HOW TO WRITE SLOS

Student Success, 2024

SESSION OUTCOMES

After this session, attendees will be able to:

- Outline the components of an effective student learning outcome (SLO)
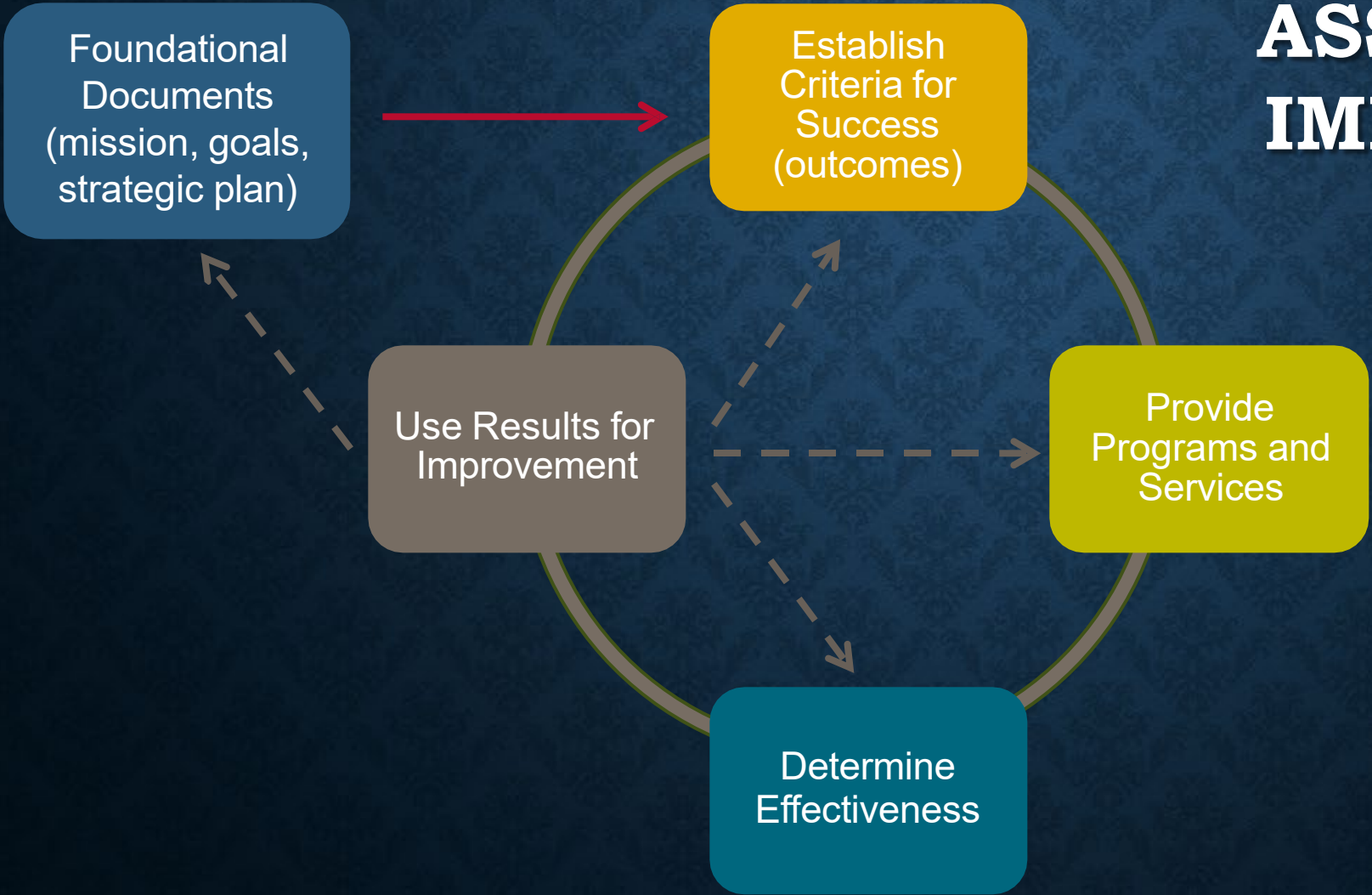
- Develop learning outcomes for programs/experiences

