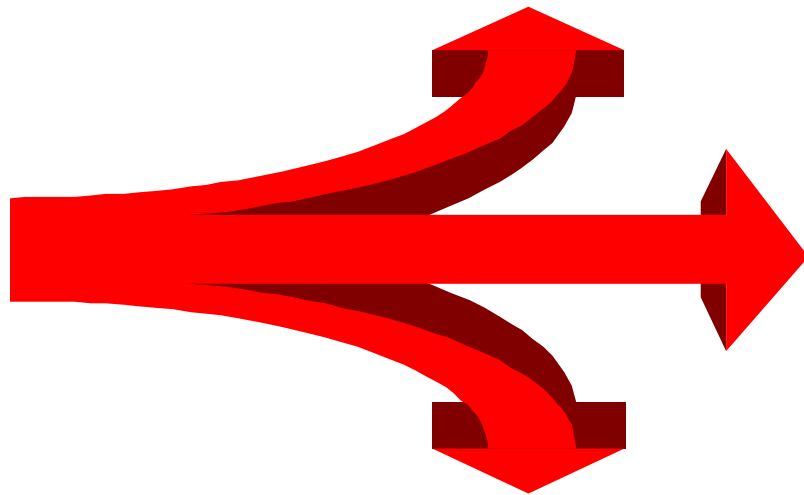
Desired or expected results

Actual results

Use of results to improve the program

# A Mission...

A mission indicates the purpose of the program or its reason for being



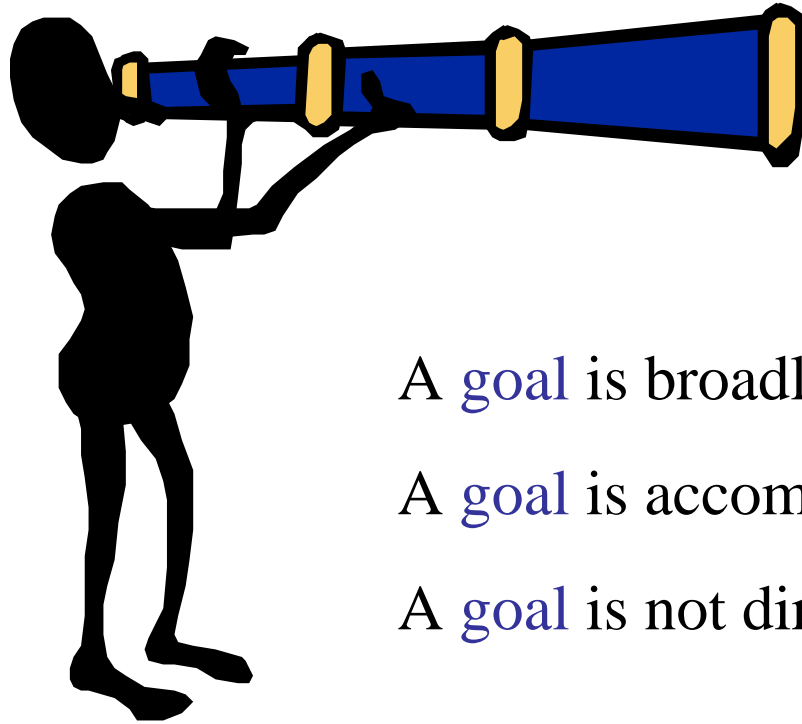
A mission states what it hopes to achieve in the future

A mission affirms its principles and beliefs, nature, and values.

# A Sample Mission...

The Forestry and Ecology program is designed to educate broad-based, ecologically sensitive resource managers, enabling them to succeed as professional managers and practice wise stewardship of forests or other natural resources for multiple uses. As part of an Historically Black College or University, the program addresses the needs of capable students who are underrepresented in the forestry profession as well as the needs of the minority, forest-landowner community that have historically been under-served by the forestry profession.





