
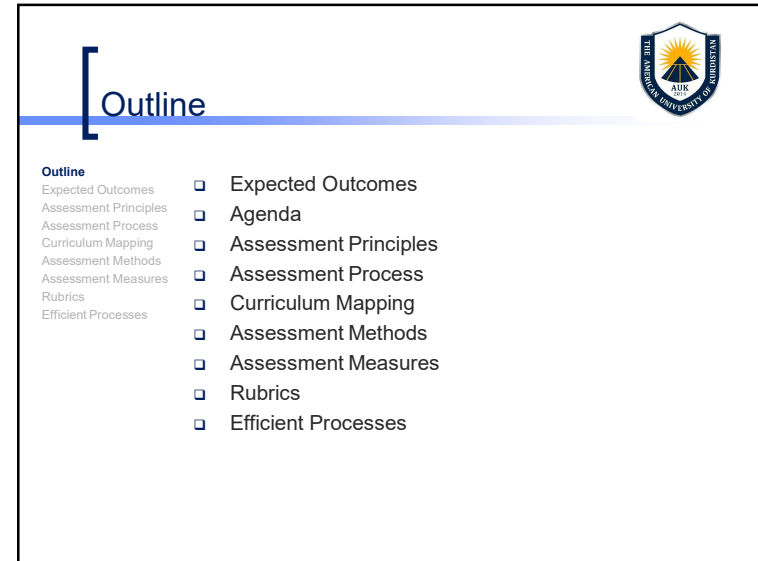


Continuous Assessment

Dr. Honar Issa
Secretary of the Board of Trustees
ABET Program Evaluator
The American University of Kurdistan




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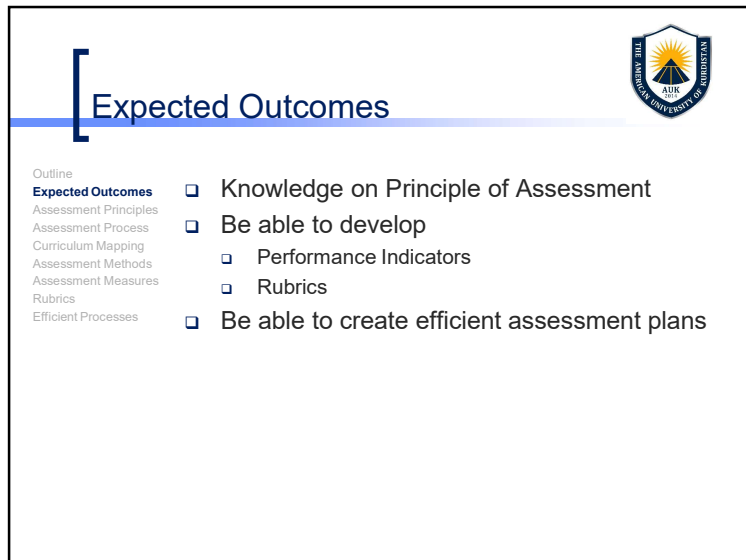
Outline

- Expected Outcomes
- Assessment Principles
- Assessment Process
- Curriculum Mapping
- Assessment Methods
- Assessment Measures
- Rubrics
- Efficient Processes

- Expected Outcomes
- Agenda
- Assessment Principles
- Assessment Process
- Curriculum Mapping
- Assessment Methods
- Assessment Measures
- Rubrics
- Efficient Processes




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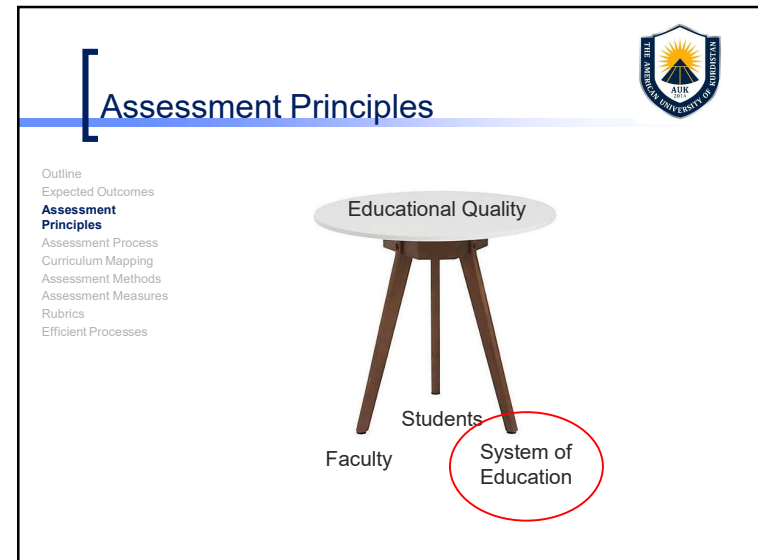


Expected Outcomes

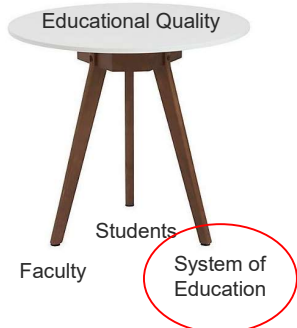
- Knowledge on Principle of Assessment
- Be able to develop
 - Performance Indicators
 - Rubrics
- Be able to create efficient assessment plans




3




Assessment Principles



- Expected Outcomes
- Assessment Principles
- Assessment Process
- Curriculum Mapping
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4



Assessment Principles

Outline
Expected Outcomes
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Assessment Process
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Efficient Processes

- Best practices should be consistent with **PRINCIPLES OF LEARNING**

Building on what students already know


Is an active process and needs active involvement of students

Better performance when learning expectations are clear

Better performance when feedback is provided

Better performance with relevancy of materials to the future career

5



Assessment Principles

Outline
Expected Outcomes
Assessment Principles
Assessment Process
Curriculum Mapping
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Assessment Measures
Rubrics
Efficient Processes

- Student learning is cumulative over time
- What students learn in one course, they use, practice, develop and get feedback in other courses.


Focus: Cumulative Effect of Student Learning

When to collect data

From whom to collect data

Interpretation of the results

6




Assessment Principles

Outline
Expected Outcomes
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- Challenges of leading and implementing assessment:
 - Programs are at different places in the maturity of their assessment processes
 - Programs have different resources available to them (e.g. number of faculty, availability of assessment expertise, time)
 - Programs have faculty who are at different places in their understanding of assessment practices at the program level.