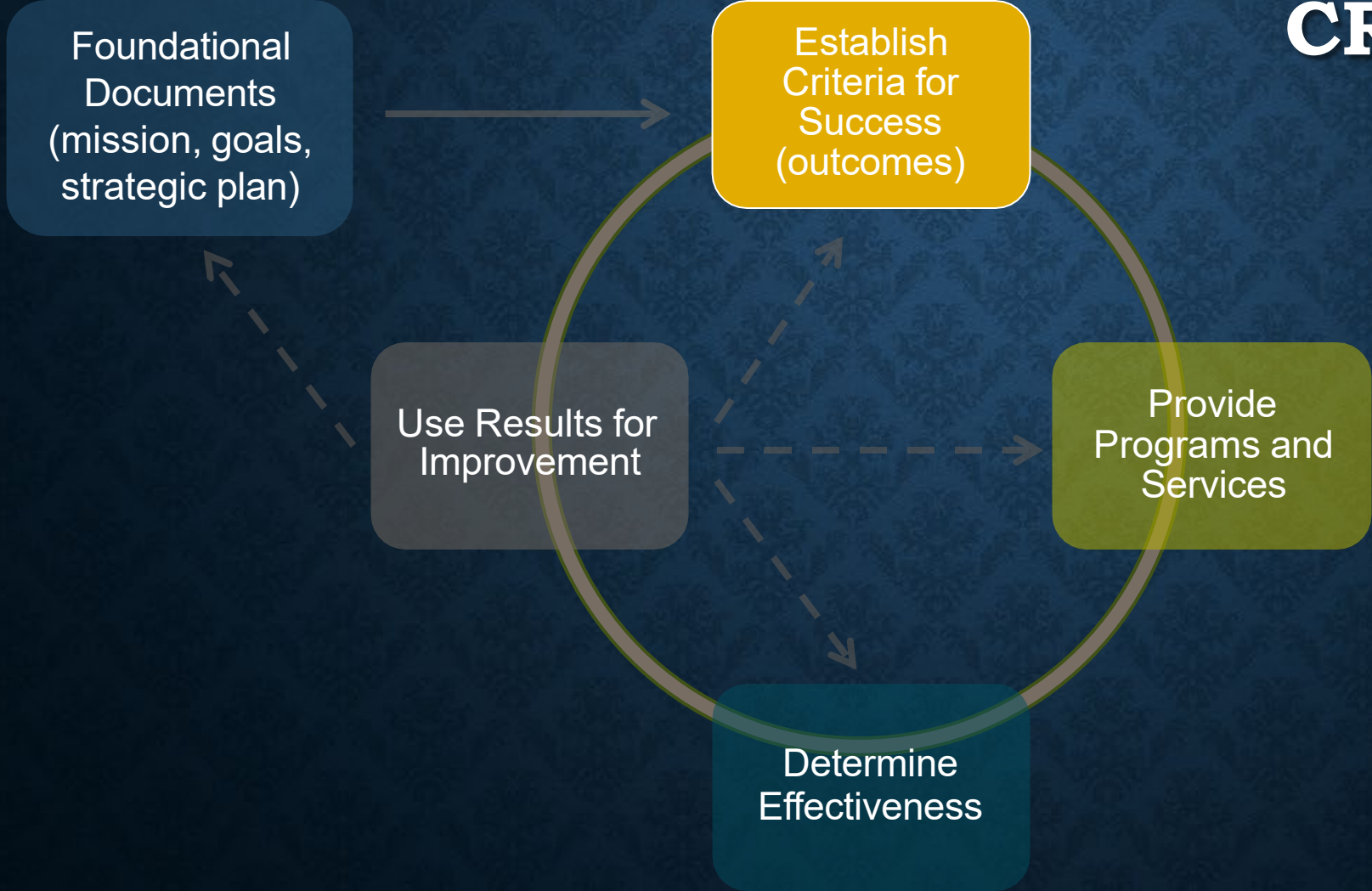# WORKSHOP OVERVIEW

Significance of SLOs

What + When + Why + How

Practice Time

ASSESSMENT & IMPROVEMENT CYCLE

Foundational Documents (mission, goals, strategic plan)

Establish Criteria for Success (outcomes)

Use Results for Improvement

Provide Programs and Services

Determine Effectiveness

WHAT IS A SLO?

