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### Assessing Student Learning

Dr. Susan Hatfield  
*Winona State University*

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# Assessing Student Learning

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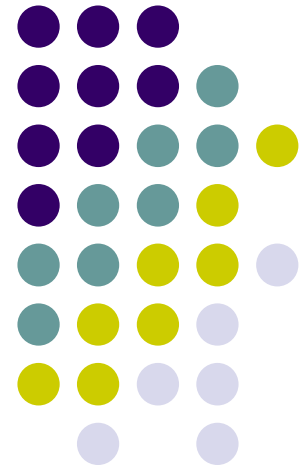
Academic Chairpersons Conference

February 2015

Susan Hatfield

Winona State University

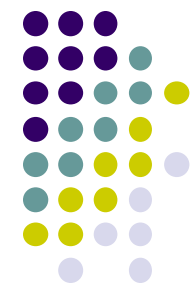
[SHatfield@winona.edu](mailto:SHatfield@winona.edu)



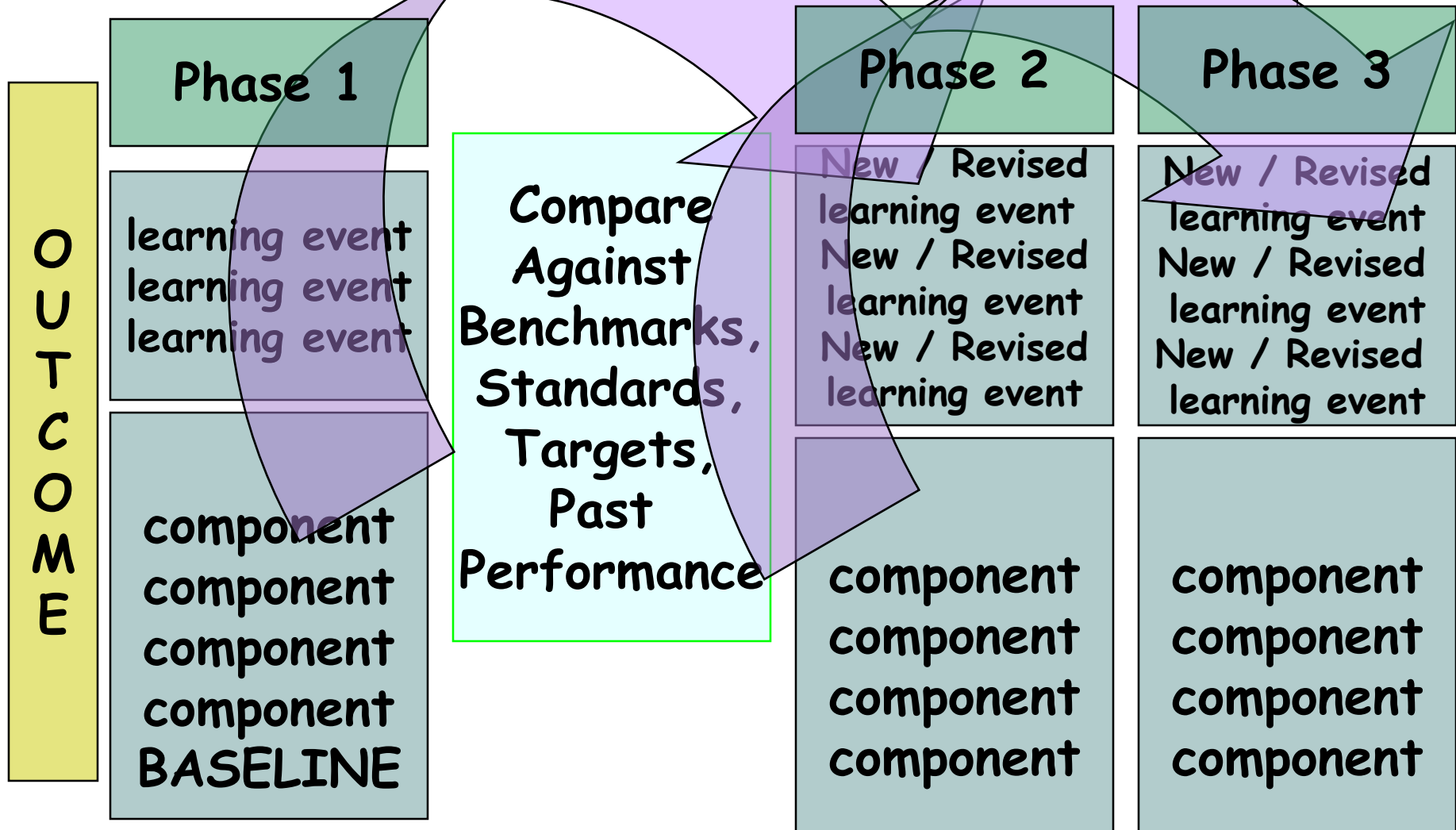
Start the conversation...



Think of a course that you teach:  
What are you doing differently in  
that course this semester?



# The Assessment Process



....focus the discussion...



Assessment is about *student learning*

..... Build on what's  
already happening



Most of your faculty are probably  
already doing it.

# Evaluation

# Assessment

Quizzes

Count toward  
final grade

Used to see if  
students  
understand

Tests

Scored and returned

Scored, tabulated.  
returned &  
discussed;  
adjustments to  
syllabus

Rubrics

Returned to students  
with grade

	<b>Does not meet</b>	<b>Meets</b>	<b>Exceeds</b>
<b>Verbal Delivery</b>		<b>x</b>	
<b>Nonverbal Delivery</b>		<b>x</b>	
<b>Organization</b>	<b>x</b>		
<b>Evidence</b>		<b>x</b>	
<b>Transitions</b>		<b>x</b>	



# Evaluation

# Assessment

Quizzes

Count toward  
final grade

Used to see if  
students  
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Tests

Scored and returned

Scored, tabulated.  
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Rubrics

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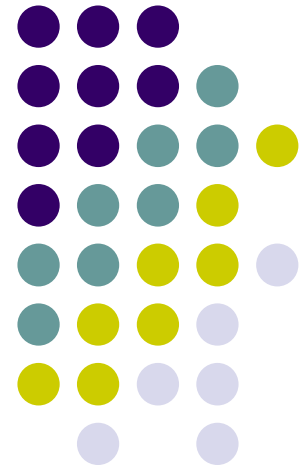
Returned after being  
aggregated &  
analyzed;  
adjustments to  
syllabus

	<b>Does not meet</b>	<b>Meets</b>	<b>Exceeds</b>
<b>Verbal Delivery</b>	<b>14%</b>	<b>81%</b>	<b>5%</b>
<b>Nonverbal Delivery</b>	<b>22%</b>	<b>74%</b>	<b>14%</b>
<b>Organization</b>	<b>14%</b>	<b>79%</b>	<b>7%</b>
<b>Evidence</b>	<b>9%</b>	<b>72%</b>	<b>19%</b>
<b>Transitions</b>	<b>7%</b>	<b>85%</b>	<b>8%</b>

Program Summary

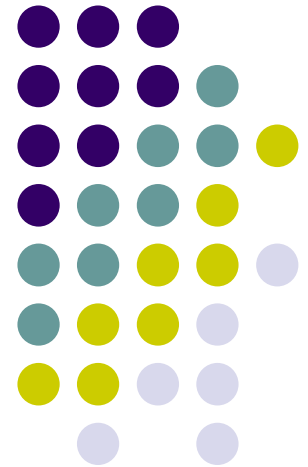
# Creating an Assessment Plan

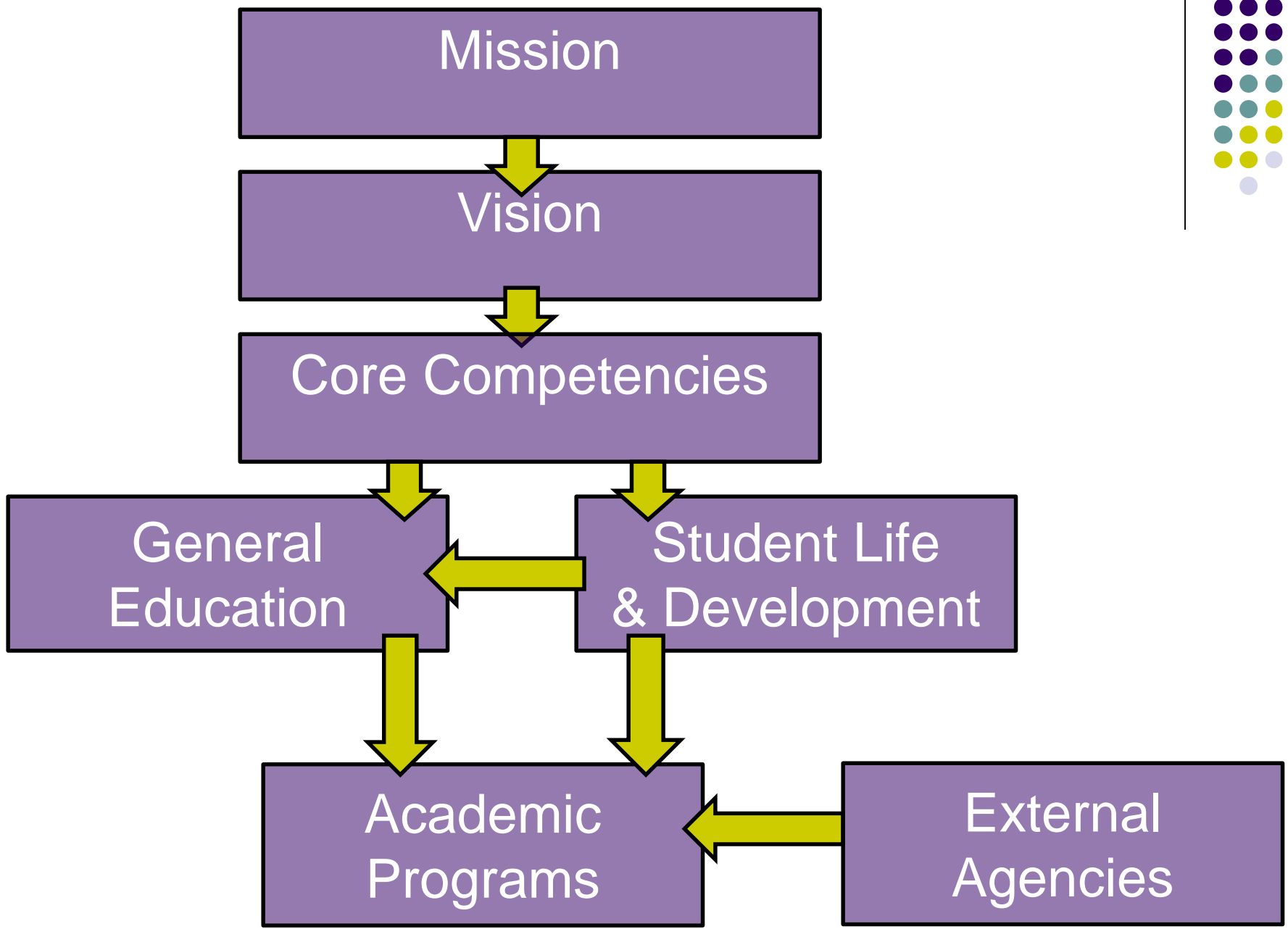
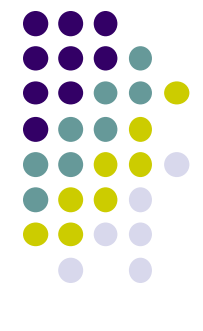
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# 1. Identify your Program-level Learning Outcomes