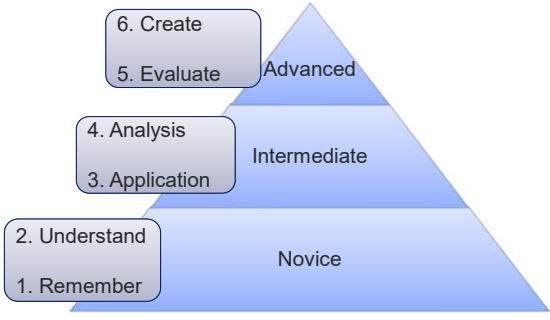
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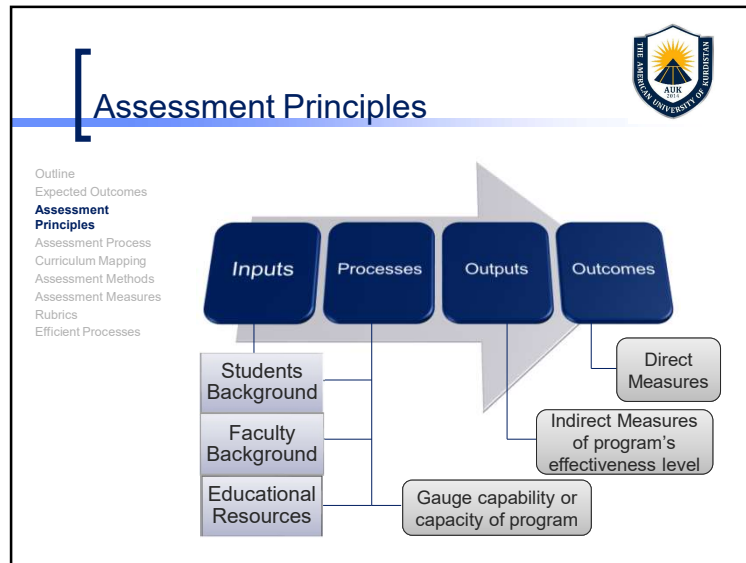
Assessment Principles

Outline
Expected Outcomes
Assessment Principles
Assessment Process
Curriculum Mapping
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Assessment Measures
Rubrics
Efficient Processes

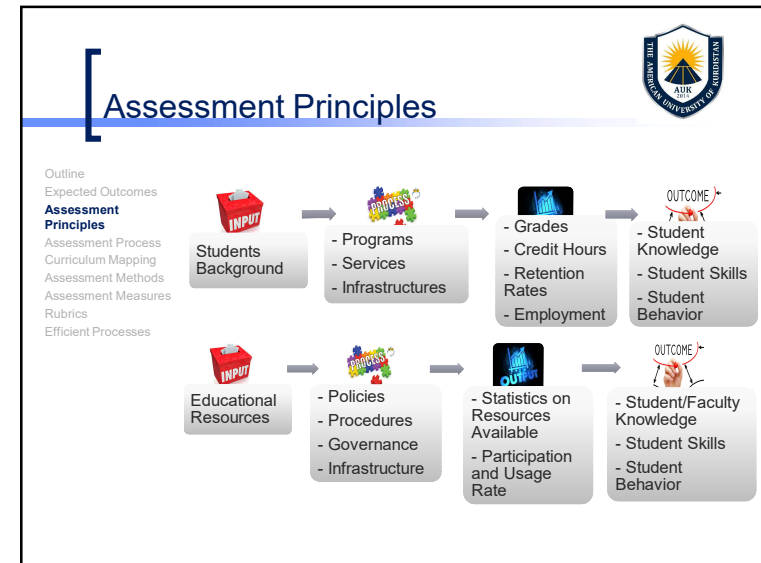
- Bloom's Taxonomy



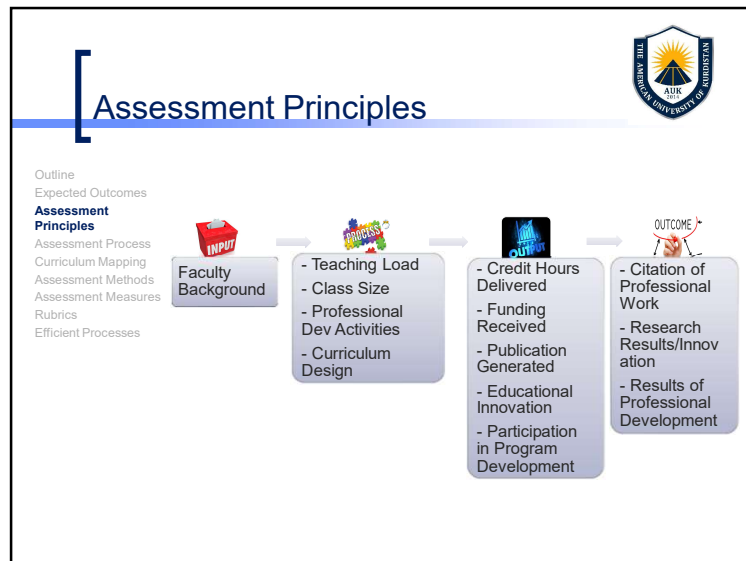
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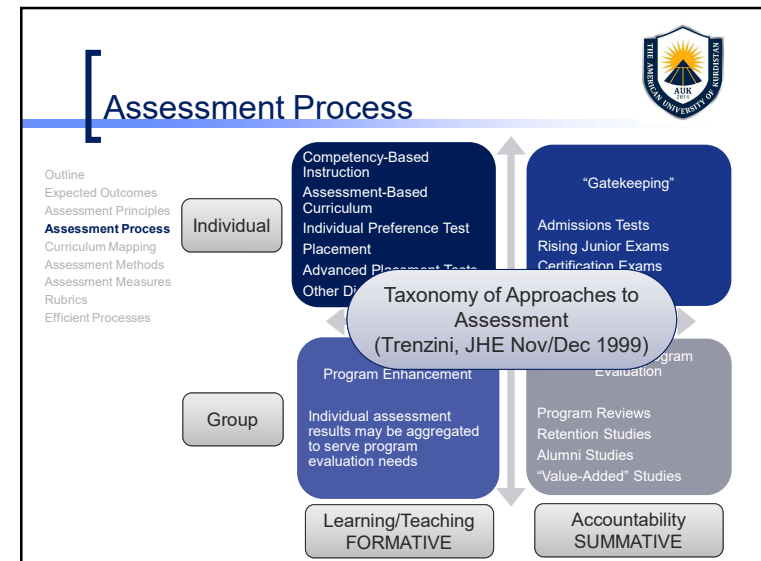
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10



11



12




Assessment Process

- Outline
- Expected Outcomes
- Assessment Principles
- Assessment Process**
- Curriculum Mapping
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- Assessment Measures
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- Efficient Processes

- Program Educational Objectives
 - Broad statements that describe what graduates are expected to attain within a few years of graduation.
 - Based on the needs of constituents.
- Student Outcomes
 - Describe what students are expected to know and be able to do by the time of graduation.
 - Skills, Knowledge and Behaviors
- Performance Indicators
 - Specific, MEASURABLE statements identifying student performances required to meet outcome, confirmable through evidence