- **Measureable**, **observable**, and **specific** statement(s) that clearly communicate what a student should know and be able to do as a result of **learning** in a course, program, or experience

- Focus in on the application of knowledge - students should be able to use the information learned outside of the setting it's learned in

- Different "levels" of SLOs depending on their use:

  - Division

  - Department

  - Program/Experience

OUTCOMES ≠ OBJECTIVES

Learning Outcomes = What students will know or be able to do as a result of this program

Program Objectives = What will be achieved in the program

WHEN SLOS ARE NEEDED

SLOs are used to design programs where students are gaining knowledge, skills, and/or abilities. Also known as...

- Learning Experiences

- Educational Interventions

Not ALL programs need SLOs

SLOS = THE KEY FOR INTENTIONAL EDUCATION
Start with the end in mind.

- Program design starts with clear SLOs

- Define "why" (why are we doing this) before "what" (what are we doing)

- Keep us focused on the end result

STRUCTURE

Stem + verb + target audience + demonstrated learning + criterion

As a result of __(program)__, __(target audience)__ will be able to __(verb)__ __(demonstrated learning)__ __(criterion)__.

Example: As a result of attending the grilled cheese workshop, attendees will be able to describe each step of making a grilled cheese sandwich for improve crispiness.
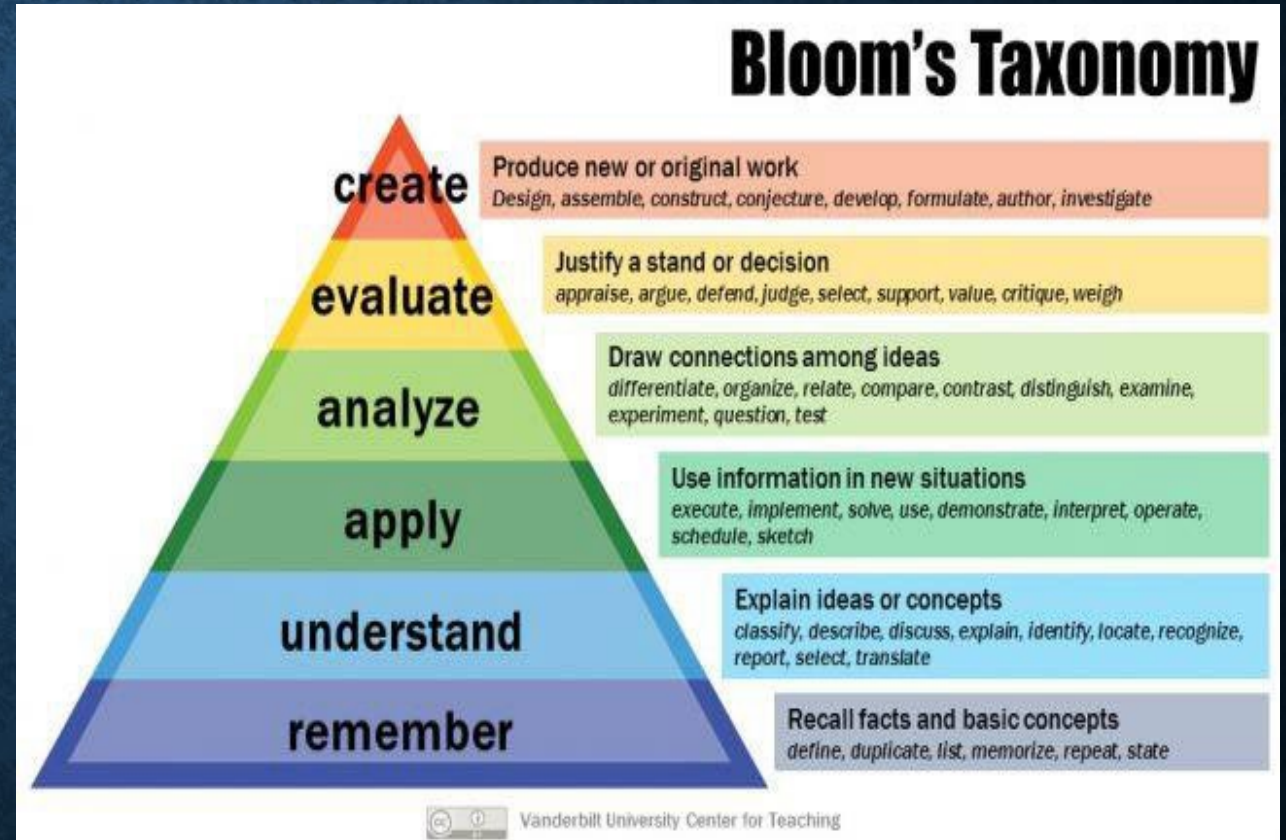
*Tip: Use student-focused language

