

# Assessing Student Learning and Achieving Intended Student Outcomes

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# Part I

## Principles of Good Practice for Assessing Student Learning

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The assessment of student  
learning begins with  
educational values.

Astin, A.W., Banta, T.W., Cross, K.P., Khawas, E., Ewell, P.T, Hutchings, P.T., Marchese, T.J., McClenney, K.M., Mentkowski, M., Miller, M.A., Moran, E.T., Wright , B.D. (2003) *9 Principles of Good Practice for Assessing Student Learning*. Retrieved from [http://www.sacscoc.org/institute11/Monday/cleary4-9\\_Principles.pdf](http://www.sacscoc.org/institute11/Monday/cleary4-9_Principles.pdf)

# Principles of Good Practice for Assessing Student Learning

Assessment fosters wider  
improvement when  
representatives from across  
the educational community are  
involved.

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# Principles of Good Practice for Assessing Student Learning

Assessment is most likely to  
lead to improvement when it is  
part of a larger set of conditions  
that promote change.

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# Principles of Good Practice for Assessing Student Learning

**Assessment works best when  
the programs it seeks to  
improve have clear, explicitly  
stated purposes.**

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# Principles of Good Practice for Assessing Student Learning

Assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes.

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# Outcomes vs. Objectives

- Often used interchangeably
- Outcomes – attained at the end of a course or program
- Objectives- steps along the way to get to the outcomes



# Part II

## Writing Objectives

# Purpose of Learning Objectives

- Describes the intended outcomes of student learning; i.e., identifies what successful students will be able to **do** following completion of the learning experience.

# Three Types of Objectives

- Psychomotor
- Affective
- Cognitive

# Psychomotor Domain

- Includes objectives that require basic motor skills

# Affective Domain

- Includes objectives pertaining to attitudes, values and emotions

# Cognitive Domain

- Includes objectives related to information or knowledge
- Cognitive objectives can be classified into six levels of higher order thinking  
(Revised Bloom's Taxonomy)

# Revised Bloom's Taxonomy

1. Remembering
2. Understanding
3. Applying
4. Analyzing
5. Evaluating
6. Creating

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.

# Revised Bloom's Taxonomy

- Remembering –
  - ability to recall previously learned material
  - verbs such as define, list, name, repeat
- Understanding –
  - ability to grasp meaning, explain, restate ideas, report
  - Verbs such as classify, describe, discuss, identify



# Revised Bloom's Taxonomy

- Applying –
  - ability to use learned material in new situations
  - verbs such as demonstrate, calculate, illustrate, solve
- Analyzing –
  - ability to separate material into component parts and show relationships between parts
  - verbs such as compare, contrast, differentiate, distinguish

# Revised Bloom's Taxonomy

- Evaluating –
  - ability to judge the worth of material against stated criteria
  - verbs such as appraise, assess, compare, critique
- Creating –
  - ability to put together the separate ideas to form new whole, establish new relationships
  - verbs such as assemble, construct, develop, design