13

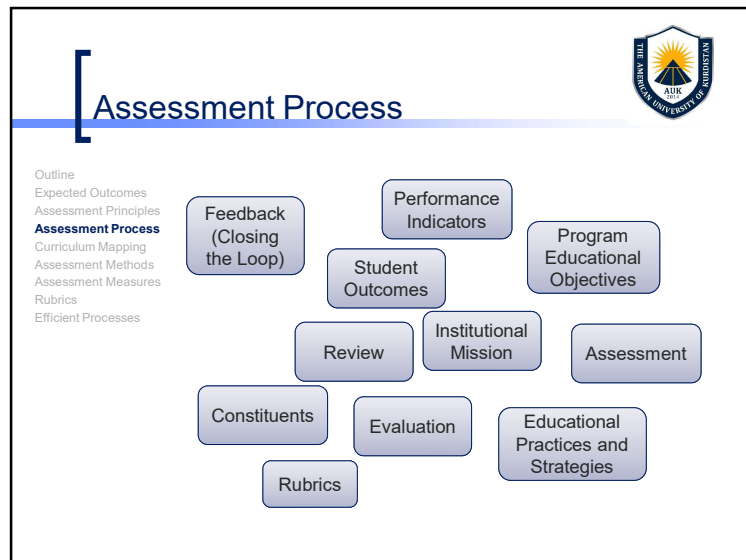


Assessment Process

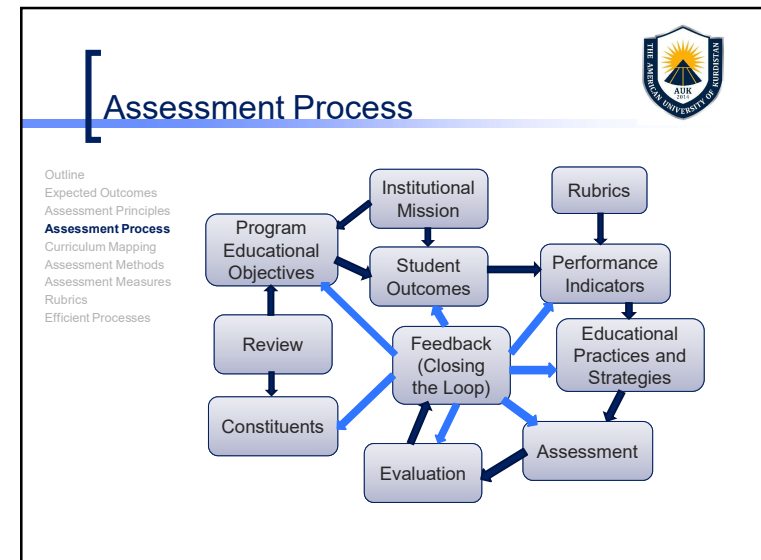
- Outline
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- Assessment
 - One or more processes that identify, collect and prepare data to evaluate the attainment of student outcomes.
 - Direct, indirect, quantitative and qualitative measures
 - Appropriate sampling methods
- Evaluation
 - One or more processes for interpreting the data and evidence accumulated through assessment processes.
 - Determine the extent to which student outcomes are being attained.
 - Results in decisions and actions toward improvement

14




15



16

Assessment Process

- Outline
- Expected Outcomes
- Assessment Principles
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- Efficient Processes




□ Program Educational Objectives

- Mission Statement
- List POEs and make them accessible to public
- Consistency of PEOs with institution mission
- Program Constituencies
- Process of revision of PEOs

17

Assessment Process

- Outline
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□ Program Educational Objectives

- Where do they come from?
- Who decides what they are?
- What are their purposes?
- How do you know if they are still relevant?
- How do you keep them current?

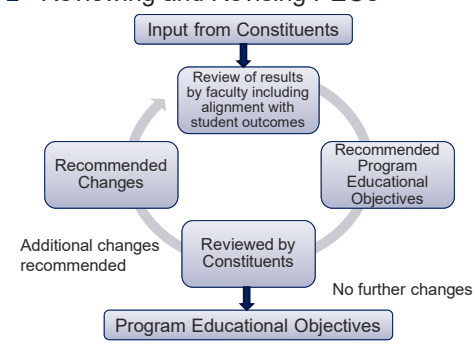
18

Assessment Process

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□ Reviewing and Revising PEOs



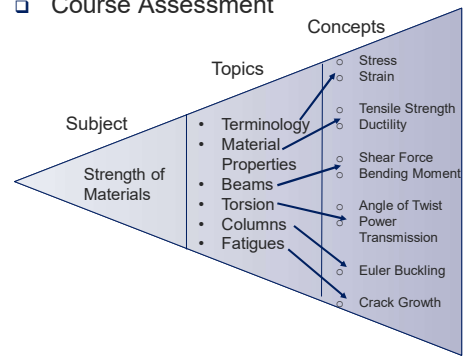
19

Assessment Process

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□ Course Assessment



20

Assessment Process

Outline
Expected Outcomes
Assessment Principles
Assessment Process
Curriculum Mapping
Assessment Methods
Assessment Measures
Rubrics
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21

Assessment Process

Outline
Expected Outcomes
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Efficient Processes

- Courses Assessment
 - Course Context
 - Subject Matter
 - Faculty Member
 - Pedagogy (Andragogy)
 - Students
 - Facilities
 - Assessment Focus
 - Evaluate Individual Student Performance (Grade)
 - Evaluate Teaching Effectiveness

22

Assessment Process

- Program Assessment
 - Program Educational Objectives
 - Subject
 - Strength of Materials
 - Student Outcomes
 - Topics
 - Terminology
 - Material Properties
 - Beams
 - Torsion
 - Columns
 - Fatigues
 - Concepts
 - Stress Strain
 - Tensile Strength Ductility
 - Shear Force Bending Moment
 - Angle of Twist Power Transmission
 - Euler Buckling
 - Crack Growth
 - Performance Indicators
 - Concepts
 - Stress Strain
 - Tensile Strength Ductility
 - Shear Force Bending Moment
 - Angle of Twist Power Transmission
 - Euler Buckling
 - Crack Growth

Outline
Expected Outcomes
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23

Assessment Process

- Program Assessment
 - Program Educational Objectives
 - Graduates will continue to learn and perform in a professional and ethical manner
 - Student Outcomes
 - Appreciation for and an ability to pursue life-long learning
 - Understanding of professional ethical responsibilities
 - Performance Indicators
 - 1. Demonstrate knowledge of professional code of ethics
 - 2. Evaluate the ethical dimensions of a problem in the discipline

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Efficient Processes

24

Assessment Process

Outline

Expected Outcomes

Assessment Principles

Assessment Process

Curriculum Mapping

Assessment Methods

Assessment Measures

Rubrics

Efficient Processes

Course Assessment	Program Assessment
Cannot "cover" all Topics related to Subject	Cannot "cover" all Outcomes related to Program Educational Objectives
Cannot "cover" all Concepts related to each Topic	Cannot "include" all Performance Indicators related to each Outcome
Decisions made based on context of Course and characteristics of students	Decisions made based on context of your Program and characteristics of students
Not all Concepts are at the same performance (cognitive) level	Not all Performance Indicators are at the same expectation (cognitive) level
Assessment data taken at the Concept level	Assessment data taken at the Performance Indicator level
Assumptions related to performance on Topics based on performance on Concepts	Assumptions related to performance on Student Outcomes based on demonstration of Performance Indicators

25

Assessment Process

Outline

Expected Outcomes

Assessment Principles

Assessment Process

Curriculum Mapping

Assessment Methods

Assessment Measures

Rubrics

Efficient Processes

Program Assessment

26

Assessment Process

Outline

Expected Outcomes

Assessment Principles

Assessment Process

Curriculum Mapping

Assessment Methods

Assessment Measures

Rubrics

Efficient Processes

Assessment Focus, by Gloria Rogers

27

Assessment Process

Outline

Expected Outcomes

Assessment Principles

Assessment Process

Curriculum Mapping

Assessment Methods

Assessment Measures

Rubrics

Efficient Processes

Student Outcomes


- Describe what students are expected to know and be able to do by the time of graduation.
- These relates to the knowledge, skills and behaviors that students acquire as they progress through the program.