BEGIN WITH AN ACTION VERB

- Terms such as *know*, *understand*, *learn*, *appreciate* are generally **not** specific enough to be measurable

- Consider the *level* of learning you want students to achieve

- Use Bloom's to select an action verb

BLOOM'S TAXONOMY

- Helps educators develop critical thinking and higher order cognitive abilities in students

- We can use Bloom's to build our programs and services

- Students must master lower levels before moving up through the hierarchy

- You will not use ALL of Bloom's in one program

Bloom's Taxonomy

create — Produce new or original work
Design, assemble, construct, conjecture, develop, formulate, author, investigate

evaluate — Justify a stand or decision
appraise, argue, defend, judge, select, support, value, critique, weigh

analyze — Draw connections among ideas
differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test

apply — Use information in new situations
execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch

understand — Explain ideas or concepts
classify, describe, discuss, explain, identify, locate, recognize, report, select, translate

remember — Recall facts and basic concepts
define, duplicate, list, memorize, repeat, state

Vanderbilt University Center for Teaching

Armstrong, P. (2010). Bloom's Taxonomy. Vanderbilt University Center for Teaching. https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/

This appears to be a Bloom's Taxonomy reference chart with six columns.

Column 1 (Red) — Remembering

Recall /regurgitate facts without understanding. Exhibits previously learned material by recalling facts, terms, basic concepts and answers.

Key words:

Choose	Observe	Show
Copy	Omit	Spell
Define	Quote	State
Duplicate	Read	Tell
Find	Recall	Trace
How	Recite	What
Identify	Recognise	When
Label	Record	Where
List	Relate	Which
Listen	Remember	Who
Locate	Repeat	Why
Match	Reproduce	Write
Memorise	Retell	
Name	Select	

Actions:
- Describing
- Finding
- Identifying
- Listing
- Locating
- Naming
- Recognising
- Retrieving

Outcomes:
- Definition
- Fact
- Label
- List
- Quiz
- Reproduction
- Test
- Workbook
- Worksheet

Questions:
- Can you list three ...?
- Can you recall ...?
- Can you select ...?
- How did _____ happen?
- How is ...?
- How would you describe ...?
- How would you explain ...?
- How would you show ...?
- What is ...?
- When did ...?
- When did _____ happen?
- Where is . . . ?
- Which one ... ?

Column 2 (Orange) — Understanding

To show understanding finding information from the text. Demonstrating basic understanding of facts and ideas.