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Consider your outcomes carefully:

If you don't care about the question,  
you won't care about the answer.

# Student Learning Outcomes



- Students should be able to critically comprehend, interpret, and evaluate written, visual, and aural material.

# PRACTICAL ADVICE:



The more complex the outcome,  
the harder it will be to assess





# PRACTICAL ADVICE:

- Suggested format for learning outcomes:

Students will be able to

<<action verb>>

<<something>>

# Student Learning Outcomes



- Learner Centered
- Clear
- Measurable
- Public
- Distinctive
- Frame Perceptions
- Cognitively appropriate

**COMPREHENSION**

**ANALYSIS**

**EVALUATION**

**KNOWLEDGE**

**APPLICATION**

**SYNTHESIS**

	Associate				
Cite	Classify		Analyze	Arrange	Appraise
Count	Compare	Apply	Appraise	Assemble	Assess
Define	Compute	Calculate	Calculate	Collect	Choose
Draw	Contrast	Classify	Categorize	Compose	Compare
Identify	Differentiate	Demonstrate	Classify	Construct	Criticize
List	Discuss	Determine	Compare	Create	Determine
Name	Distinguish	Dramatize	Debate	Design	Estimate
Point	Estimate	Employ	Diagram	Formulate	Evaluate
Quote	Explain	Examine	Differentiate	Integrate	Grade
Read	Express	Illustrate	Distinguish	Manage	Judge
Recite	Extrapolate	Interpret	Examine	Organize	Measure
Record	Interpolate	Locate	Experiment	Plan	Rank
Repeat	Locate	Operate	Inspect	Prepare	Rate
Select	Predict	Order	Inventory	Prescribe	Recommend
State	Report	Practice			Revise
Tabulate	Restate	Report			Size
Tell	Review	Schedule			
Trace	Tell	Sketch			
Underline	Translate	Solve			
		Translate	Test	Write	Test
		Use			Validate
		Write			

Lower division course outcomes

**COMPREHENSION**

**ANALYSIS**

**EVALUATION**

**KNOWLEDGE**

**APPLICATION**

**SYNTHESIS**

Associate

Arrange

Appraise

Cite

Classify

Analyze

Assemble

Assess

Count

Compare

Apply

Appraise

Collect

Choose

Define

Compute

Calculate

Calculate

Compose

Compare

Draw

Contrast

Demonstrate

Categorize

Construct

Criticize

Identify

Differentiate

Determine

Classify

Create

Determine

List

Discuss

Dramatize

Compare

Design

Estimate

Name

Distinguish

Employ

Debate

Formulate

Evaluate

Point

Estimate

Examine

Diagram

Integrate

Grade

Quote

Explain

Illustrate

Differentiate

Manage

Judge

Read

Express

Interpret

Distinguish

Organize

Measure

Recite

Extrapolate

Locate

Examine

Plan

Rank

Record

Interpolate

Operate

Experiment

Prepare

Rate

Repeat

Locate

Order

Inspect

Prescribe

Recommend

Select

Summarize

Practice

Inventory

Produce

Revise

Underline

Translate

Report

Question

Propose

Score

Write

Use

Structure

Separate

Specify

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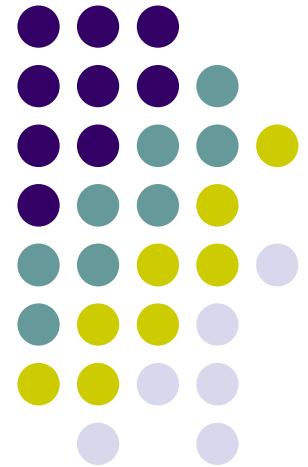
Write

Use

Structure

## 2. Define the Outcomes

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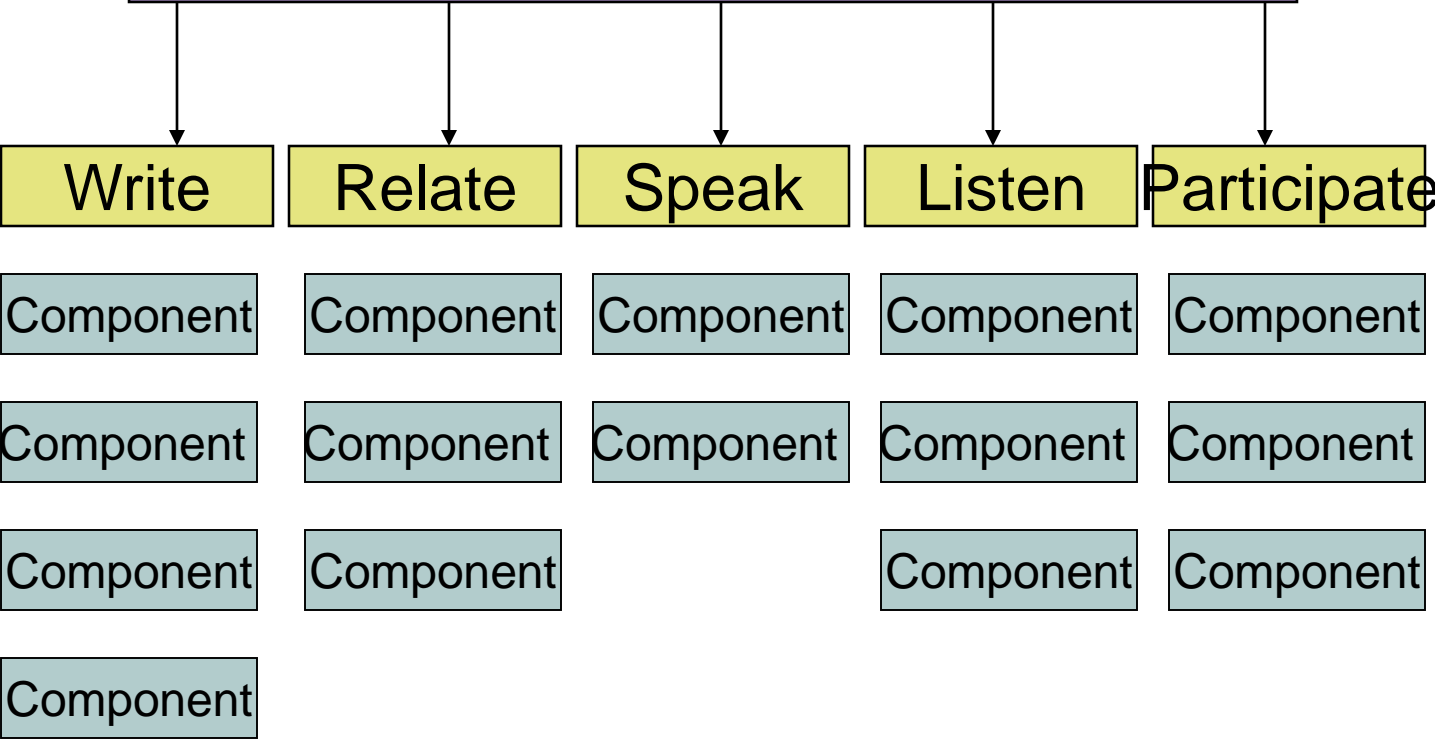