Your program can:

- Adopt
- Adapt
- Add

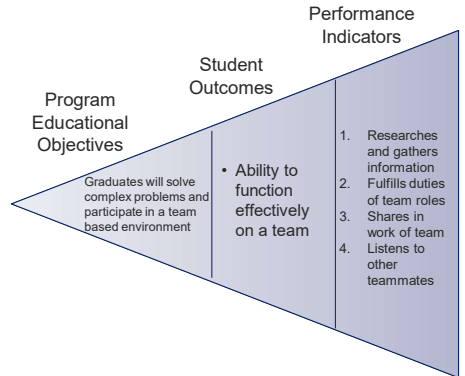
28

Assessment Process




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- Expected Outcomes
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Student Outcomes



29

Assessment Process




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Performance Indicators

- Comparable to Leading Indicators
 - Concept used in economics
 - Identify specific characteristics of the economy that are significant indicators of the current state and predict future trends
 - Not everything
 - Those that have found to be the most critical in predicting how well the economy is doing
 - Several characteristics taken together

30

Assessment Process




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Developing Performance Indicators

- Two essential parts
 - Subject Content
 - Content that is the focus of instruction (e.g., steps of the design process, chemical reaction, scientific method)
 - Action Verb
 - Direct students to a specific performance (e.g. "list", "analyze", "apply")

31

Assessment Process




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What to avoid in writing Performance Indicators:

- Verbs that describe feelings, emotions, thoughts or similar features that are not observable or measurable.
 - E.g. appreciate, believe, know, learn, realize, think, etc.
- Description of what the student will do:
 - E.g. "write a paper on social issues", "demonstrate how to use a laser guide", ".."
- Remember: write Performance Indicators from the perspective of what the student should be able to demonstrate by means of the assessment.

32

Assessment Process




Outline
Expected Outcomes
Assessment Principles
Assessment Process
Curriculum Mapping
Assessment Methods
Assessment Measures
Rubrics
Efficient Processes

- Performance Indicators
 - Students should be able to:
 - <<Action Verb>>
 - <<Something>>
 - Learner-centered
 - Measurable
 - Cognitively appropriate for intended level
 - Specific action-oriented

33

Curriculum Mapping




Outline
Expected Outcomes
Assessment Principles
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Curriculum Mapping
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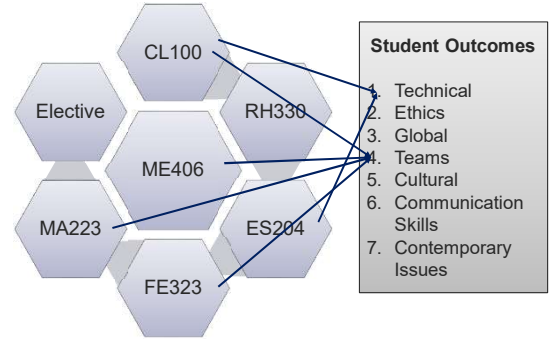
- Linking Results to Practice
 - Development of Curriculum Map
 - Curriculum Mapping
 - Linking curriculum content/pedagogy/andragogy to knowledge, practice and demonstration of performance indicators

34

Curriculum Mapping



Outline
Expected Outcomes
Assessment Principles
Assessment Process
Curriculum Mapping
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Assessment Measures
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Efficient Processes




Student Outcomes

1. Technical
2. Ethics
3. Global
4. Teams
5. Cultural
6. Communication Skills
7. Contemporary Issues

35

Curriculum Mapping




Outline
Expected Outcomes
Assessment Principles
Assessment Process
Curriculum Mapping
Assessment Methods
Assessment Measures
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Efficient Processes

- Curriculum Mapping
 - Purpose of Curriculum Map
 - Demonstrate the alignment of the curriculum to Student Outcomes and/or Performance Indicators
 - Enhances decisions about where to collect data for Summative Assessment
 - Guides the evaluation process and decision-making about curriculum improvements

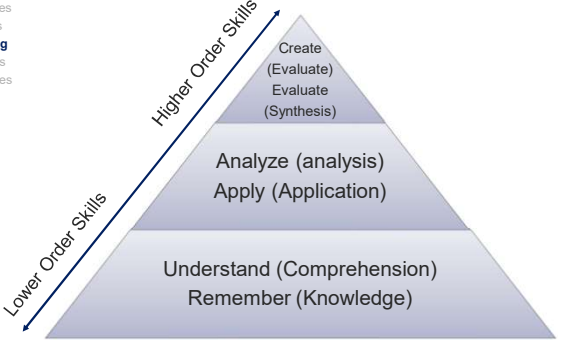
36

Curriculum Mapping




Outline
Expected Outcomes
Assessment Principles
Assessment Process
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Assessment Measures
Rubrics
Efficient Processes

□ For curriculum map, remember



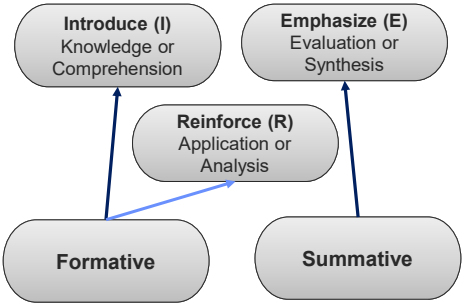
37

Curriculum Mapping



Outline
Expected Outcomes
Assessment Principles
Assessment Process
Curriculum Mapping
Assessment Methods
Assessment Measures
Rubrics
Efficient Processes


□ Map curriculum with three main categories:



□ Or

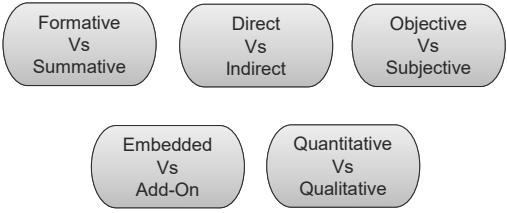
38

Assessment Methods




Outline
Expected Outcomes
Assessment Principles
Assessment Process
Curriculum Mapping
Assessment Methods
Assessment Measures
Rubrics
Efficient Processes

Types of Assessment

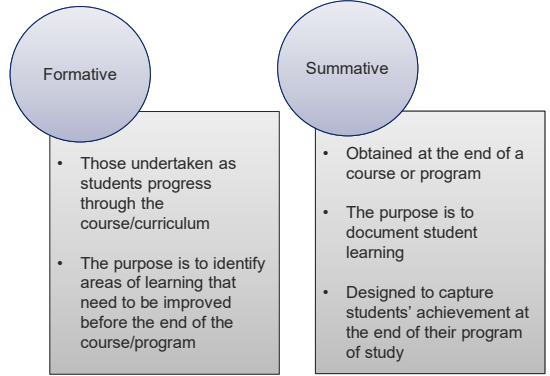


39


Assessment Methods



Outline
Expected Outcomes
Assessment Principles
Assessment Process
Curriculum Mapping
Assessment Methods
Assessment Measures
Rubrics
Efficient Processes

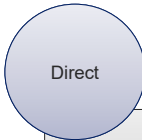


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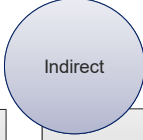
Assessment Methods

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Direct


- Provides for the direct examination or observation of student knowledge or skills against measurable student outcomes.