## A program goal...

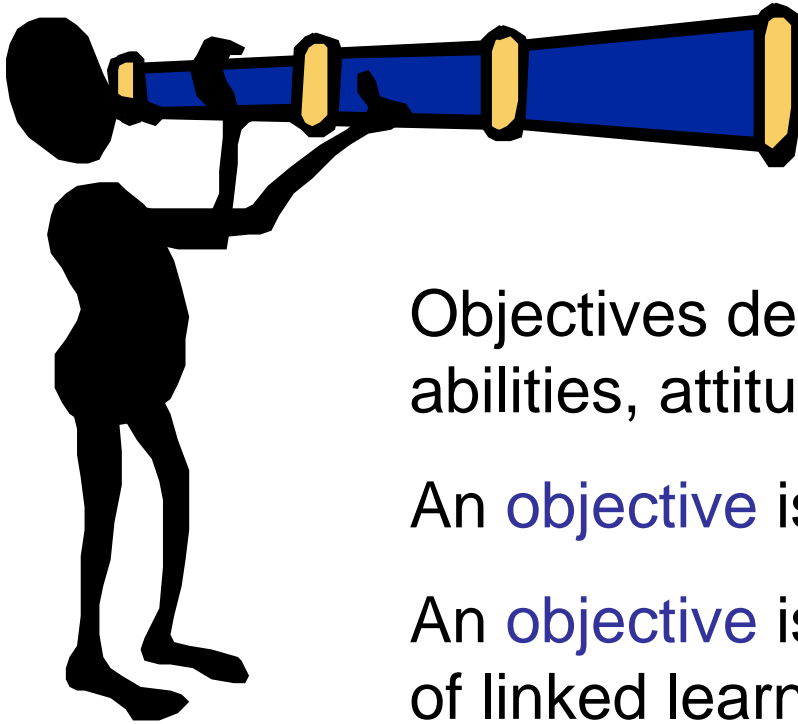
A goal is broadly stated

A goal is accomplished via objectives

A goal is not directly measurable

Example: To understand and apply the concepts of bioinformatics in professional life

# A program educational objective...



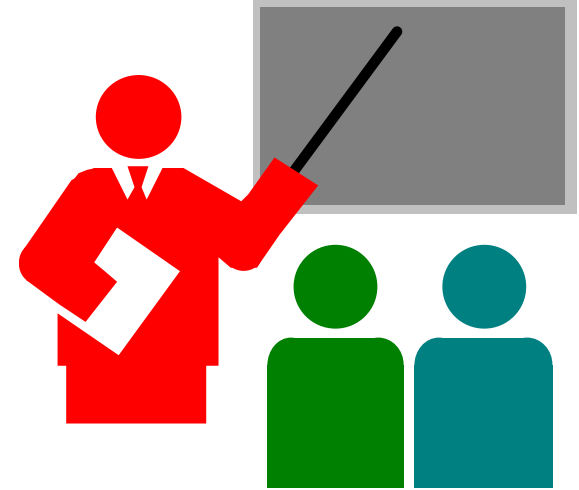
Objectives describe knowledge, skills, abilities, attitudes, or dispositions

An **objective** is directly measurable

An **objective** is specific and tied to a series of linked learning outcomes

Educational objectives are sometimes considered synonymous with learning outcomes, but learning outcomes are more detailed, behavioral in nature, and stated using precise verbs.