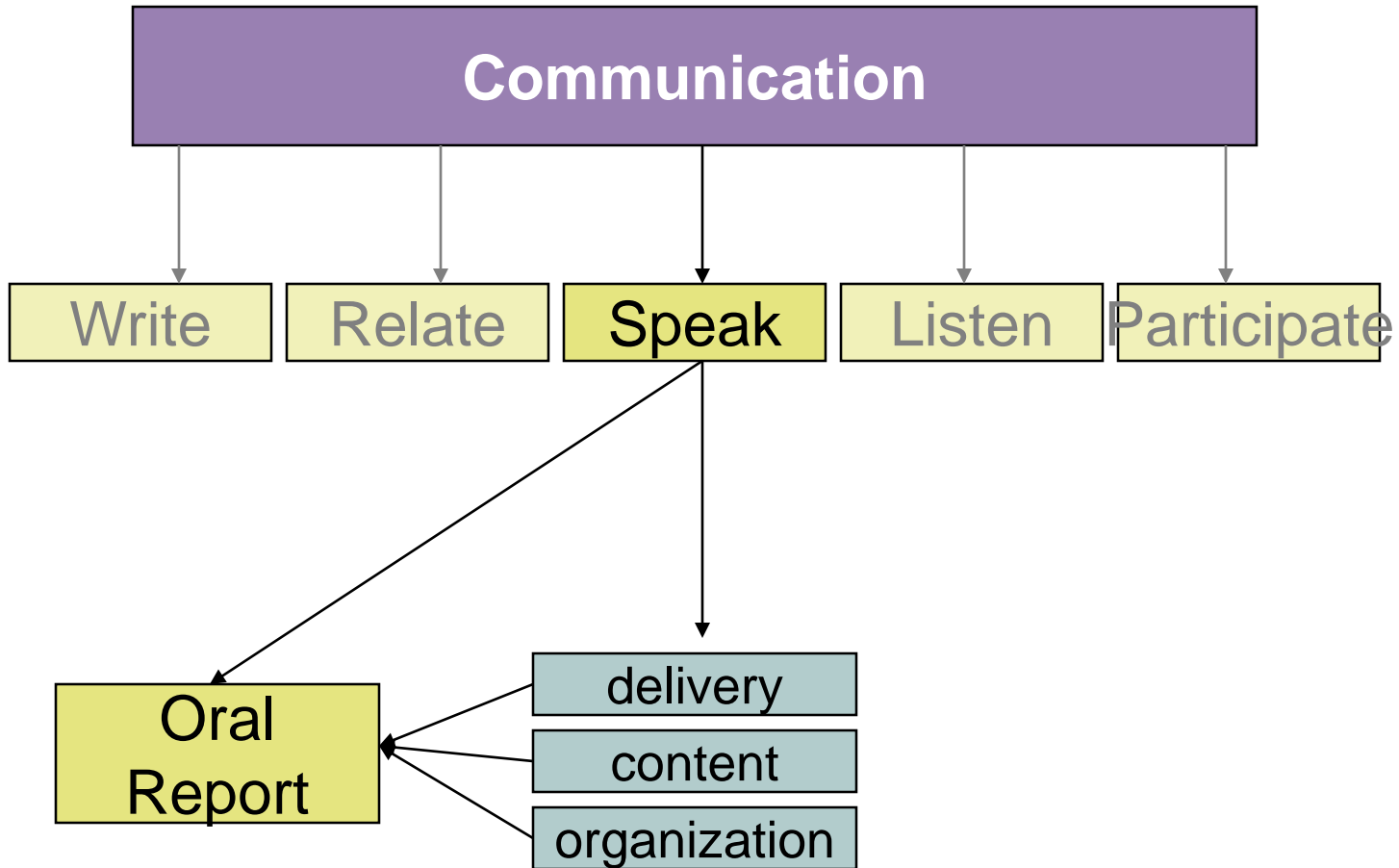
# Components

- Define student learning outcomes
- Provide a common language for describing student learning
- Must be *outcome specific*
- Must be shared across faculty
- Number of components will vary by outcome