Indirect

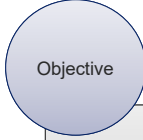
- Ascertains the opinion or self-report of the extent or value of learning.

41



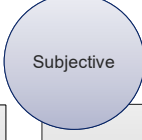
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Objective


- One that needs professional judgement to score correctly
- Examples: multi-choice, true-false, exams where there is a finite number of "right" answers.



Subjective

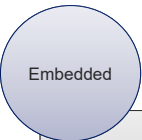
- Yield many possible answers of varying quality
- Require professional judgement to score

42



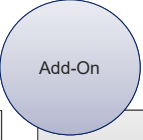
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Embedded


- Program assessment that are taken as part of the course work.



Add-On


- Assessment that are in addition to course requirements.

43




Assessment Methods

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Quantitative

- Predetermined response options that can be summarized into meaningful outcomes.



Qualitative

- Use flexible, naturalistic methods and are usually analyzed by looking for recurring patterns.

44

Assessment Methods

Outline

Expected Outcomes

Assessment Principles

Assessment Process

Curriculum Mapping

Assessment Methods

Assessment Measures

Rubrics

Efficient Processes

Context for Data Collection

45

Assessment Methods

Outline

Expected Outcomes

Assessment Principles

Assessment Process

Curriculum Mapping

Assessment Methods

Assessment Measures

Rubrics

Efficient Processes

Direct Methods

Indirect Methods

46

Assessment Methods

Outline

Expected Outcomes

Assessment Principles

Assessment Process

Curriculum Mapping

Assessment Methods

Assessment Measures

Rubrics

Efficient Processes

47

Assessment Measures

Outline

Expected Outcomes

Assessment Principles

Assessment Process

Curriculum Mapping

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Assessment Measures

Rubrics

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□ Scoring Tools

- Provide quantitative and/or qualitative data that will inform the faculty of the extent to which a level of student performance is being met.
- Designed to assess (score) the performance indicators of learning outcome.
- Distinguish between level of student performance
- Identify strengths and weaknesses in performance
- Provide direction for improvement
- Have utility across multiple courses and assessment methods

48

Assessment Measures

Outline

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Remember

```

graph TD
    A[Outcome first] --> B[Performance Indicators]
    B --> C[Method]
    C --> D[Measure]
            
```

49

Assessment Measures

Outline

- Expected Outcomes
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- Efficient Processes

How will we score students' learning?

- Quantitative and/or Qualitative

50

Assessment Measures

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Rating Scales

- Average Scores (Surveys)
- Number/Percentage Correct (Tests)

Dichotomous Scales

- Yes – No
- Present – Absent

51

Assessment Measures

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(Sliding Bar)
Always ----- | ----- Never

Measures opinion, attitudes, values

What is your opinion regarding the collaborative nature of your student team?

	Very	Slightly	Neither	Slightly	Very	
Effective						Ineffective
Inclusive						Exclusive
Task Oriented						Chaotic

52




Assessment Measures

- Outline
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Analytical Rating Scales

Rubrics

53



Assessment Measures


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Rating Scales (Likert Scale)

- Please indicate your level of agreement with each of the following statements
- Stem: I am confident in my ability to:

	Strongly Agree (5)	Agree (4)	Neither Agree nor Disagree (3)	Disagree (2)	Strongly Disagree (1)
Integrate graphs and charts in technical documents to add to understanding					
Participate effectively on a team					
Communicate with a diversity of audiences					

54



Assessment Measures


- Outline
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Test

		Average			
Student Outcome 1	Performance Indicator 1	Q1	Q2	Q3	67%
	Performance Indicator 2	Q1	Q2		83%

- Average Scores (Surveys)
- Number/Percentage Correct (Tests)
- Average correct on the three question was 67% OR
- 75% of students scored correctly on two or more questions

55



Assessment Measures

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Follow-Up: Digging Deeper

Why do students indicate that they are not confident in their ability to communicate with a diverse audience


Methods

- Focus Groups
- Interviews
- Open-Ended Items
- Observation

Measures

- Qualitative Data (measure)
- Analysis of Narrative/Observation

56




Rubrics

- Outline
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- **What is a Rubric**
 - A tool to score the student performance in an assessment environment (e.g. oral presentation, local exam, performance observation, etc.)
 - Can be used for both Formative and Summative purposes
 - Defines expectations and specially useful when dealing with processes of abstract concepts
 - Increases ability of the assessment when using multiple raters

57




Rubrics

- Outline
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- **What is a Rubric**
 - Explicitly state the expectations for student performance. They may *lead* to a grade or be part of the grading process but they are more specific, detailed, and disaggregated than a grade.
 - Rubrics provide a description of each level of performance as to what is expected.
 - The rubric provides those who have been assessed with clear information about how well they performed and a clear indication of what they need to accomplish in the future to better their performance.

58




Rubrics

- Outline
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- **Purpose of Rubric**
 - How you are going to use the results drives decisions about rubrics
 - What kind of feedback do you want?
 - Individual student/program
 - General/Specific
 - How will data be collected?
 - Formative/Summative
 - Developed over time/single point in time
 - For whom?
 - Student
 - Faculty Member
 - Program

59




Rubrics

- Outline
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- **Purpose of Rubric**
 - How are you going to use results?
 - Do you want general information about student performance?
 - Do you want specific information about student competence?

60

Rubrics



Outline
Expected Outcomes
Assessment Principles
Assessment Process
Curriculum Mapping
Assessment Methods
Assessment Measures
Rubrics
Efficient Processes

Types of Rubrics

Holistic Rubric


- Provides general information about student learning
- Raters make judgements by forming an overall impression of a performance and matching it to the best fit among the descriptions on the performance levels
- Each category of the performance levels describes performance on several performance indicators

Analytical Rubric

- Analytic performance levels focus on dimensions of student performance related to performance indicators.
- Dimensions are presented in separate categories and rated individually.
- Each performance indicator is rated separately.