# Learning Outcomes..

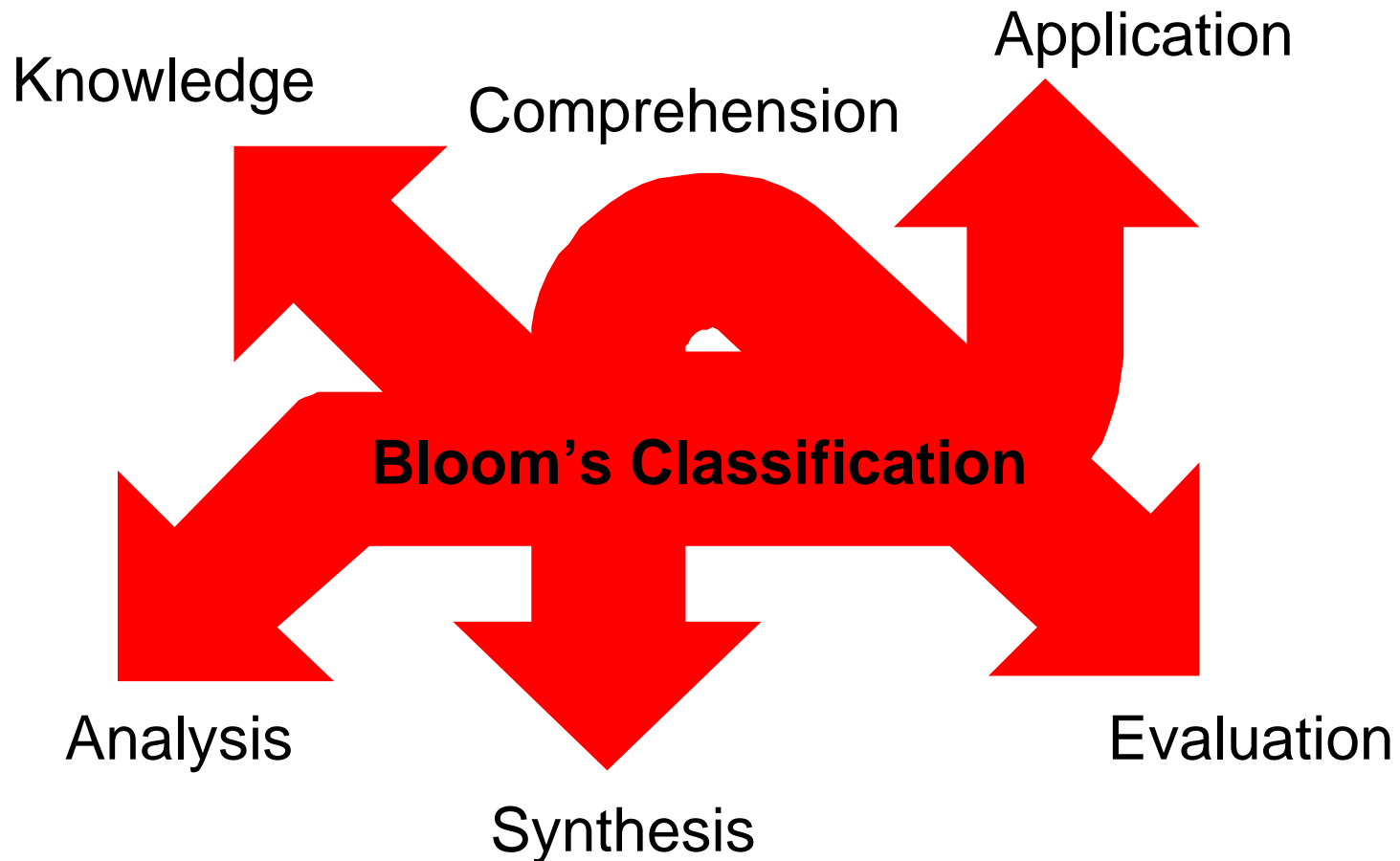


Behaviors that demonstrate

- desired knowledge
- acquired skills
- attitudes or dispositions

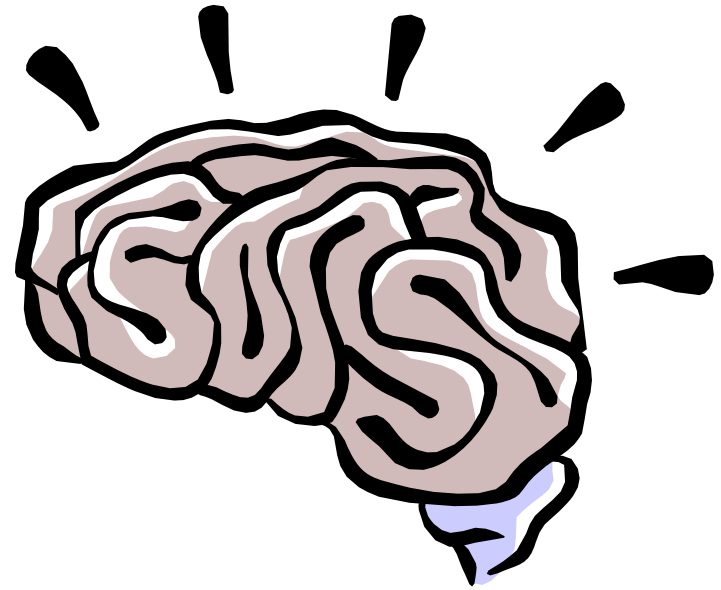
Fundamentally, the key is...  
what will students be able  
to **do** as a result of the instruction

# Learning Outcomes reflect various cognitive skills..



# Knowledge...

Recalling or remembering something without necessarily understanding, using, or changing it



Count	Define	Describe	Draw	Identify
Label	List	Match	Name	Point to
Outline	Quote	Read	Recall	Recite
Record	Repeat	Select	State	Write

# To develop a learning outcome, build it in parts...

Students will demonstrate

learning of...  
the ability to...  
competence with...  
knowledge of...  
understanding of...