# Communication

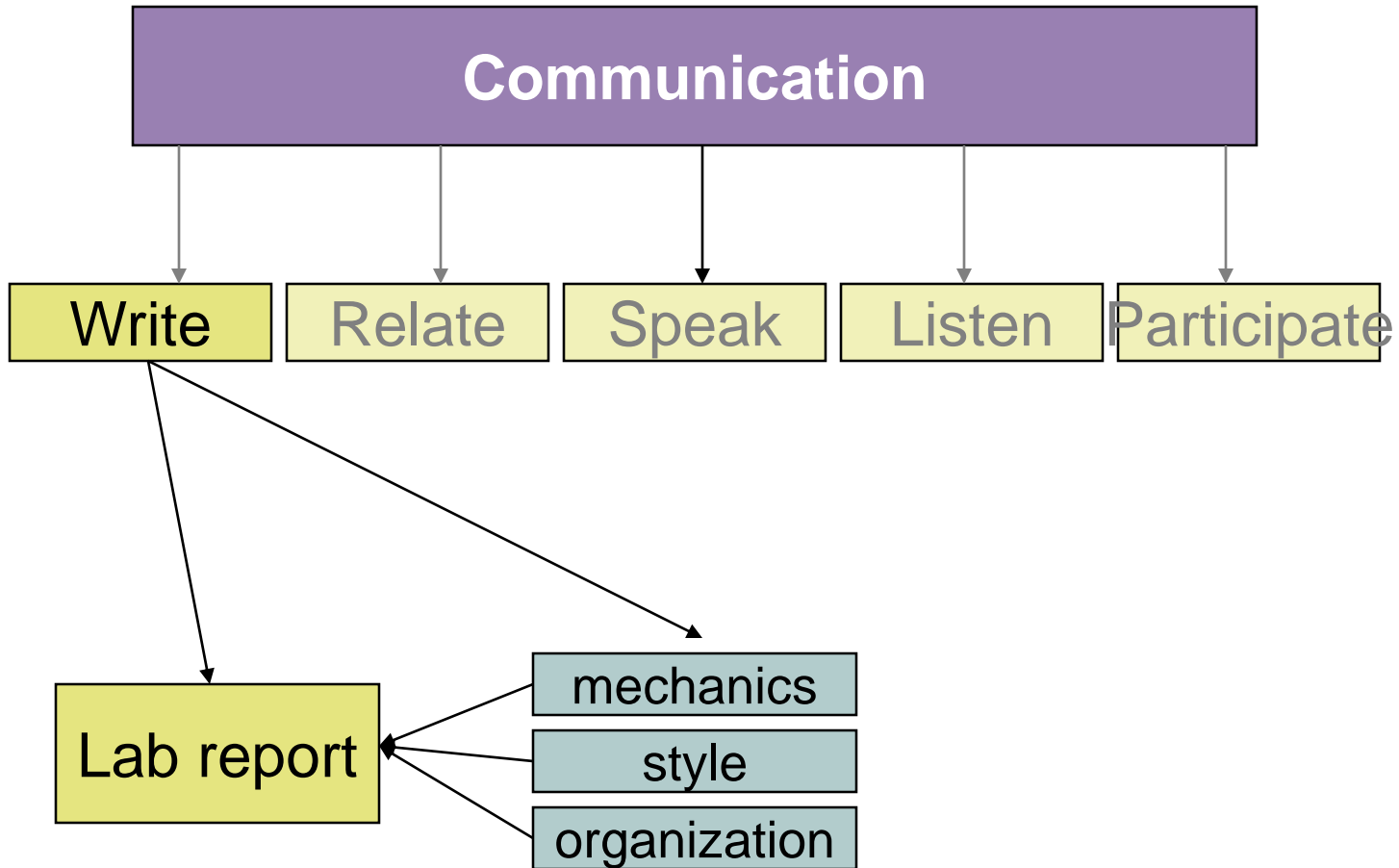


# Components



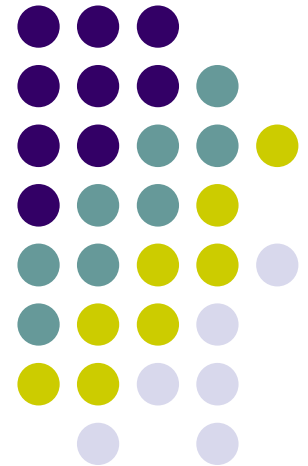


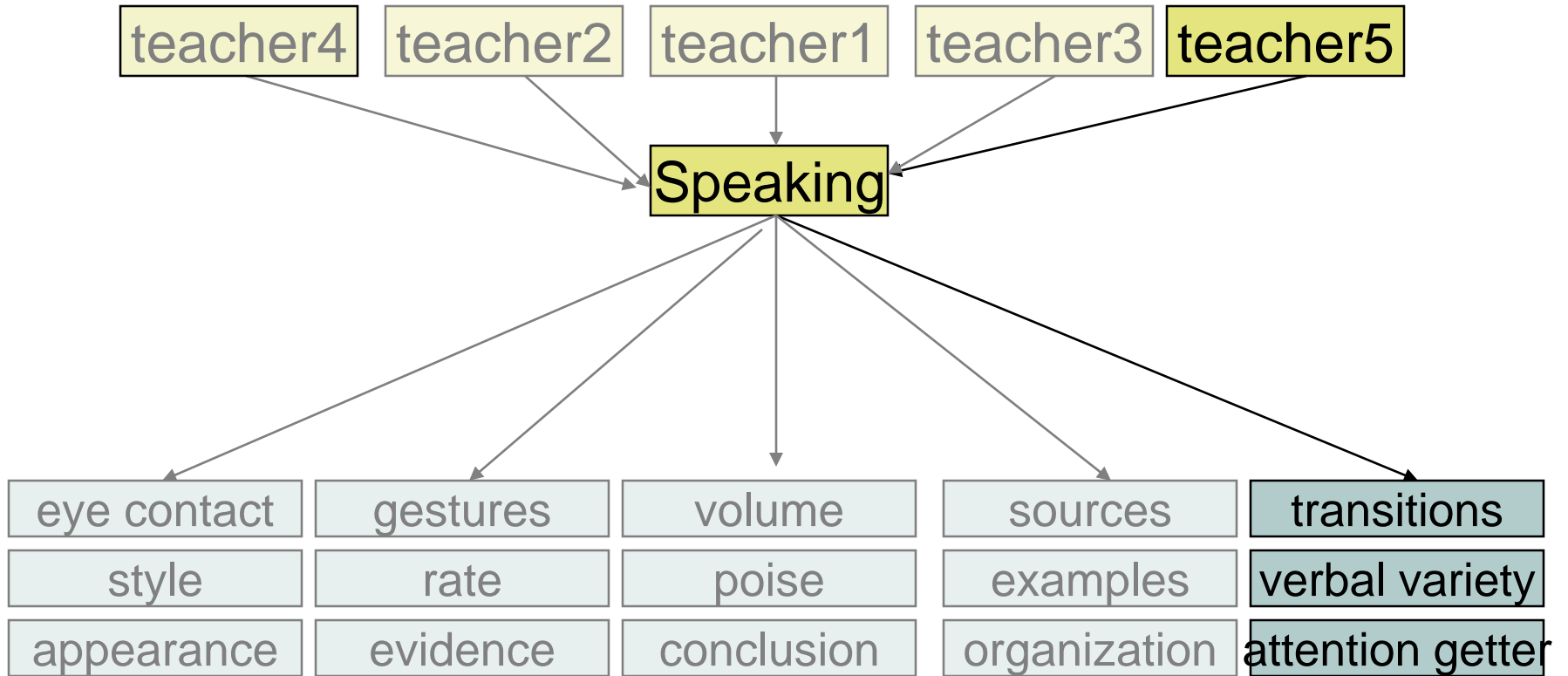
# Components



# The Reality of Assessing Student Learning Outcomes

Why you need common  
components



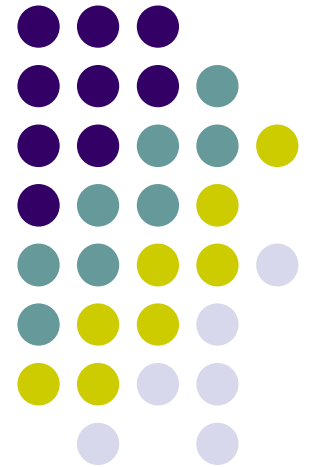




# Can our students deliver an effective Public Speech?

eye contact	gestures	volume	sources	transitions
style	rate	poise	examples	verbal variety
appearance	evidence	conclusion	organization	attention getter

# Quiz



# Example #1



Gather factual information and apply it to a given problem in a manner that is relevant, clear, comprehensive, and conscious of possible bias in the information selected

# Example #2



Imagine and seek out a variety of possible goals, assumptions, interpretations, or perspectives which can give alternative meanings or solutions to given situations or problems

# Example #3

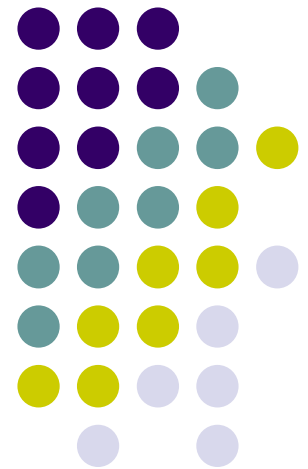


Formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines (one of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty)



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Outcomes can overlap





Outcome Outcome

Outcome Outcome

Outcome Outcome

Outcome Outcome

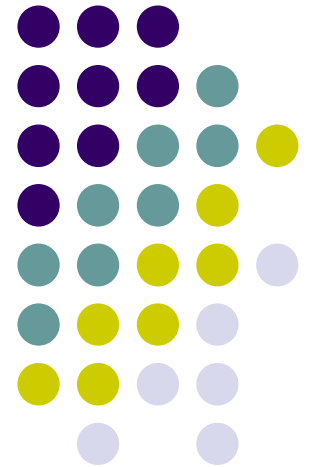
Outcome Outcome

**Program D**

Outcome Outcome

# 3. Map your outcomes to the curriculum

---



# Program Level Student Learning Outcomes

1xx 1xx 2xx 2xx 2xx 3xx 3xx 3xx 4xx Capstone



1	K		A		A			A	A	S
2		K	A	S						
3	K					K		K	K	
4										
5	K									S
6		K			K	A		A	S	
7		S			A	A			S	

**K= Knowledge/Comprehension; A= Application / Analysis; S= Synthesis /Evaluation**

Program Level  
Student Learning  
Outcomes

1xx 1xx 2xx 2xx 2xx 3xx 3xx 3xx 4xx Capstone



1	K		A		A			S	A	S
2		K	A	A			A			
3	K					K		A		
4										
5	K					K	A	S		S
6		K			K	K		A	S	
7		S			A	A		S	S	

Build a curriculum

**K= Knowledge/Comprehension; A= Application / Analysis; S= Synthesis /Evaluation**



Program Level  
Student Learning  
Outcomes

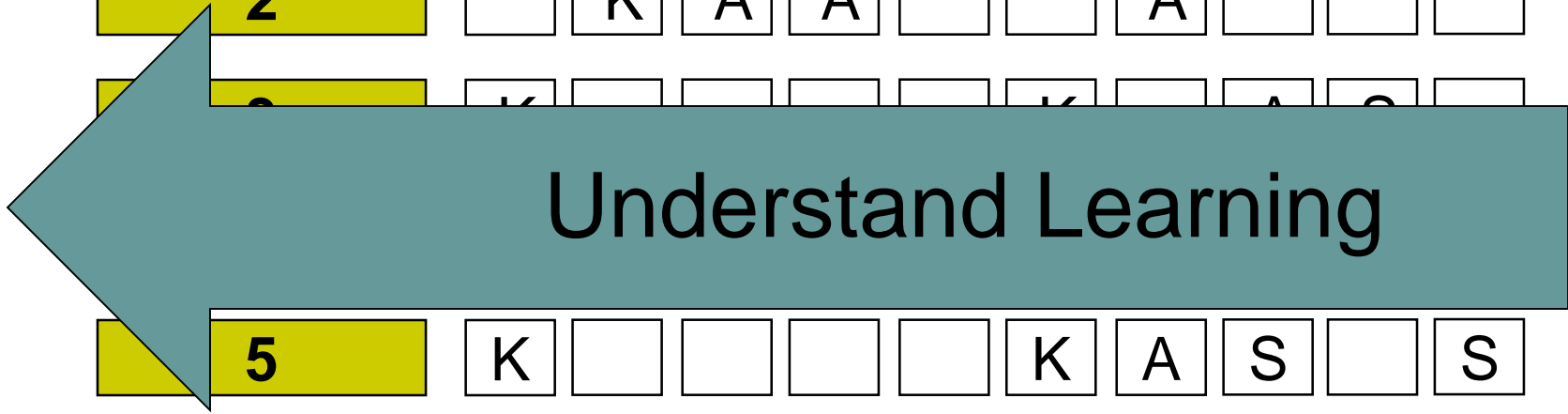
1xx 1xx 2xx 2xx 2xx 3xx 3xx 3xx 4xx Capstone



1	K		A		A			S	A	S
---	---	--	---	--	---	--	--	---	---	---

2		K	A	A			A			
---	--	---	---	---	--	--	---	--	--	--

3	K					K		A		
---	---	--	--	--	--	---	--	---	--	--



5	K					K	A	S		S
---	---	--	--	--	--	---	---	---	--	---

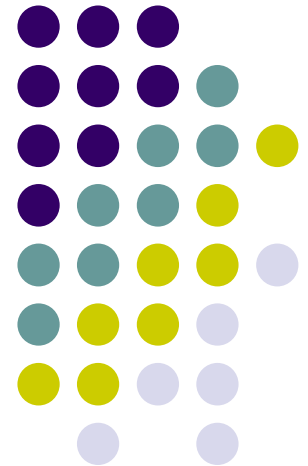
6		K			K	K		A	S	
---	--	---	--	--	---	---	--	---	---	--

7		S			A	A		S	S	
---	--	---	--	--	---	---	--	---	---	--

**K= Knowledge/Comprehension; A= Application / Analysis; S= Synthesis /Evaluation**

# 4. Identify your Assessment Points

---





# Assessment Points



Assessment is NOT

assessing every student

on every outcome

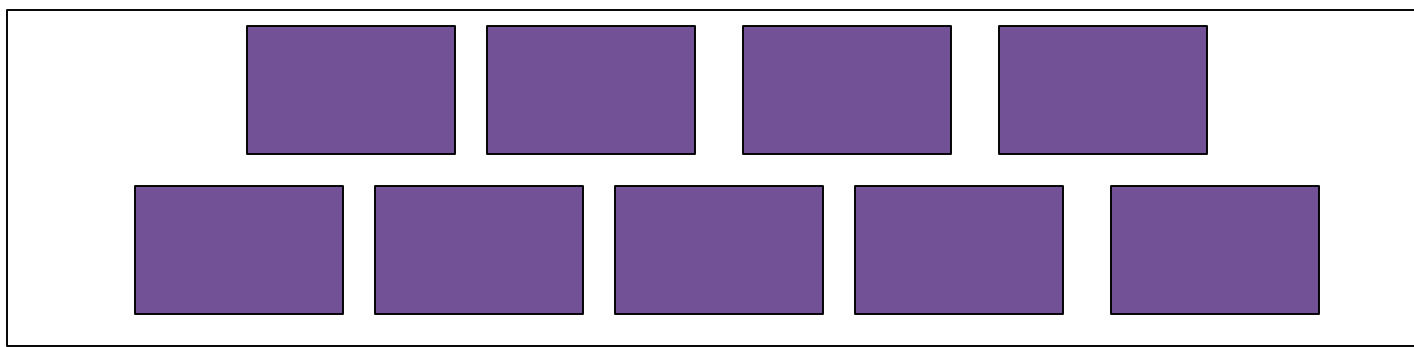
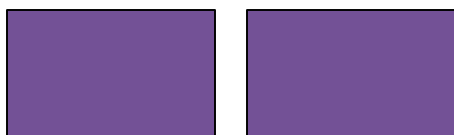
in every class