61

Rubrics




Outline
Expected Outcomes
Assessment Principles
Assessment Process
Curriculum Mapping
Assessment Methods
Assessment Measures
Rubrics
Efficient Processes

Example of Holistic Rubrics: Work effectively in teams

Unsatisfactory	Developing	Satisfactory	Exemplary
<ul style="list-style-type: none"> Does not collect any information that related to the topic. Does not perform any duties of assigned team role. Always relies on others to do the work. Is always talking, never allows anyone else to speak. 	<ul style="list-style-type: none"> Collects some information related to the topic but incomplete Performs duties that are assigned inconsistently. Usually does the assigned work – often needs reminding. Usually doing most of the talking, rarely allows others to speak. 	<ul style="list-style-type: none"> Collects basic information related to the topic. Performs duties that are assigned. Usually does the assigned work, sometimes needs reminding. Listens most of the time. 	<ul style="list-style-type: none"> Collects a great deal of information which goes beyond the basics. Performs all duties assigned and actively assists others. Always does the assigned work without having to be reminded. Consistently listens and responds to others appropriately.

62

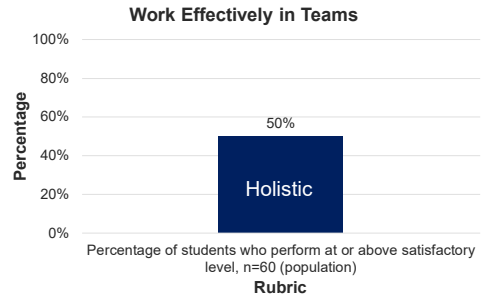
Rubrics



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Expected Outcomes
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Assessment Measures
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Example of Results - Formative

Work Effectively in Teams




Percentage of students who perform at or above satisfactory level, n=60 (population)

Rubric	Percentage
Holistic	50%

63

Rubrics




Outline
Expected Outcomes
Assessment Principles
Assessment Process
Curriculum Mapping
Assessment Methods
Assessment Measures
Rubrics
Efficient Processes

Example of Analytic Rubrics: Work effectively in teams

	Unsatisfactory	Developing	Satisfactory	Exemplary
Research and gather information	Does not collect any information that related to the topic.	Collects some information related to the topic but incomplete	Collect basic information related to the topic.	Collects a great deal of information which goes beyond the basics.
Fulfill team role's duties	Does not perform any duties of assigned team role.	Performs duties that are assigned inconsistently.	Performs duties that are assigned.	Performs all duties assigned and actively assists others.
Share in work of team	Always relies on others to do the work.	Rarely does the assigned work – often needs reminding.	Usually does the assigned work – rarely needs reminding.	Always does the assigned work without having to be reminded.
Listen to other teammates	Is always talking - never allows anyone else to speak.	Usually doing most of the talking – rarely allows others to speak.	Listens most of the time.	Consistently listens and responds to others appropriately.

64



[Rubrics

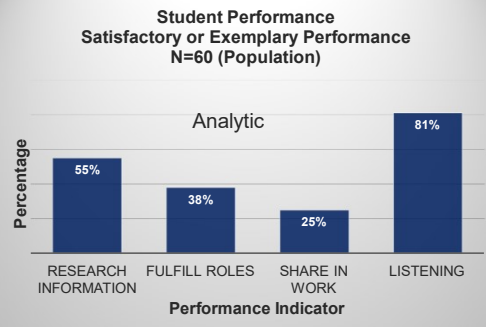
Outline

- Expected Outcomes
- Assessment Principles
- Assessment Process
- Curriculum Mapping
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- Assessment Measures
- Rubrics**
- Efficient Processes

□ Sample of Results


Student Performance
Satisfactory or Exemplary Performance
N=60 (Population)

Analytic



Performance Indicator	Percentage
RESEARCH INFORMATION	55%
FULLFILL ROLES	38%
SHARE IN WORK	25%
LISTENING	81%

65



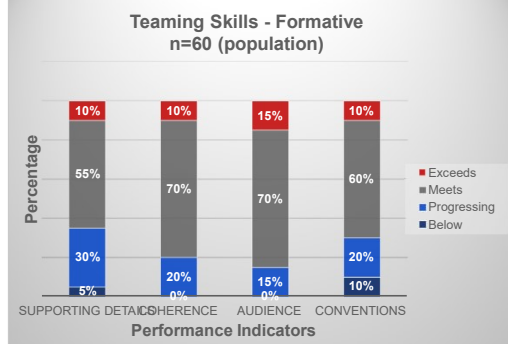
[Rubrics

Outline

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□ Sample of Results

Teaming Skills - Formative
n=60 (population)



Performance Indicator	Exceeds	Meets	Progressing	Below
SUPPORTING DETAILS	10%	55%	30%	5%
COHERENCE	10%	70%	20%	0%
AUDIENCE	15%	70%	15%	0%
CONVENTIONS	10%	60%	20%	10%

66



[Rubrics


Outline

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□ Strength of Analytic Rubrics

- Provides information about relative strengths and weaknesses of student performance related to an outcome.
- Provides detailed feedback which can be used to promote curricular enhancements.
- Useful for assessment of abstract concepts or processes.
- Provides students with an opportunity to self-assess their understanding and performance.

67



[Rubrics

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□ Generic or Task-Specific Rubric


Generic Rubrics

- Can be used across similar performances (used across all communication or problem-solving tasks)

Task-Specific Rubrics

- Designed for a single task.
- Cannot be generalized across a wide variety of student work.

68




[Rubrics

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- How many levels of performance?
 - Consider both the nature of the performance and purpose of scoring.
 - Recommend 3 to 5 levels to describe student achievement at a single point in time.
 - If focused on developmental curriculum (growth over time) more performance levels are needed (i.e. 6 - ???)
 - The more performance levels, the more difficult it is to get inter-rated reliability.

69




[Rubrics

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- Developing Rubrics
 - Be clear about how the rubric is to be used
 - Program assessment
 - Individual student assessment
 - Analytic/Holistic
 - For process improvement, analytic rubric provides information that can be used to focus instruction in areas of weakness
 - Can use student work as a guide in developing rubric
 - Start with extremes and work toward middle
 - Pilot test
 - Rubric Development is a process

70




[Rubrics

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Fulfill team role's duties	Does not perform any duties of assigned team role.	Performs duties that are assigned inconsistently.	Performs duties that are assigned.	Performs all duties assigned and actively assists others.
Share in work of team	Always relies on others to do the work.	Rarely does the assigned work – often needs reminding.	Usually does the assigned work – rarely needs reminding.	Always does the assigned work without having to be reminded.
Listen to other teammates	Is always talking - never allows anyone else to speak.	Usually doing most of the talking – rarely allows others to speak.	Listens most of the time.	Consistently listens and responds to others appropriately.
Student	Research and gather information	Fulfill team role's duties	Share in work of team	Listen to other teammates
Lee Bash	Satisfactory	Developing	Exemplary	Exemplary
Honar Issa	Satisfactory	Developing	Satisfactory	Satisfactory

71



[Rubrics

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- Developing Rubrics
 - Identify characteristics you want to be demonstrated by students (Performance Indicators)
 - Determine how rubric will be used: Analytic or Holistic, Generic or Task-Specific
 - Write narrative description for each performance level (Satisfactory, Excellent, etc.)
 - Pilot test the rubric for inter-rated reliability
 - Review usefulness of rubric after applying and revision (if necessary)