Insert information  
and/or  
skills to be  
learned

by

Insert  
verb  
from  
list

Insert what  
student must do  
to demonstrate  
the learning

Example:

Students will demonstrate **knowledge** of plant nutrient requirements by **identifying** deficiency symptoms and **listing** actions to alleviate them.

# Examples...

- Students will demonstrate **knowledge** of landscape plant materials by **listing** ten ornamental shrub species which can be used as screens
- Students will demonstrate **knowledge** of human circulatory systems by **identifying** the functions of the major cell types in blood
- Students will demonstrate **proficiency** in chemistry by **describing** how to make a 10 molar solution of NaCl



# Poor learning outcomes...

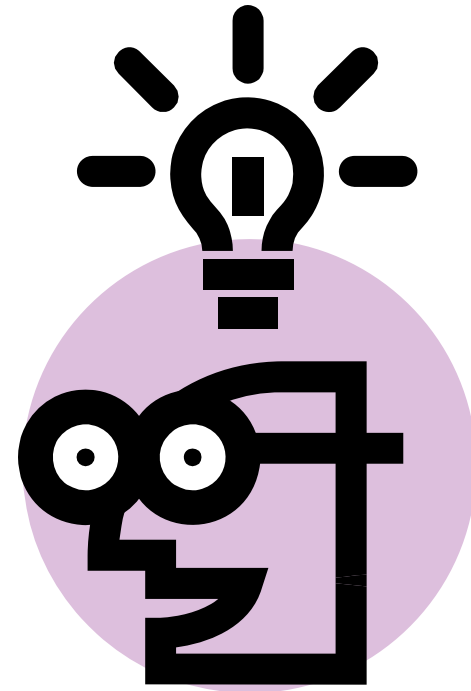
- Students will get an introduction to bioinformatics and its practical applications.
- Students will demonstrate proficiency by conducting a review of published research.
- Students will demonstrate an understanding of the connections between religion and politics.
- Students will demonstrate proficiency with conversational Dutch by the end of the semester.
- Students will demonstrate an appreciation for music of the Band Era.





# Comprehension...

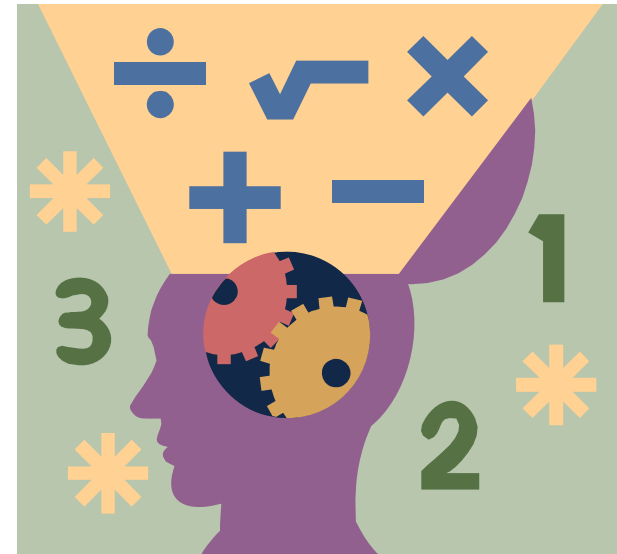
Understanding something that has been communicated without relating it to anything else



Associate	Compute	Convert	Defend
Discuss	Distinguish	Estimate	Explain
Extend	Extrapolate	Generalize	Infer
Paraphrase	Predict	Rewrite	Summarize