by every faculty member

every semester



Capstone



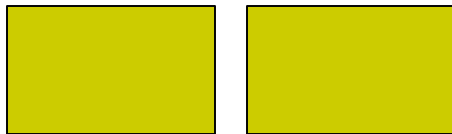
400

300

200

100

Prerequisite Courses



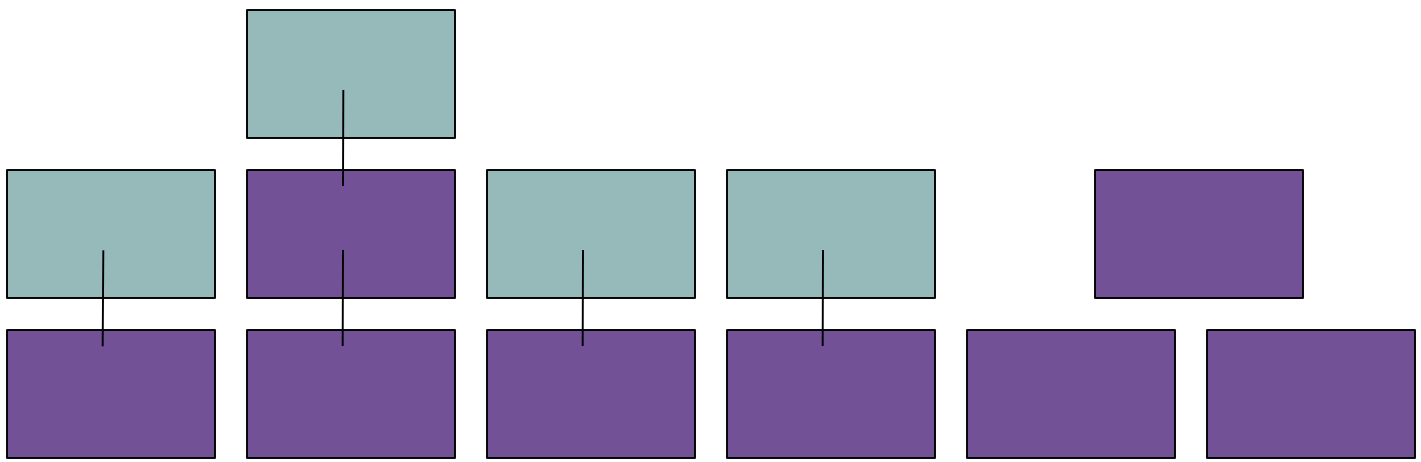


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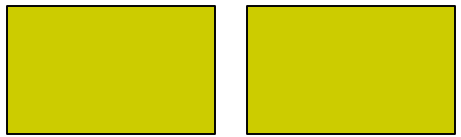
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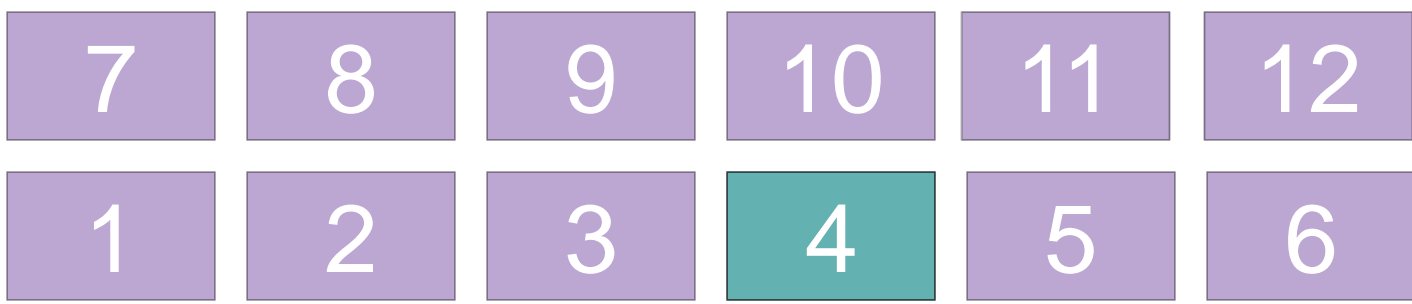
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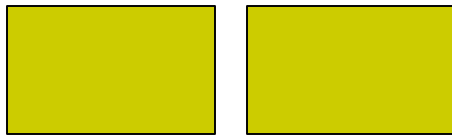
Prerequisite Courses



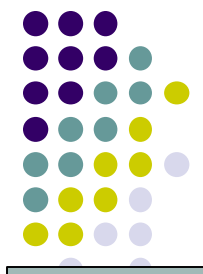


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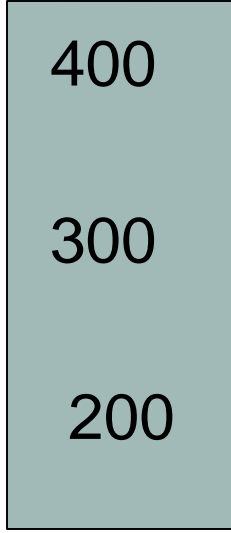
Prerequisite Courses



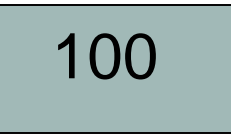
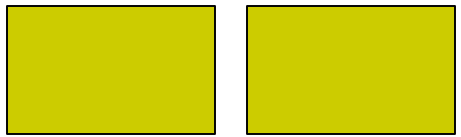
100



19	20	21	22	23	24
13	14	15	16	17	18
7	8	9	10	11	12
1	2	3	4	5	6



Prerequisite Courses



Program Level  
Student Learning  
Outcomes



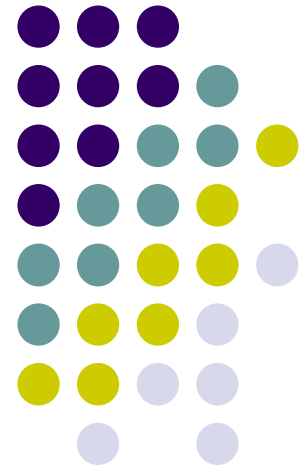
1xx 1xx 2xx 2xx 2xx 3xx 3xx 3xx 4xx Capstone

1	K		A		A			S	A	S
2		K	A	A			A		S	
3	K		A		A	A		A	S	
4		K			A			S	S	
5	K		A			K	A	S		S
6		K			K	A		A	S	
7		S			A	A		S	S	S

K= Knowledge/Comprehension; A= Application / Analysis; S= Synthesis /Evaluation

# 5. Match objects to outcomes

---





# Learning Objects

- Standardized Exam, abstract, advertisement, annotated bibliography, biography, briefing, brochure, budget, care plan, case analysis, chart, cognitive map, court brief, debate, definition, description, diagram, dialogue, diary, essay, executive summary, exam, flow chart, group discussion, instruction manual, inventory, lab notes, letter to the editor, matching test, mathematical problem, memo, micro theme, multiple choice test, narrative, news story, notes, oral report, outline, performance review, plan, presentation, process analysis, proposal, regulation, research proposal, review of literature, taxonomy, technical report, term paper, thesis, word problem, work of art. (Walvoord Anderson 1998).

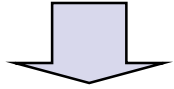




# Learning Objects

- Test
- Project
- Assignment
- Portfolio
- Recital
- Performance
- Presentation
- Exhibit
- Internship

## Student Learning Outcome



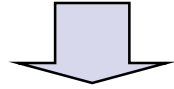
1

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3

4

## Test Questions



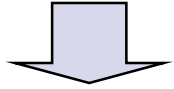
1 2 3 4

5 6 7 8 9

10 11 12

13 14 15 16 17 18

## Student Learning Outcome



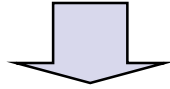
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2

3

4

## Assignment



1

2

3

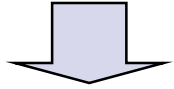
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# Assessing Learning



- Test
- Project
- Case Study
- Portfolio
- Recital
- Performance
- Presentation
- Exhibit
- Internship
- Number or percentage correct

# Student Learning Outcome



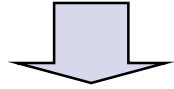
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# Test Questions



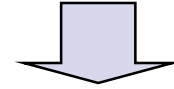
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# % correct