72

Rubrics

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Strength of Analytic Rubrics

Subject: Writing

Topics:

- Content
- Organization
- Style

Concepts:

- Focus
- Supporting Details
- Coherence
- Transitions
- Voice
- Word Choice
- Sentence Fluency
- Conventions

73

Rubrics

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Strength of Analytic Rubrics

Program Educational Objectives: Graduates will communicate effectively with various audiences in written, oral and graphical form

Student Outcomes: Effective communication Skills

Performance Indicators:

- Supporting Details
- Coherence
- Audience
- Conventions
- Graphics

74

Rubrics

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Scoring Rubrics

Performance Indicator	Below	Progressing	Meets	Exceeds
Supporting Details	5%	30%	55%	10%
Coherence	0%	20%	70%	10%
Audience	15%	15%	70%	10%
Conventions	10%	20%	50%	20%
Graphics	15%	5%	50%	20%

75


Rubrics

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Scoring Rubrics

Performance Indicator	Below	Progressing	Meets	Exceeds
Supporting Details	30%	55%	10%	10%
Coherence	20%	70%	10%	10%
Audience	15%	70%	15%	10%
Conventions	10%	20%	60%	10%
Graphics	15%	15%	50%	20%

76




Efficient Processes

- Outline
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- **Validity of Assessment**
 - **Relevance:** the assessment option measures the student outcome as **directly** as possible.
 - **Accuracy:** the option measures the student outcome with confidence that findings represent the **true value** of student learning.
 - **Utility:** the option provides formative and summative results with **clear implications** for program evaluation and improvement.

77




Efficient Processes

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- **Bottom Lines**
 - All assessment options have advantages and disadvantages.
 - Ideal method means those that are best fit between program needs, satisfactory validity, and affordability (time, effort, and money).
 - Crucial to use multi-method/multi-source approach to maximize validity and reduce bias of any one approach.

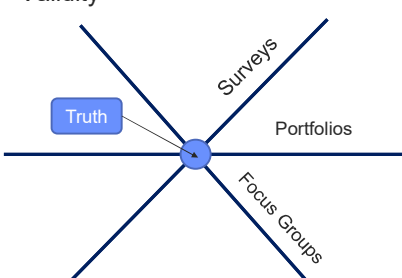
78



Efficient Processes


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- Assessment Measures
- Rubrics
- Efficient Processes**

- **Validity**



The diagram illustrates the concept of validity through multiple methods. A central blue circle labeled 'Truth' is connected by lines to three surrounding methods: 'Surveys' (top right), 'Portfolios' (right), and 'Focus Groups' (bottom right). The lines form a star-like shape, suggesting that these different methods converge on the truth.

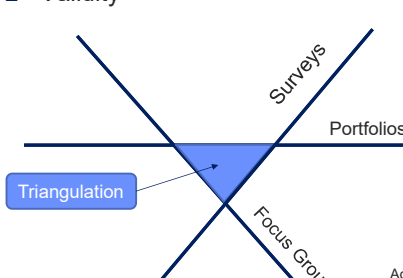
79



Efficient Processes

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- Assessment Measures
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- **Validity**



The diagram illustrates the concept of triangulation. A central blue triangle labeled 'Triangulation' is formed by the intersection of three lines representing 'Surveys', 'Portfolios', and 'Focus Groups'. This visualizes how combining different methods leads to a more accurate and reliable assessment.

Adapted from Joseph Hoey

80




Efficient Processes

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- **Validity – Truisms**
 - There will always be more than one way to measure any student outcome.
 - No single methods is good for measuring a wide variety of different student abilities.
 - There is generally an inverse relationship between the quality of measurement methods and their expediency.
 - It is important to pilot test to see if a method is appropriate for your program.

81



Efficient Processes

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- **Data Collection Process**

What?

Focus on few indicators for each outcome

Why?

Know your question


When?

Could be annually, two-year, three-year, etc.

Who?

Students (cohort), Faculty (some)

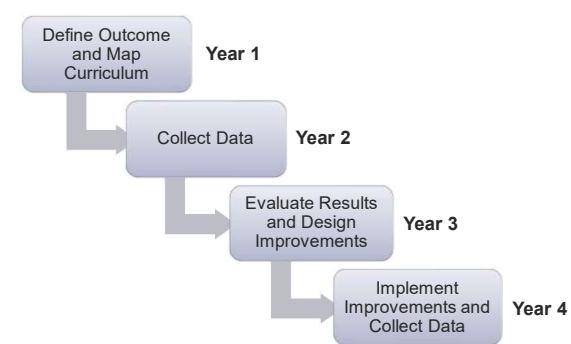
82




Efficient Processes

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- Assessment Principles
- Assessment Process
- Curriculum Mapping
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- Assessment Measures
- Rubrics
- Efficient Processes**

- **When?**



83



Efficient Processes

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- Expected Outcomes
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- Efficient Processes**

- **When?**

Student Outcomes	20-21	21-22	22-23	23-24	24-25	25-26
A recognition of ethical and professional responsibilities	A	E	C	A	E	C
An understanding of how contemporary issues shape and are shaped by mathematics, science & engineering		A	E	C	A	E
An ability to recognize the role of professionals in the global society			A	E	C	A
An understanding of diverse cultural and humanistic traditions	A	E	C	A	E	C
An ability to work effectively in teams		A	E	C	A	E
An ability to communicate effectively in oral, written, graphical, and visual forms			A	E	C	A

Assess
Evaluate
Change

84

Efficient Processes

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- Expected Outcomes
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- Curriculum Mapping
- Assessment Methods
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- Rubrics
- Efficient Processes**

When?

Student Outcomes	20-21	21-22	22-23	23-24	24-25	25-26
A recognition of ethical and professional responsibilities	A	E	C	A	E	C
An understanding of how contemporary issues shape and are shaped by mathematics, science & engineering		A	E	C	A	E
An ability to recognize the role of professionals in the global society			A	E	C	A
An understanding of diverse cultural and humanistic traditions	A	E	C	A	E	C
An ability to work effectively in teams		A	E	C	A	E
An ability to communicate effectively in oral, written, graphical, and visual forms			A	E	C	A

Assess
Evaluate
Change

85

Efficient Processes

- Outline
- Expected Outcomes
- Assessment Principles
- Assessment Process
- Curriculum Mapping
- Assessment Methods
- Assessment Measures
- Rubrics
- Efficient Processes**

Establish an Annual Cycle

86

Efficient Process

- Outline
- Expected Outcomes
- Assessment Principles
- Assessment Process
- Curriculum Mapping
- Assessment Methods
- Assessment Measures
- Rubrics
- Efficient Processes**