Key words:

Ask	Extend	Outline
Cite	Generalise	Predict
Classify	Give examples	Purpose
Compare	Illustrate	Relate
Contrast	illustrate	Rephrase
Demon-	Indicate	Report
strate	Infer	Restate
Discuss	Interpret	Review
Estimate	Match	Show
Explain	Observe	Summarise
Express		Translate

Actions:
- Classifying
- Comparing
- Exemplifying
- Explaining
- Inferring
- Interpreting
- Paraphrasing
- Summarising

Outcomes:
- Collection
- Examples
- Explanation
- Label
- List
- Outline
- Quiz
- Show and tell
- Summary

Questions:
- Can you explain what is happening . . . what is meant . . . ?
- How would you classify the type of ...?
- How would you compare ...?contrast ...?
- How would you rephrase the meaning ...?
- How would you summarise ...?
- What can you say about ...?
- What facts or ideas show ...?
- What is the main idea of ...?
- Which is the best answer ...?
- Which statements support ...?
- Will you state or interpret in your own words ...?

Column 3 (Yellow) — Applying

To use in a new situation. Solving problems by applying acquired knowledge, facts, techniques and rules in a different way.

Key words:

Act	Employ	Practice
Administer	Experiment	Relate
Apply	with	Represent
Associate	Group	Select
Build	Identify	Show
Calculate	Illustrate	Simulate
Categorise	Interpret	Solve
Choose	Interview	Summarise
Classify	Link	Teach
Connect	Make use of	Transfer
Construct	Manipulate	Translate
Correlation	Model	Use
Demonstrate	Organise	
Develop	Perform	
Dramatise	Plan	

Actions:
- Carrying out
- Executing
- Implementing
- Using

Outcomes:
- Demonstration
- Diary
- Illustrations
- Interview
- Journal
- Performance
- Presentation
- Sculpture
- Simulation

Questions:
- How would you use...?
- What examples can you find to ...?
- How would you solve _____ using what you have learned ...?
- How would you organise _____ to show ...?
- How would you show your understanding of ...?
- What approach would you use to...?
- How would you apply what you learned to develop ...?
- What other way would you plan to ...?
- What would result if ...?

Column 4 (Green) — Analysing

To examine in detail. Examining and breaking information into parts by identifying motives or causes; making inferences and finding evidence to support generalisations.

Key words:

Analyse	Examine	Prioritize
Appraise	Find	Question
Arrange	Focus	Rank
Assumption	Function	Reason
Breakdown	Group	Relation-
Categorise	Highlight	ships
Cause and	In-depth	Reorganise
effect	discussion	Research
Choose	Inference	See
Classify	Inspect	Select
Differences	Investigate	Separate
Discover	Isolate	Similar to
Discriminate	List	Simplify
Dissect	Motive	Survey
Distinction	Omit	Take part in
Distinguish	Order	Test for
Divide	Organise	Theme
Establish	Point out	Comparing

Actions:
- Attributing
- Deconstructing
- Integrating
- Organising
- Outlining
- Structuring

Outcomes:
- Abstract
- Chart
- Checklist
- Database
- Graph
- Mobile
- Report
- Spread sheet
- Survey

Questions:
- What are the parts or features of ...?
- How is _____ related to ...?
- Why do you think ...?
- What is the theme ...?
- What motive is there ...?
- Can you list the parts ...?
- What inference can you make ...?
- What conclusions can you draw ...?
- How would you classify ...?
- How would you categorise ...?
- Can you identify the difference parts ...?
- What evidence can you find ...?
- What is the relationship between ... ?

Column 5 (Purple) — Creating

To change or create into something new. Compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions.

Key words:

Adapt	Estimate	Plan
Add to	Experiment	Predict
Build	Extend	Produce
Change	Formulate	Propose
Choose	Happen	Reframe
Combine	Hypothesise	Revise
Compile	Imagine	Rewrite
Compose	Improve	Simplify
Construct	Innovate	Solve
Convert	Integrate	Speculate
Create	Invent	Substitute
Delete	Make up	Suppose
Design	Maximise	Tabulate
Develop	Minimise	Test
Devise	Model	Theorise
Discover	Modify	Think
Discuss	Original	Transform
Elaborate	Originate	Visualise

Actions:
- Constructing
- Designing
- Devising
- Inventing
- Making
- Planning
- Producing

Outcomes:
- Advertisement
- Film
- Media product
- New game
- Painting
- Plan
- Project
- Song
- Story

Questions:
- What changes would you make to solve...?
- How would you improve ...?
- What would happen if...?
- Can you elaborate on the reason...?
- Can you propose an alternative...?
- Can you invent...?
- How would you adapt _____ to create a different...?
- How could you change (modify) the plot (plan)...?
- What could be done to minimise (maximise)...?