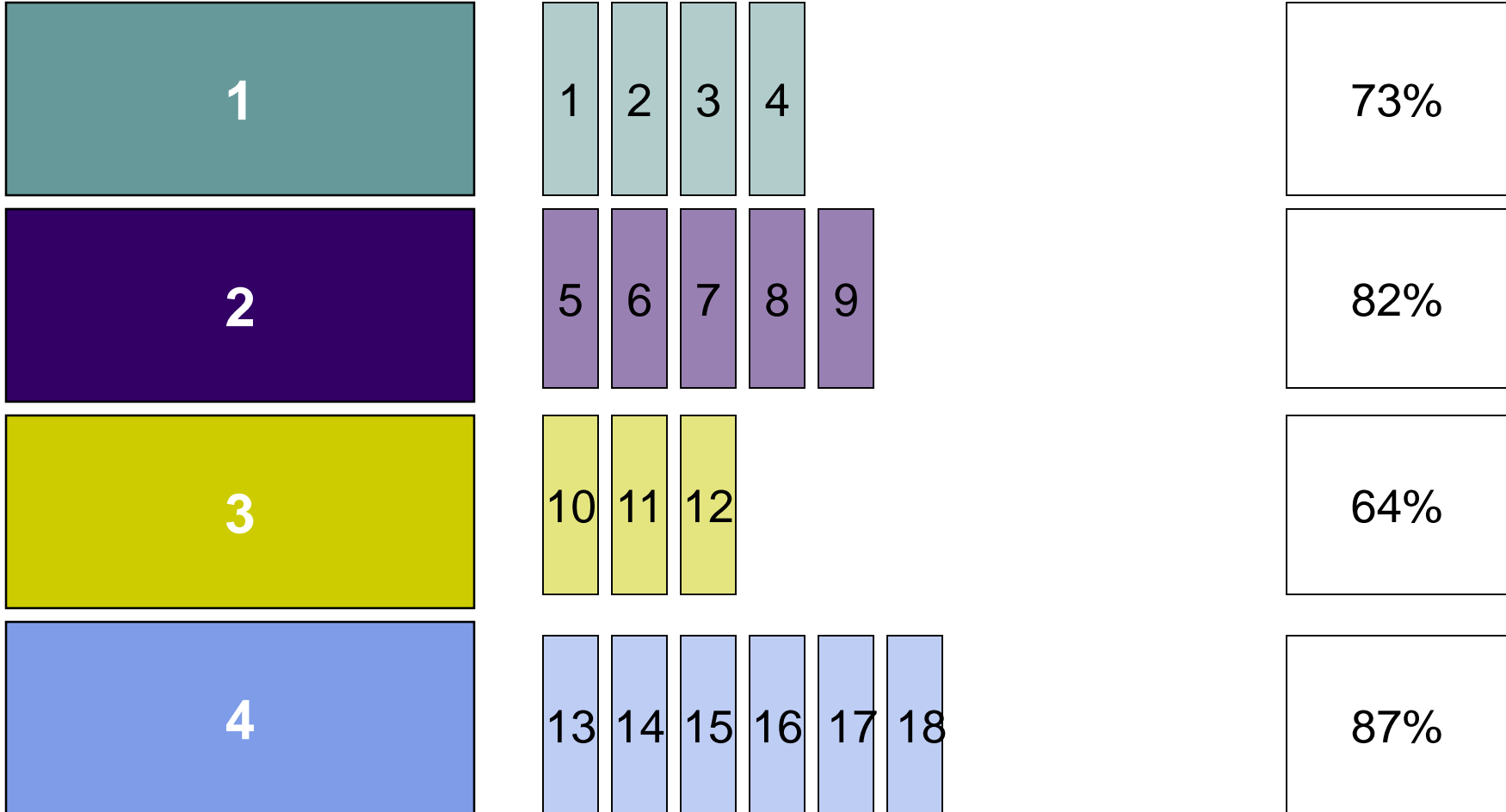


73%

82%

64%

87%



# Assessing Learning

- Test
  - Project
  - Performance
  - Case Study
  - Research Project
  - Presentation
  - Portfolio
  - Brochure
  - Internship
- Number or percentage correct
  - Scale

Student Learning Outcome



**Presentation**

Components



Content

Delivery

Organization

<b>Familiar</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>New</b>
<b>Distracts</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Enhances</b>
<b>Unclear</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Focused</b>

# Assessing Learning

- Test
  - Project
  - Performance
  - Case Study
  - Research Project
  - Presentation
  - Portfolio
  - Brochure
  - Internship
- Number or percentage correct
  - Scale
  - Rubric



# Rubrics for Students



- Clarify expectations
- Focus attention
- Set standards
- Provide detailed feedback

# Rubrics for Faculty



- Clarify goals of assignment
- Standardize feedback
- More detailed feedback
- Enhance objectivity
- Prevent evaluation drift
- Focus discussions with students

# Rubrics for Assessment



- Consistent Feedback across students, course, program allowing for the monitoring of learning outcomes
- Provide Direction for Course, Class, Program Improvement

# Rubrics



- Analytical
  - Numerous components which you want to assess individually
    - Summative

Student Learning Outcome



Presentation

Components



Content

Delivery

Organization

Red	Red	Yellow	Green	Green
Red	Red	Yellow	Green	Green
Red	Red	Yellow	Green	Green

Exceeds

Student Learning Outcome



Presentation

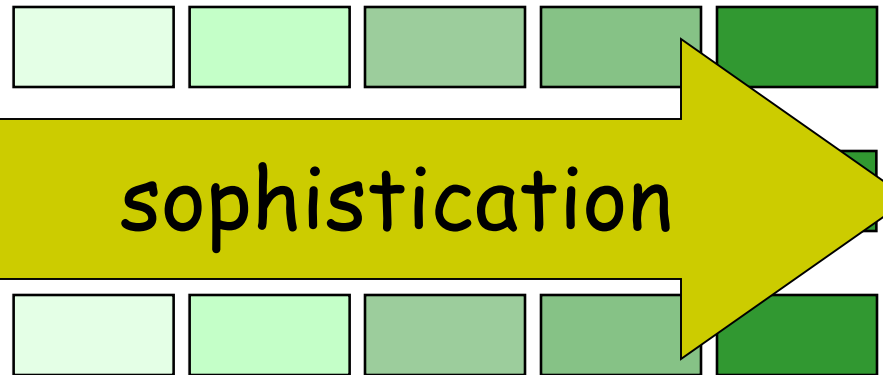
Components



Content

Delivery

Organization



Student Learning Outcome



Presentation

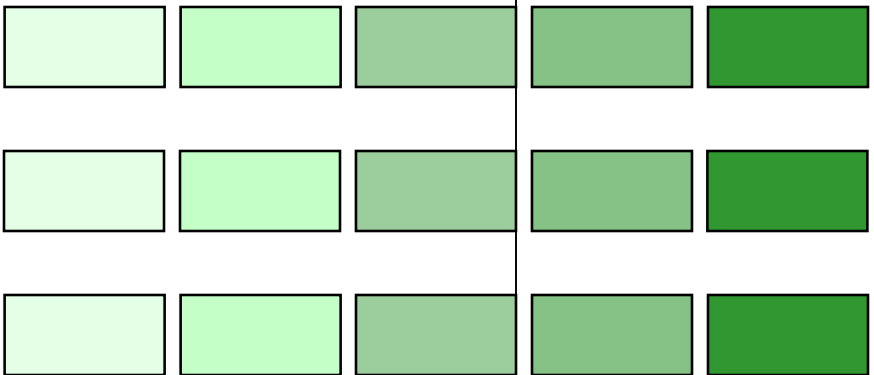
Components



Content

Delivery

Organization



Fourth Year

# Rubrics



- Analytical
- Holistic
  - generally smaller assignments with fewer criteria, shorter turn around time.



Student Learning Outcome



**Presentation**

Components

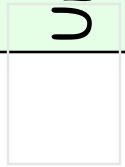


Content

Delivery

Organization

Unacceptable



Needs Work

Proficient

Notable

Excellent

Student Learning Outcome



Presentation

Components



Content

Delivery

Organization

F	D	C	B	A

# Resource

[www.winona.edu/air/rubrics.htm](http://www.winona.edu/air/rubrics.htm)



# PRACTICAL ADVICE:

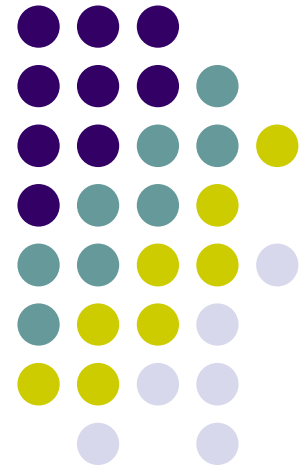


Pilot test your rubrics!

	<b>Does not meet</b>	<b>Meets</b>	<b>Exceeds</b>
<b>Verbal Delivery</b>	<b>1%</b>	<b>15%</b>	<b>84%</b>
<b>Nonverbal Delivery</b>	<b>3%</b>	<b>5%</b>	<b>92%</b>
<b>Organization</b>	<b>0%</b>	<b>3%</b>	<b>97%</b>
<b>Evidence</b>	<b>1%</b>	<b>6%</b>	<b>93%</b>
<b>Transitions</b>	<b>2%</b>	<b>8%</b>	<b>90%</b>

# 7. Seek patterns of evidence

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# Interpreting Data

- | Consistency - over time
- | Consensus - different populations
- | Distinctiveness - different situations/  
variables / items