Student Outcomes	Year of Data Collection	Eval Year	Assessment Method	Outcome Specialist (developing rubrics)	Curriculum Mapping	Rubrics & Mapping Deadline	Human & Financial Resources	Expected Outcomes
Solve problems	2021	2022	Peer Eval Standard Exams Course Grades	Faculty 1 Faculty 2 Assessment Committee	CB 104 CB 306 CB 407	Feb 28, 2020	Course Faculty Minute Taker	
Ethics and Responsibilities	2021	2022	Assignment Faculty Eval Senior Survey	Faculty 3 Faculty 4 Assessment Committee	CB 203 CB 305 CB 401	Feb 28, 2020	Course Faculty Minute Taker	
Communication	2021	2022	Peer Eval Essay Senior Survey	Faculty 5 Faculty 6 Assessment Committee	CB 102 CB 304 CB 406	Feb 28, 2020	Course Faculty Minute Taker	
Teamwork	2022	2023	Peer Eval Faculty Eval Portfolio	Faculty 1 Faculty 2 Assessment Committee	CB 103 CB 206 CB 409	Mar 31, 2020	Course Faculty Minute Taker	
Experimentation	2022	2023	Lab Eval Faculty Eval Senior Survey	Faculty 3 Faculty 4 Assessment Committee	CB 104 CB 306 CB 407	Mar 31, 2020	Course Faculty Minute Taker	
Apply new knowledge	2022	2023	Peer Eval Faculty Eval Standard Exams	Faculty 5 Faculty 6 Assessment Committee	CB 108 CB 304 CB 405	Mar 31, 2020	Course Faculty Minute Taker	

87


Efficient Process

- Outline
- Expected Outcomes
- Assessment Principles
- Assessment Process
- Curriculum Mapping
- Assessment Methods
- Assessment Measures
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- Efficient Processes**

Reporting Results: Assessment Procedures

Performance Indicators	Educational Strategies	Methods of Assessment	Where Summative Data Are Collected	Where Formative Data Are Collected	Summative Data Cycle (Yrs)	Time of Data Collection	Threshold for Performance
1. Produces research information for the team	1011, 2001, 2060, 3001, 4092	Peer Evaluation Faculty Evals Senior Survey	4092 Online Survey	2001 (Y2 of Cycle), 3001 (Y3 of Cycle)	3 Years	2020, 2023	80%
2. Demonstrates understanding of team role when assigned	1011, 2001, 2060, 3001, 4092	Peer Evaluation Faculty Evals Senior Survey	4092 Online Survey	2001 (Y2 of Cycle), 3001 (Y3 of Cycle)	3 Years	2020, 2023	80%
3. Shares in the work of the team	1011, 2001, 2060, 3001, 3064	Peer Evaluation Faculty Evals Portfolio	3064 Shared Folder	2001 (Y2 of Cycle), 2060 (Y3 of Cycle)	3 Years	2020, 2023	75%
4. Demonstrates good listening skills	1011, 2001, 2060, 3001, 4092	Peer Evaluation Faculty Evals Senior Survey	4092 Online Survey	2001 (Y2 of Cycle), 3001 (Y3 of Cycle)	3 Years	2020, 2023	80%


88



Efficient Process

- Example of an Outcome Assessment
 - Outcome: recognition of the need for, and the ability to engage in life-long learning
 - Evaluation Method: An assignment will be developed for all students to complete. The assignment shall further be evaluated to establish the degree to which the assigned outcome is achieved in the course. For each student, put a checkmark by the item in each row which best describes the level of performance. Determine the rubric score for each student, and then average the scores for the students to determine the final average for the outcome in the course. Attach a poor, average, and good completed copy of the assignment to this sheet and place in the appropriate assessment folder.


89



Efficient Process

Performance Indicator	Does Not Meet Expectations (1)	Meets Expectations (3)	Exceeds Expectations (3)
Understands the need for life-long learning	Does not recognize the needs for continued study	Describe the necessity for life-long learning	Enthusiastically embraces the need for life-long learning
Describes the skills required for a life-long learner	Has little understanding or no skill in acquiring solutions on his/her own	Adequately describes some skills that are useful to a life-long learner	Displays a thorough understanding of many of the skills required for a life-long learner.
Demonstrates the ability for self-directed learning	Collects limited information and unable to solve the problem	Collects sufficient information you correctly solve the problem	Collects background information and solves the problem correctly, including discussion of alternate solution

90



Efficient Process

- Example of an Outcome Assessment
 - Outcome: recognition of the need for, and the ability to engage in life-long learning
 - Homework:


One of the outcomes expected by our accrediting agency relates to your ability to continue life-long learning. The purpose of the following assignment is to evaluate this outcome.

Part A: Write a short, one or two paragraphs, essay justifying the need for life-long learning. Be sure to include specific examples of why you might need to continue learning and realistic ways you can continue to learn while working as a full-time engineer. Please explore if education toward MS degree or attending conferences or workshops or seminars can help achieving this goal.

Part B: Suggest practical methods to accelerate consolidation of a thick clay layer at a site nearby campus. Be sure to specify what reference/ guide you used.

This is an individual assignment, and you shall not work with other students. You may, however, borrow textbook from the library or instructors. Cite your references using Harvard style.

91



Efficient Process


Student Name: Honar Issa

Performance Indicator	Does Not Meet Expectations (1)	Meets Expectations (3)	Exceeds Expectations (5)
Understands the need for lifelong learning.	<input type="checkbox"/> Does not recognize the need for continued study.	<input type="checkbox"/> Describes the necessity for lifelong learning.	<input checked="" type="checkbox"/> Enthusiastically embraces the need for lifelong learning.
Describes the skills required for a lifelong learner.	<input type="checkbox"/> Has little understanding or no skill in acquiring solutions on his/her own.	<input type="checkbox"/> Adequately describes some skills that are useful to a lifelong learner.	<input checked="" type="checkbox"/> Displays a thorough understanding of many of the skills required for a lifelong learner.
Demonstrates the ability for self-directed learning.	<input type="checkbox"/> Collects limited information and unable to solve the problem.	<input checked="" type="checkbox"/> Collects sufficient information to correctly solve the problem.	<input type="checkbox"/> Collects background information and solves the problem correctly, including discussion of alternative solutions.

Student Score = [(Total Level 1)x1 + (Total Level 3)x3 + (Total Level 5)x5] / 3 = $\frac{1 \times 1 + 2 \times 3 + 2 \times 5}{3} = 4.3$

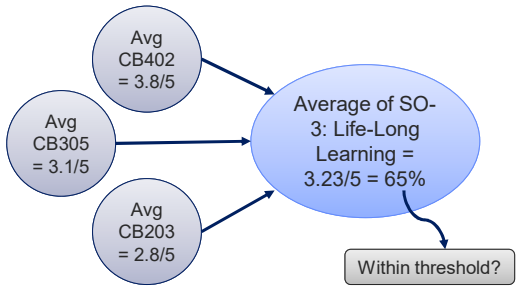
92

Efficient Process



Outline
Expected Outcomes
Assessment Principles
Assessment Process
Curriculum Mapping
Assessment Methods
Assessment Measures
Rubrics
Efficient Processes

Outcome: recognition of the need for, and the ability to engage in life-long learning



Avg CB402 = 3.8/5

Avg CB305 = 3.1/5



Avg CB203 = 2.8/5

Average of SO-3: Life-Long Learning = $3.23/5 = 65\%$

Within threshold?

93

Thank you for your attention!



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Honar.Issa@YAHOO.com

94