Column 6 (Blue) — Evaluating

To justify. Presenting and defending opinions by making judgements about information, validity of ideas or quality of work based on a set of criteria.

Key words:

Agree	Disprove	Measure
Appraise	Dispute	Opinion
Argue	Effective	Perceive
Assess	Estimate	Persuade
Award	Evaluate	Prioritise
Bad	Explain	Prove
Choose	Give reasons	Rate
Compare	Good	Recommend
Conclude	Grade	Rule on
Consider	How do we	Select
Convince	know?	Support
Criteria	Importance	Test
Criticise	Infer	Useful
Debate	Influence	Validate
Decide	Interpret	Value
Deduct	Judge	Why
Defend	Justify	
Determine	Mark	

Actions:
- Attributing
- Checking
- Deconstructing
- Integrating
- Organising
- Outlining
- Structuring

Outcomes:
- Abstract
- Chart
- Checklist
- Database
- Graph
- Mobile
- Report
- Spread sheet
- Survey

Questions:
- Do you agree with the actions/outcomes...?
- What is your opinion of...?
- How would you prove/disprove...?
- Can you assess the value/importance of...?
- Would it be better if...?
- Why did they (the character) choose...?
- What would you recommend...?
- How would you rate the...?
- What would you cite to defend the actions...?
- How would you evaluate ...?
- How could you determine...?
- What choice would you have made...?

FOLLOW WITH AN ACTION STATEMENT

Should describe the knowledge and abilities to be demonstrated

Avoid complex topics or multiple areas to be measured

Keep it short and simple

ADD CRITERION

A broad statement or standard for acceptable performance

Can provide better definition, if needed, to the outcome

HOW MANY DO I WRITE?

It depends!