# Objectives need to be “SMART”

**S**

Specific

**M**

Measurable

**A**

Achievable

**R**

Realistic

**T**

Time-based

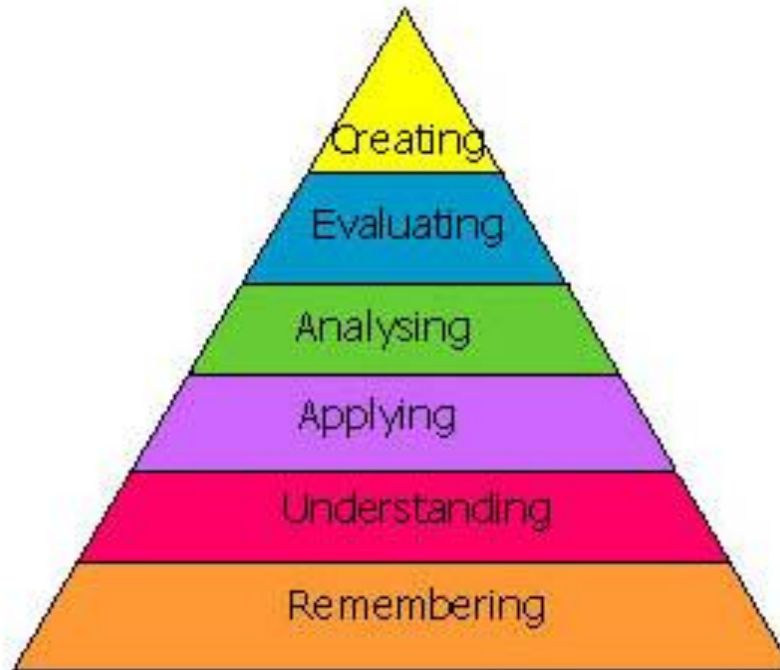
# Steps to Effective Objective Writing

# Step I



## Brainstorming

## Step 2



Select target  
Bloom's  
Taxonomy  
Level

## Step 3

**COMPARE**

**list**

**Describe**

Find appropriate  
verbs

**Create**

**Demonstrate**

**CONCLUDE**

## Step 4

**A**

**A**udience target

**B**

**B**ehavior: specific  
and observable

**C**

**C**ondition: how  
to perform task

**D**

**D**egree:  
establish  
mastery



## Step 5



# Construct Objective

# Example

Course: PHA 501  
Pharmaceutical  
Care V  
(OTC Medications)



# Writing Objectives

Objective Writing Worksheet	
Brainstorm	•Enhance pharmacy students' ability to devise a pharmaceutical care plan using over-the counter medications for given medical conditions
Target Bloom's Taxonomy Level	6- Creating
Appropriate Verbs	Develop, devise, design , propose
A-B-C-D's of Objective Writing	
A	Third year pharmacy students
B	Develop a pharmaceutical care plan
C	Without the use of lecture notes or drug information sheets
D	No errors in product selection or patient instructions, 100%

# Writing Objectives

## Objective

- Without the use of lecture notes and drug information sheets, the student will develop a pharmaceutical care plan to treat given medical conditions, with no errors in product selection or patient instruction.

Audience (A)

Behavior (B)

Condition (C)

Degree of Mastery (D)

# Testing Objectives

## Test Question

DJ is a 58 year old woman who is experiencing an episode of dandruff. She is seeking your advice for over-the-counter agents available to treat her dandruff. After obtaining a brief background from the patient, you learn that she is allergic to salicylic acid. Devise a pharmaceutical care plan for management of the patient's dermatological condition.

# Testing Objectives

Test Rubric	
Content Area	Points
Identify the appropriate over-the counter dandruff product that is salicylic acid free	6
<p>Give correct patient instructions for how to use the product :</p> <p><b>Amount to use/product application</b></p> <p><b>Length of time to leave on scalp</b></p> <p><b>How to remove product from scalp</b></p> <p><b>Length of time to continue self-treatment before seeking physician referral</b></p>	<p><b>1</b></p> <p><b>1</b></p> <p><b>1</b></p> <p><b>1</b></p>

# Testing Objectives

## Answer

**Selsun Blue medicated treatment shampoo. Wet scalp with water and apply quarter-size amount of shampoo to entire scalp. Lather and leave on scalp for 5-10 minutes. Rinse thoroughly with warm water. May repeat 2-3 times per week as needed for 6-8 weeks. If condition persists, see your physician.**

# Example

Course: PHA 361  
Pharmaceutics





# Writing Objectives

Objective Writing Worksheet	
Brainstorm	<ul style="list-style-type: none"> <li>•Enhance pharmacy students' calculation skills</li> <li>•Prescriptions that require compounding</li> </ul>
Target Bloom's Taxonomy Level	3- Applying
Appropriate Verbs	Calculate, Demonstrate, Solve
A-B-C-D's of Objective Writing	
A	First year pharmacy students
B	Calculate the quantity of ingredients needed to compound a prescription
C	Given new prescription and calculator
D	No errors in calculations, 100%

# Writing Objectives

## Objective

- When given a new prescription and a calculator, the student will accurately calculate the quantity of ingredients needed to compound the proper amount of the preparation.

Audience (A)

Behavior (B)

Condition (C)

Degree of Mastery (D)

# Testing Objectives

## Test Question

For the following prescription, calculate the amount of castor oil, acacia and USP alcohol required to prepare the preparation.