# Application...

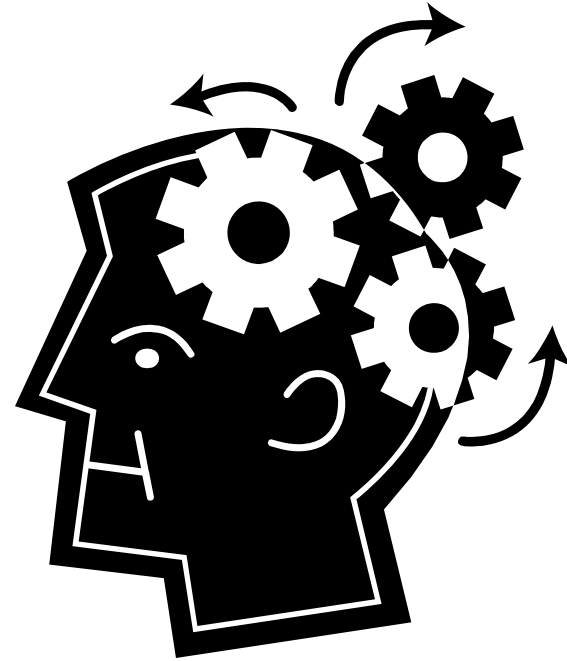
Using a general concept to solve problems in a particular situation or using learned material in new and concrete situations



Add	Apply	Calculate	Classify
Complete	Compute	Divide	Examine
Graph	Interpolate	Manipulate	Modify
Operate	Produce	Show	Solve

# Analysis...

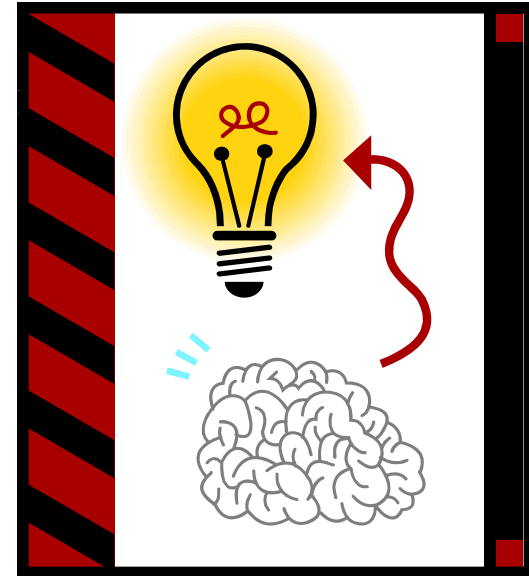
Breaking something down into its parts (identification of parts, analysis of relationships among parts, recognition of organizing principles)



Analyze	Arrange	Breakdown	Combine
Design	Detect	Develop	Diagram
Illustrate	Outline	Point out	Relate
Select	Separate	Subdivide	Utilize

# Synthesis...

Creating something new by putting parts of different ideas together to make a whole



Categorize	Combine	Compile	Compose
Create	Design	Devise	Generate
Group	Integrate	Modify	Order
Organize	Plan	Prescribe	Propose
Rearrange	Reconstruct	Reorganize	Revise