Generally 2-3 is plenty for a workshop

For lengthy experiences where learning builds on itself, more might be needed

QUESTIONS TO ASK YOURSELF

As a result of attending the grilled cheese workshop, attendees will be able to describe each step of making a grilled cheese sandwich for improve crispiness.
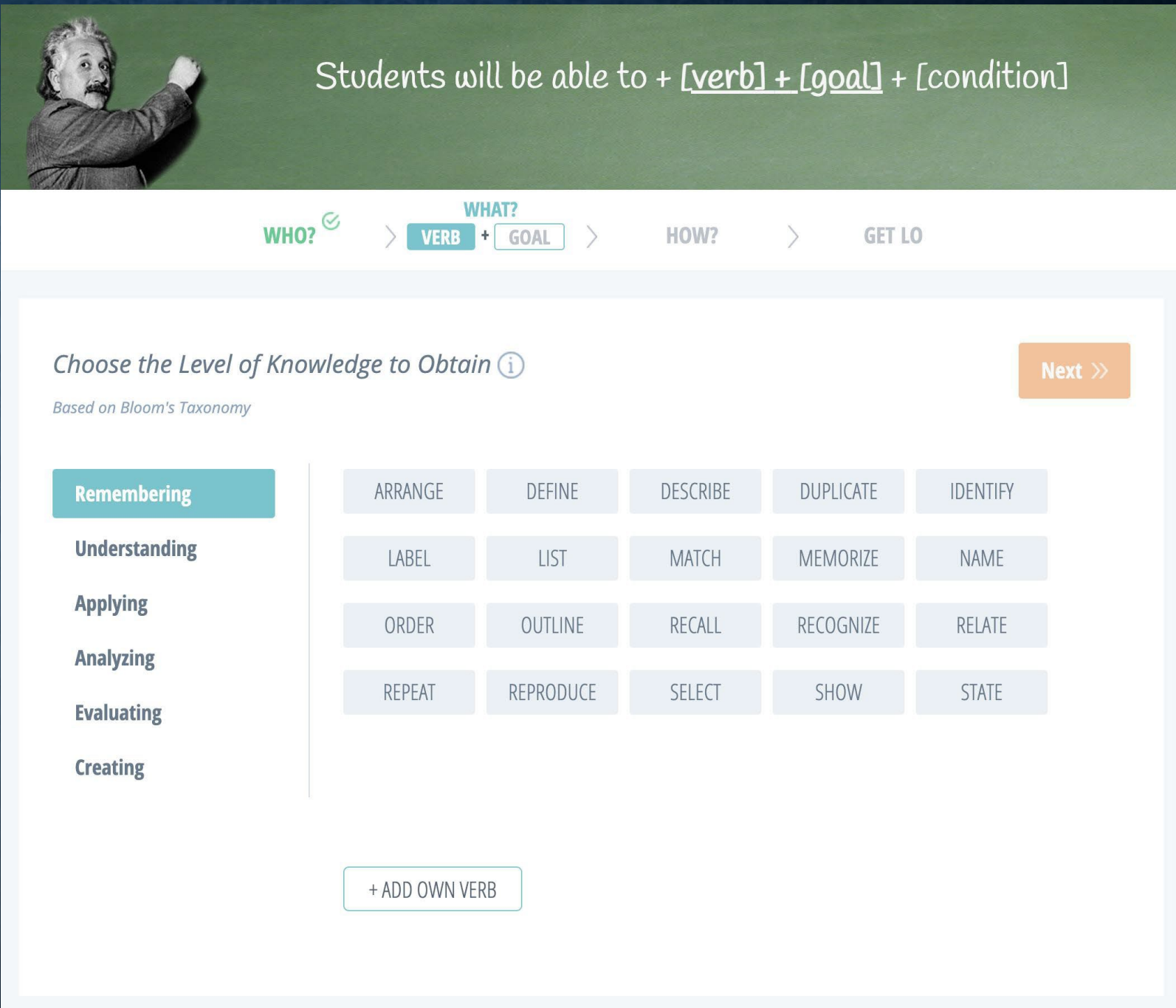
- ✓ Does the outcome support the program goals?

- ✓ Does the outcome describe what the program intends for students to know (cognitive), think (affective, attitudinal), or do (behavioral, performance)?

- ✓ Is the outcome:

  - Detailed and specific?

  - Measurable/identifiable?

  - A result of learning?

- ✓ Do you have or can you create an activity to enable students to learn and demonstrate the desired outcome?

- ✓ How will you assess the outcomes? Can the results from assessing this outcome be used to make decisions on how to improve the program?

EASY GENERATOR LEARNING OBJECTIVES

https://learning-objectives.easygenerator.com/

HOW TO VIDEO

https://www.youtube.com/watch?v=eQyT89erOPk

Students will be able to + [verb] + [goal] + [condition]

WHO? ✓ > WHAT? VERB + GOAL > HOW? > GET LO

Choose the Level of Knowledge to Obtain ⓘ
Based on Bloom's Taxonomy

Next ≫

Remembering	ARRANGE	DEFINE	DESCRIBE	DUPLICATE	IDENTIFY
Understanding	LABEL	LIST	MATCH	MEMORIZE	NAME
Applying	ORDER	OUTLINE	RECALL	RECOGNIZE	RELATE
Analyzing	REPEAT	REPRODUCE	SELECT	SHOW	STATE
Evaluating					
Creating					

+ ADD OWN VERB

EXAMPLES

NORTHWESTERN UNIVERSITY

- https://www.northwestern.edu/studentaffairs/assessment/learning-outcomes/division-student-learning-outcomes/

Learning Domain	Learning Outcome
Personal Development	Personal Development Learning Outcome: Students who engage in Student Affairs programs, activities and services will develop an integrated sense of personal identity, a positive sense of self, and a personal code of ethics.
Interpersonal Competence	Interpersonal Competence Learning Outcome: Students who engage in Student Affairs programs, activities and services will develop healthy, respectful, and collaborative relationships with others.
Social Responsibility	Social Responsibility Learning Outcome: Students who engage in Student Affairs programs, activities and services will demonstrate an understanding of and commitment to social justice and apply that knowledge to create safe, healthy, equitable, and thriving communities.
Cognitive and Practical Skills	Cognitive and Practical Skills Learning Outcome: Students who engage in Student Affairs programs, activities and services will acquire and use cognitive and practical skills that will enable them to live healthy, productive, and purposeful lives.