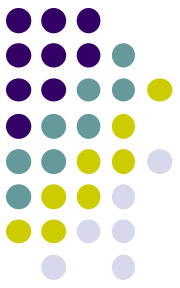
# Consistency



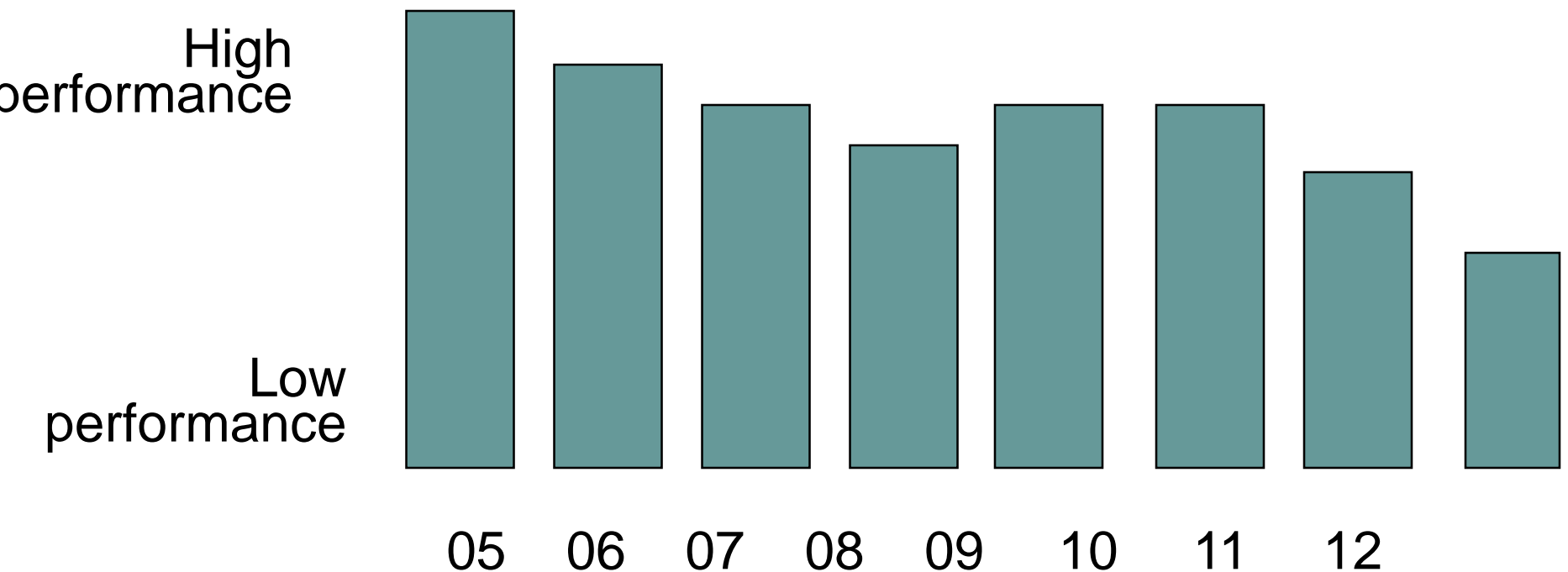
- | Examines the same practice of and individual or group over time
  
- | Key question:
  - » Has this person or group acted, felt, or performed this way in the past / over time?



# Consistency



How well are students performing on the learning outcome?



# Consensus

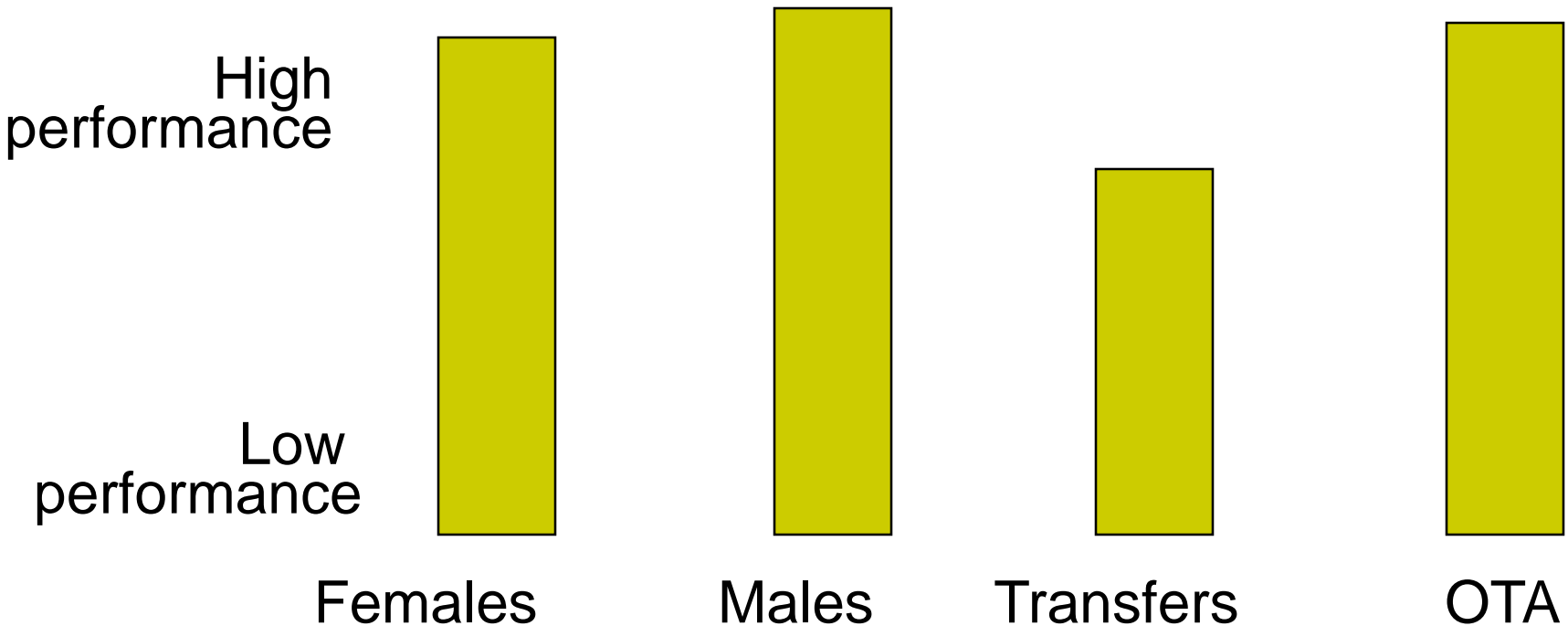


- | Comparison to or among groups of students
  - » Variation between disciplines, gender, other demographic variables
- | Key questions:
  - | What is the general feeling, outcome, attitude, behavior?
  - » Do other groups of people act, perform or feel this way?

# Consensus



How well are students performing on the learning outcome?





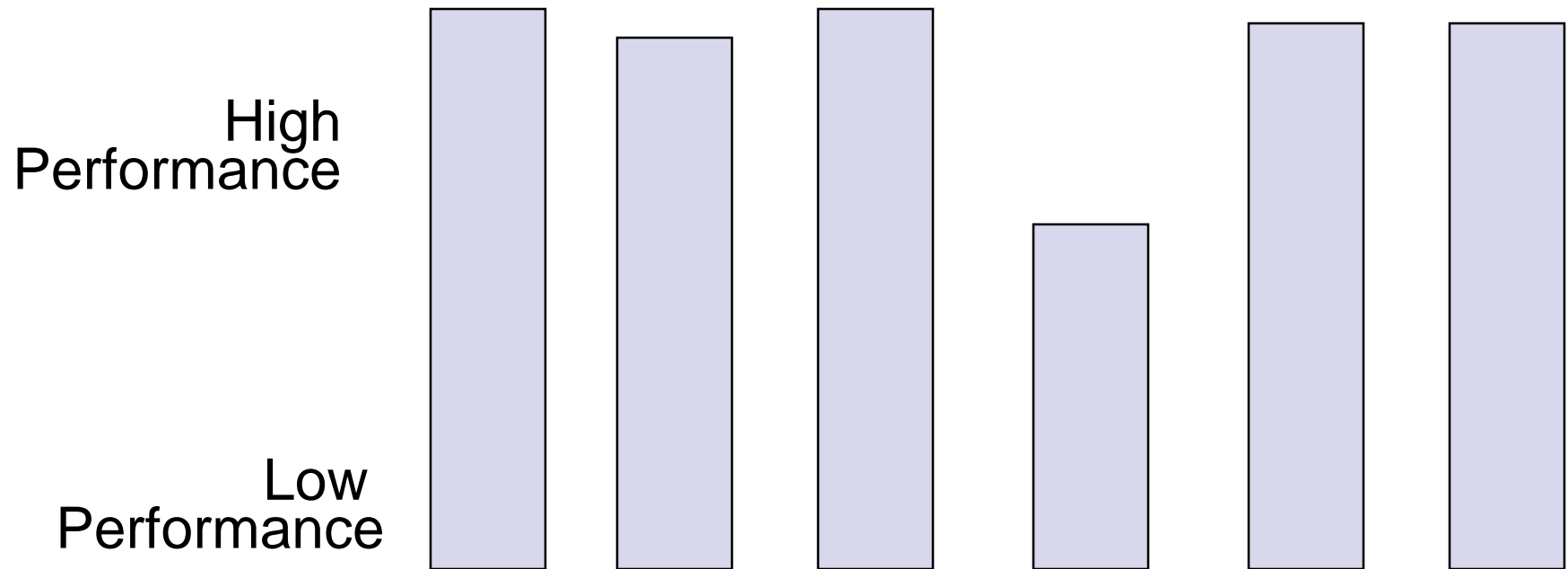
# Distinctiveness

- | Examines individual or cohort perspectives across different situations, categories
  
- | Key Question:
  - » Does a person or group respond differently based upon the situation, item, issue?



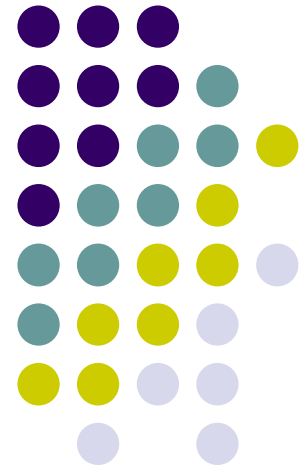
# Distinctiveness

How well are our students achieving our Core Learning Outcomes?