# Evaluation...

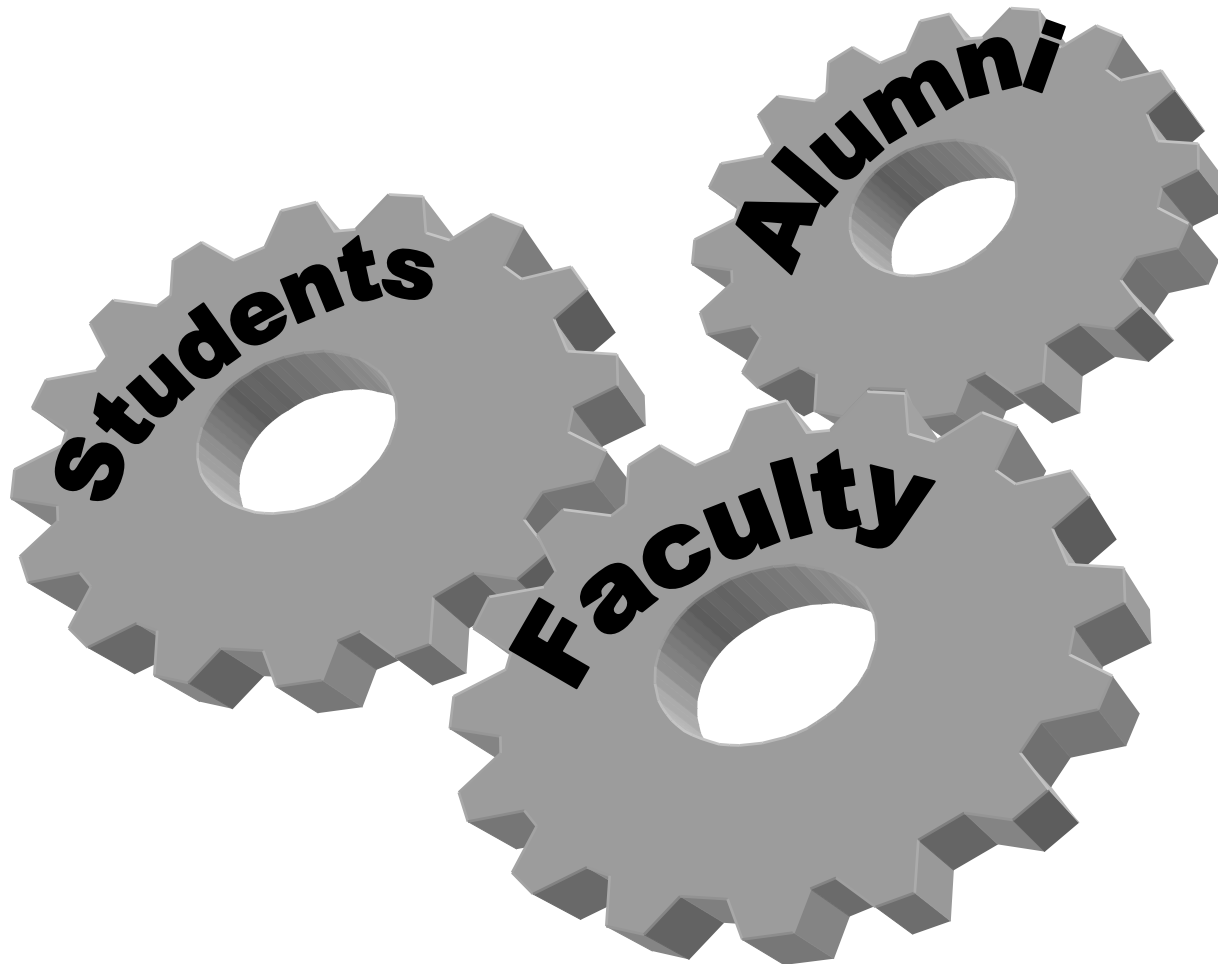
Judging the value of material or methods as they might be applied in particular situations or judging with the use of definite criteria



Appraise	Assess	Compare	Conclude
Contrast	Criticize	Determine	Grade
Interpret	Judge	Justify	Measure
Rank	Rate	Support	Test

# How to go about the process of developing learning outcomes...

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Engage all stakeholders in the process...

# Describe the “student product” of your program

- ✓ What does the student know?
- ✓ What can this student do?
- ✓ What does this student care about?



*Focus on those strengths, skills, and values that were a result of or were nurtured by your program experience*

# Think beyond the immediate program experience

- ✓ Get input from the professional association web site for the discipline
- ✓ List the achievements you would expect from your graduates
- ✓ Describe your alumni in terms of career accomplishments, lifestyles, citizenship activities, aesthetic and intellectual involvement

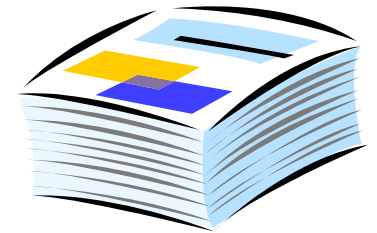




# Collect material from close at hand



- ✓ Collect and review documents which describe the program
  - Brochures
  - Accreditation reports
  - Recruitment material
- ✓ Gather the learning outcomes on course syllabi within the program