UNIVERSITY OF ILLINOIS - CHICAGO

- Learning Goals
  - Self-Awareness (SA)
  - Transformational Leadership (TL)
  - Justice, Equity, Diversity, and Inclusion (JEDI)
  - Skills to be Real World Ready (RWR)
  - Belonging (B)

Self-Awareness

Students will deepen and expand their self-awareness and increase its application to their lives.

Self-awareness includes a student understanding who they are, where they came from, and where they hope to go. It is inclusive of communicating with others, identifying their own needs, and advocating for those needs to others. Self-awareness involves the ability a student has to recognize and reflect on their thoughts, feelings, and behaviors. A student's sense of self-awareness extends into how they navigate inter-personal relationships, how they approach conflict, and how they respond to challenging situations utilizing strengths and developing skills to overcome barriers. Self-awareness includes an understanding of how others perceive you and how a student's actions impact others. Being self-aware is not a final destination but is a life-long process of growth and discovery.

Example Learning Outcomes

- Students will be able to assess and articulate personal strengths and areas of growth.
- Students will be able to understand their needs and advocate for those needs.
- Students will be able to develop and practice skills to successfully navigate conflict.
- Students will be able to analyze the drivers and impacts of their behavior.
- Students will be able to iteratively reflect on the impact of their developing sense of self.

- https://sa.uic.edu/about/student-affairs-assessment-2/student-affairs-learning-outcomes/

WESTERN MICHIGAN UNIVERSITY

Student Learning Outcomes Framework

Each of these competencies and their definitions are grounded in theory related to college student development as well as the national student development frameworks.

Personal Development	Interpersonal Skills	Social Responsibility
Critical Thinking	Communication	Ethics
Career Readiness	Leadership	Local and Global Engagement
Integrative Learning	Teamwork & Collaboration	Multicultural Mindedness
Realistic Self-Appraisal		Social Justice Advocacy
Well-being		

https://wmich.edu/studentaffairs/planning/learning-outcomes#:~:text=Student%20Affairs%20is%20committed%20to,interpersonal%20skills%2C%20and%20social%20responsibility.

UNIVERSITY OF WISCONSIN - MADISON

- Contextualization of Knowledge
  - Identify, formulate, and solve problems using appropriate information and approaches.

- Praxis and Technique
  - Utilize the techniques, skills and modern tools necessary for practice
  - Demonstrate professional and ethical responsibility
  - Appropriately apply laws, codes, regulations, architectural and interiors standards that protect the health and safety of the public

- Critical Thinking
  - recognize, describe, predict, and analyze systems behavior.
  - evaluate evidence to determine and implement best practice.
  - examine technical literature, resolve ambiguity and develop conclusions.
  - synthesize knowledge and use insight and creativity to better understand and improve systems.

REFERENCES

- Becki Bury, Assistant Director for Academic Initiatives and Student Leadership, University Housing
- Annie Carlson Welch, Assistant to the VP – Learning & Improvement

RESOURCES

- **Additional Resources**

- Bloom's Taxonomy

- The Six Facets of Understanding – Wiggins, G. & McTighe, J. (2005). Understanding by Design (2nd ed.). ASCD

- Taxonomy of Significant Learning – Fink, L.D. (2003). A Self-Directed Guide to Designing Courses for Significant Learning. Jossey-Bass

- College of Agricultural & Life Sciences Undergraduate Learning Outcomes

- College of Letters & Science Undergraduate Learning Outcomes