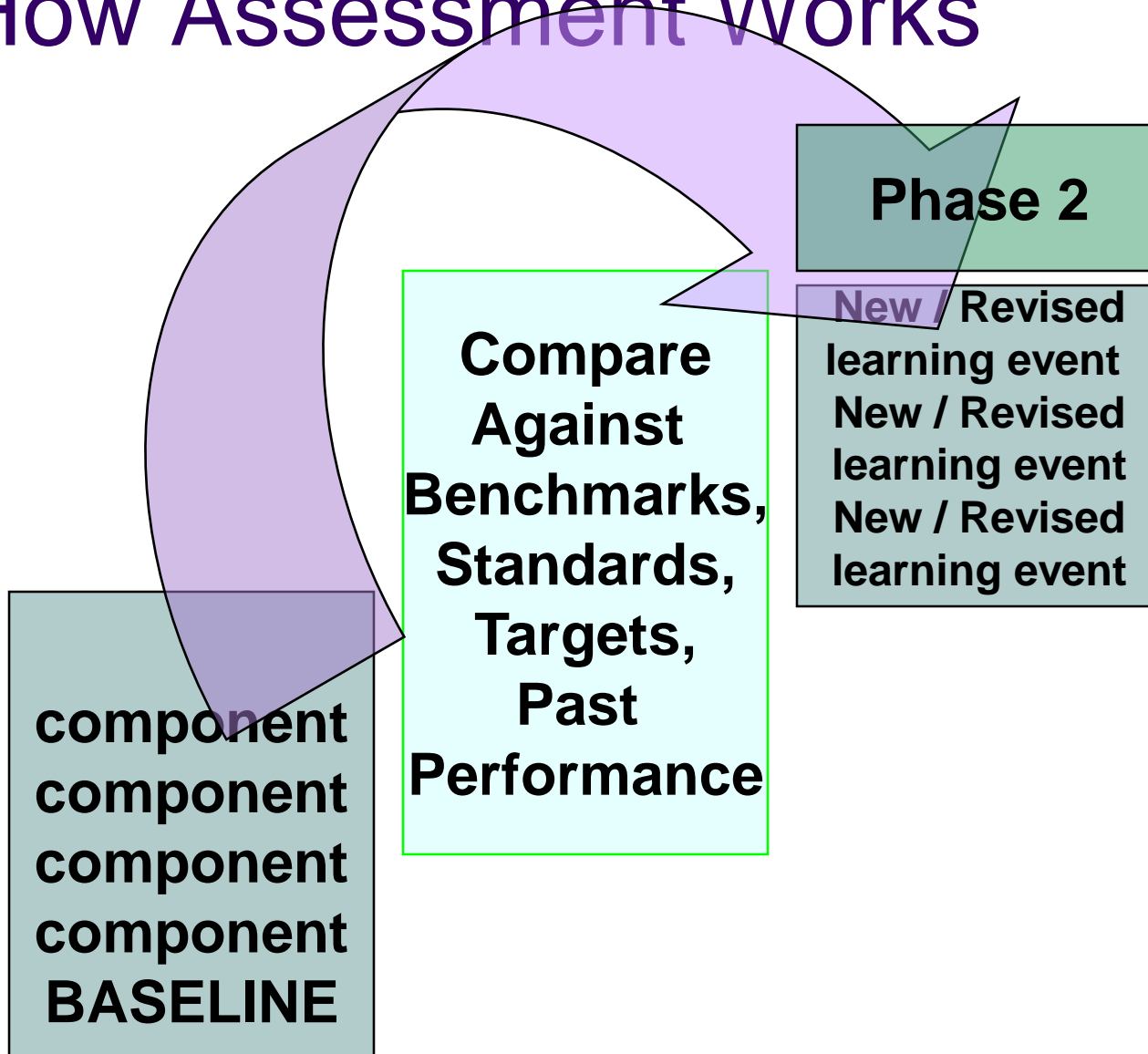
# 8. Act on Results

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# How Assessment Works





# Acting on Results

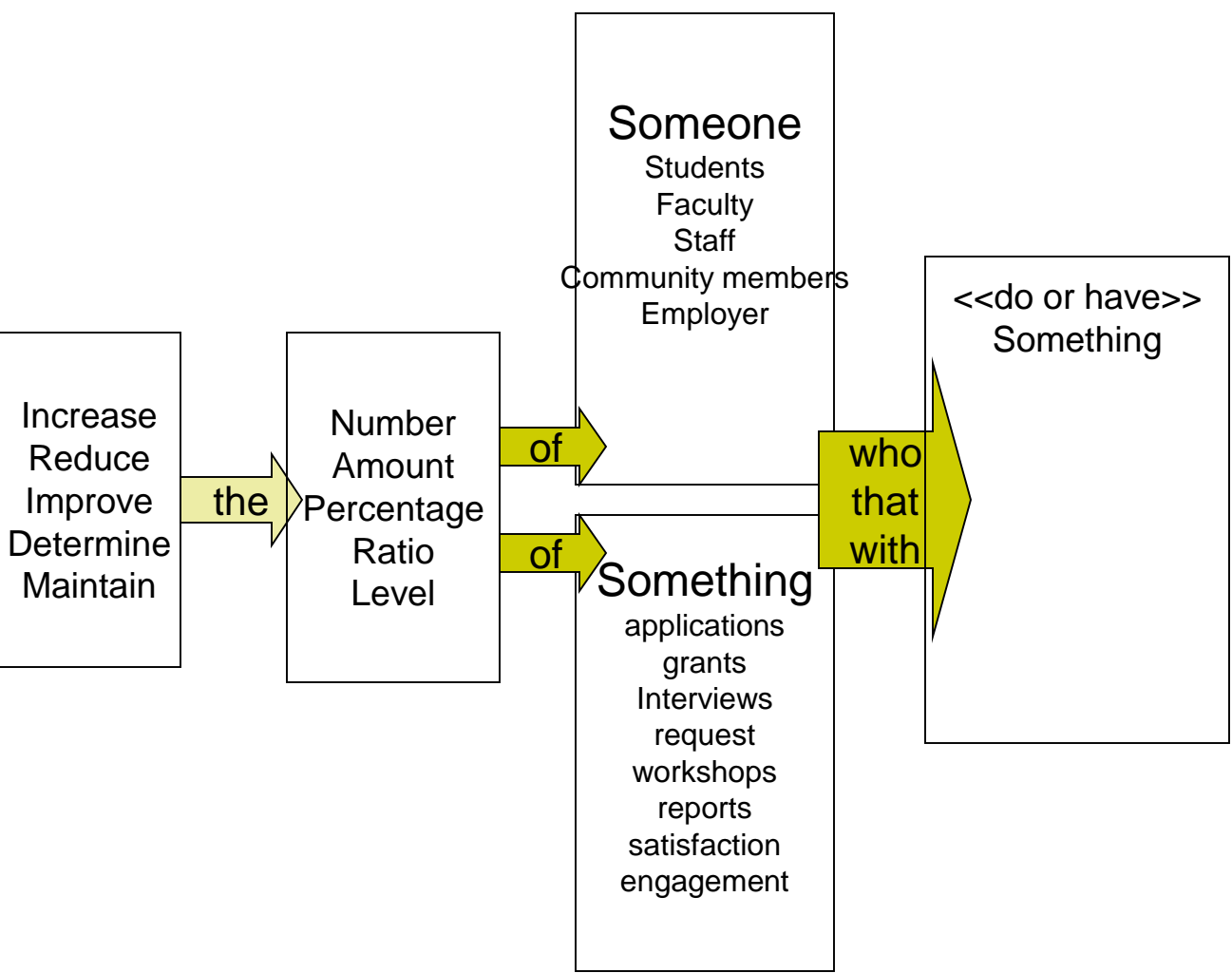
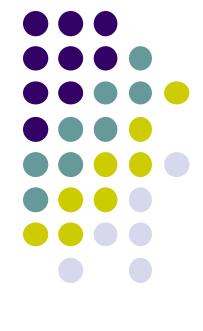
- Development
  - Faculty, Staff, Student
- Infrastructure
  - Policy, Process, Planning
- Curriculum
- Learning Opportunities





# The Seven Principles for Good Practice in Undergraduate Education

- 1. Student-Faculty Contact
- 2. Cooperative Learning
- 3. Active Learning
- 4. (Prompt) Feedback
- 5. Time on Task
- 6. High Expectations
- 7. Respect for Diverse Talents and Ways of Learning



Increase  
Reduce  
Improve  
Determine  
Maintain

the

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Amount  
Percentage  
Ratio  
Level

of

of

Someone  
Students  
Faculty  
Staff  
Community members  
Employer

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applications  
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request  
workshops  
reports  
satisfaction  
engagement

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Increase  
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- Educating .....
- Assisting .....
- Explaining .....
- Assisting .....
- Developing .....
- Consulting .....
- Delivering .....
- Facilitating .....
- Creating .....
- Nurturing .....
- Negotiating .....
- Sponsoring .....
- Training .....
- Translating .....
- Validating .....
- Updating .....
- Enforcing .....
- Testing .....
- Assessing .....
- Reporting .....
- Issuing .....
- Communicating .....
- Integrating .....
- Responding .....
- Arranging .....
- Coordinating .....
- Providing .....
- Organizing .....
- Producing .....
- Training .....
- Maintaining .....
- Supporting .....
- Directing .....
- Designing .....
- Collecting .....
- Developing .....
- Responding .....
- Reviewing .....
- Studying .....
- Distributing .....
- Executing .....
- Recruiting .....
- Generating .....
- Implementing .....
- Investigating .....
- Designing .....
- Collaborating .....
- Revising .....
- Scheduling .....
- Sharing .....

Increase  
Reduce  
Determine  
Maintain

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**FYS**  
Faculty  
Staff  
Community members  
Employers

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Public  
presentation

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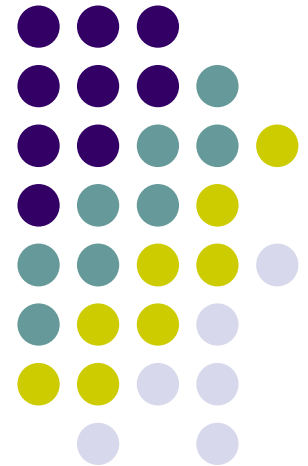
Action

Action

Action

# 9. Document your Efforts

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1. What we looked at

<<object>>

2. How we assess it

<<performance criteria>>

3. What we found

<<results>>

4. What it means

<<interpretation>>

5. What we're going to  
do about it

<<action>>

6. What happened

<<feedback>>

# Assessing Student Learning

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Academic Chairpersons Conference

February 2015

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