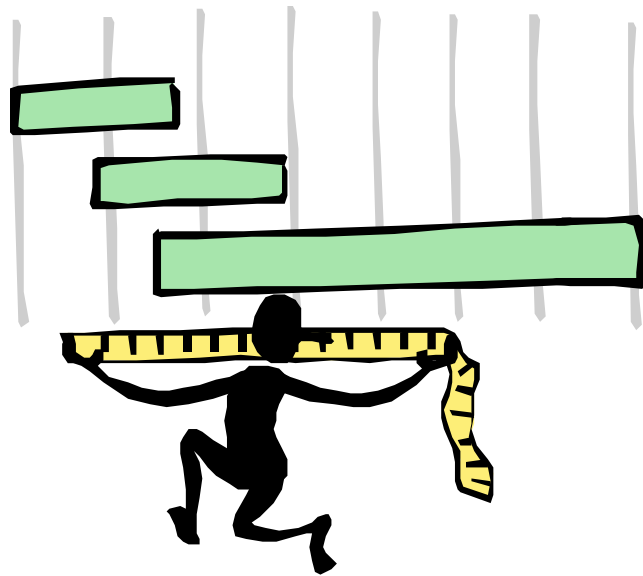
# Remember, it is an ongoing process

- ✓ Draft a first set of outcomes
- ✓ Discuss and refine
- ✓ Ask questions
  - Has everyone had input?
  - What is the degree of buy-in?
  - How do we assess achievement of the outcomes?
  - What will we do with the results?
  - How can they be used to improve the program?



The next step...

How will you assess whether the outcomes have been reached?



### What is assessment?

- Ongoing and systematic process of collecting evidence of learning
- Analyzing what that evidence means
- Using the information to improve student learning