Rx

Castor Oil		40%
Acacia	qs	
Alcohol		18 mL
Cherry Syrup		24 mL
Distilled Water	qsad	120 mL

# Testing Objectives

Test Rubric	
Content Area	Points
Calculation of quantity of castor oil from percentage concentration in prescription	3
Calculation of quantity of acacia (using 4:2:1 ratio of oil: water: emulsifying agent)	4
Calculation of amount of USP alcohol	3

# Testing Objectives

## Answer

**Castor Oil = 48 mL**

**(40% of 120 mL = 48 mL)**

**Acacia = 12 g**

**(4:2:1 ratio of oil: water: gum required to successfully prepare the primary emulsion, 48/4 = 12)**

**USP alcohol = 19 mL**

**(USP alcohol is 95% alcohol, 18/0.95 = 19 mL)**

# Benefits of Learning Objectives

- Allows the student to see how the material is related to the educational outcomes of the curriculum
- Helps to organize the content of the course
- Links assessments directly to stated learning objectives
- Students know what to study
- Students realize what they need to be able to do with what they are learning

# Part III

## Support for Achieving Intended Student Outcomes

# The Dilemma....

If you have prepared a stimulating course syllabus, written excellent objectives, delivered phenomenal lectures, and there is still a gap between teaching and learning....the Assessment Center is prepared to assist you.



# Assessment Center

- Who do we serve?
  - Students needing Academic Support
  - Undecided/Undeclared students
  - Transfer students with 30+ credit hours
  - Students on Academic Scholarship
  - Students Academic Probation/Readmitted
  - Non-traditional Students (25 and above)
  - Off-Campus Students

# How do we serve our students?

- With...
  - S - strategies
  - U - understanding
  - P - programming
  - P - persistence
  - O - opportunities
  - R - relationships/referrals
  - T - transition

# Strategies

- Tutorial Services
  - General Education Courses
- Study Skills Development
  - Provide workshops and resources to improve skills related to academic performance.
- Faculty Engagement
  - Methods to make the most of faculty interaction
- Student Empowerment Workshop Series
  - Use the self-management construct (motivation, uses of time, physical environment, social environment, methods of learning and performance) to focus students on accepting responsibility for academic performance.

# Understanding

- Academic Counseling
  - One-on-one Counseling
    - Being dismissed from selected major
    - Uncertain about a major
    - Recognize that the needs of non-traditional students are different
    - Transfer students have different adjustment issues
    - Off-campus students need to establish campus connections
  - Intrusive Advising
  - Referrals

# Programming

- Increased Student Accountability
- Student Success Strategy Workshops
- New Student Orientation/Transfer Students
  - Social Events
    - Transfer Students
    - Off-Campus Students
    - Non-traditional Students

# Persistence

- Grade Calculation
- Meet with Professor
- Regular meeting with Academic Counselors
- Attendance at Career Fairs and Open House Events
- Attendance at Required Events
- Empowerment Workshops

# Opportunities

- Career Fair
- Graduate and Professional School Day
- HU Compass Check
  - Study Abroad
  - Honors College
  - Organizational Bazaar

# Relationships and Referrals

- Academic Alert Form
- HU Compass Pointers
- Staff Assigned to Schools and Departments



# Transition

- Higher Expectations During Progression
- Regular and frequent meetings with targeted populations
  - **Contract of Commitment** (Academic Probation/Academically Dismissed)
    - Required Tutoring, Coaching Sessions, Workshops
    - Increased accountability
      - Monitoring EDU 295, number of credit hours, holds on accounts
  - **Social Engagement** (Transfer Students, Non Traditional Students, Off-Campus Students)
    - Mock University 101
    - Transfer Students Group
  - **Exploration Program** (Undecided)
    - Required Career Related Activities, Coaching Sessions, Workshops
    - Day of Declaration

# Why do we SUPPORT our students!

- Retention! Retention! Retention!

# How can we work together to better serve our students?

- We are open to your suggestions on programming and collaborations.
- Thank you and we look forward to a great year!

## Special Thanks to:

Dr. Candace Sampson, Assistant Professor

Dr. Beverly S. Hamilton, Assistant Dean of Assessment  
School of Pharmacy

# Questions?