# Assessment methods can be direct or indirect

## *Direct Measures*

Competencies

Attainment levels

Skills

Abilities

Knowledge

## *Indirect Measures*

Grades

Success rates

Retention rates

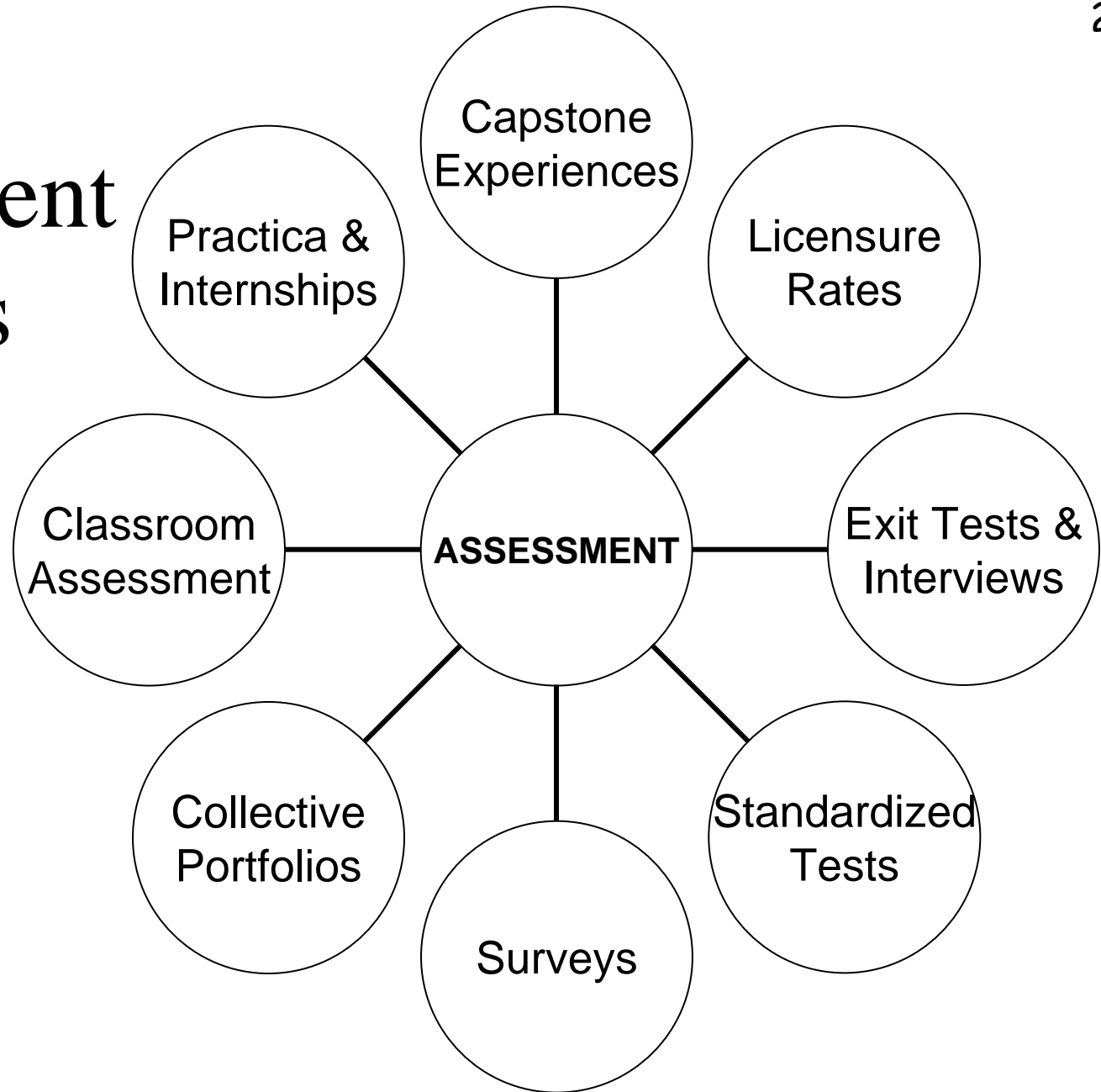
Enrollment patterns

Degrees awarded

Placement outcomes

Student equity

Various  
assessment  
methods  
can be  
used...

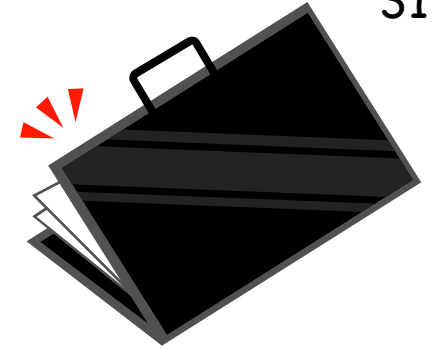
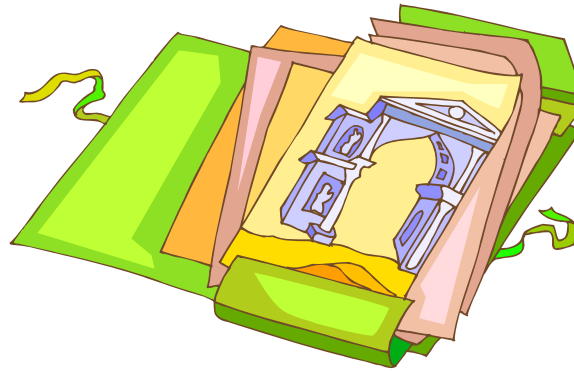


# Capstone experiences...



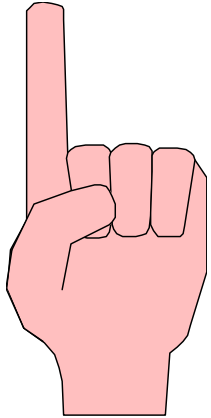
- Ideally should have broad-based participation
- Should be the culmination of earlier course work
  - Broadening
  - Deepening
  - Integrating the total experience of the major
- Should allow for collaborative efforts among the undergraduates if possible
- Should prepare the undergraduates for the expectations and standards of the workplace or graduate school

# Collective portfolios...

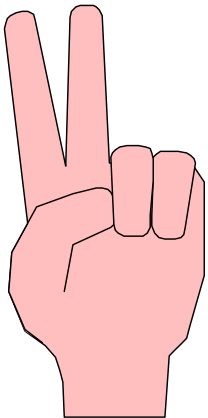


- Can be used to illustrate a collection of students' graded work
- Works well for literary areas, highly visual areas but not so well in some fields
- May be done completely *electronically*
  - Highly portable
  - Can be updated easily
  - Shows authentic work not just copies
- Requires time and commitment on the part of the student to develop and the instructor to assess thoroughly

It is not enough to merely collect the assessment data...



What do the results of assessment mean?



How are we going to use the results to improve student learning?



# The Alabama A&M University Experience



- Document, Document, Document
- If it is not written down, it does not exist
- If others cannot view it, then it has limited value
- If the system for documentation is difficult, people will not want to do it
- Peer pressure is a wonderful thing