Radford University

Student Learning Is Our Business: Course Assessment

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Overview

- General Assessment Concepts

  - Levels of assessment

  - Curriculum mapping

- Assessment Methods for the Classroom

  - Developing student learning outcomes

  - Developing performance measures and assessment methods

  - Assessment planning and item-outcome mapping

  - Test design, blueprinting, and item analysis

  - Rubrics

  - Portfolio concepts

- From the Classroom to the Program

What Does the Word Assessment Mean to You?

- Assessment is about grading students

- Assessment is about helping students improve their learning

- Assessment is about improving my course

- Assessment is about improving my degree program

- Assessment is something I have to do because of accreditation

- Assessment is something I want to do well

- Assessment is a lot work

What Type of Assessment Do You Do in the Classroom?

- Definition: Assessment is the examination and review of evidence representing levels of performance, accomplishment, and knowledge (e.g., desired knowledge, skills, attitudes, and behaviors) of students

- Two purposes:
  - Formative assessment—focused on providing feedback to support student improvement (e.g., graded or ungraded assignments with instructor's comments)
  - Summative assessment—focused on evaluating or judging the level of observed performance (e.g., assigning a grade)

Levels of Formative Assessment

- Classroom/student assessment
  - Determination and improvement of individual student's ability in meeting course learning outcomes
- Course assessment
  - Determination and improvement of a course's ability in meeting course and student learning outcomes
- Program assessment
  - Determination and improvement of an academic program's ability in meeting program and student learning outcomes
- Institutional assessment
  - Determination and improvement of institutional performance with respect to institutional outcomes

Effective Formative Course Assessment Should Answer these Questions

- How does my course contribute to the development and growth of the students in my program?

- What student learning outcomes is my course trying to achieve?

- How well are my students performing with respect to these learning outcomes?

- How, using the answers to the previous questions, can I improve student learning, improve my course, and/or improve the overall program?

- What actions should I take to improve student learning, my course, and/or the overall program?

- What are the results of these actions?

The Chicken or Egg Question

- What comes first: the **course** or the **program**?

- Course first:
  - Define topics for courses and their specific Student Learning Outcomes (SLOs)
  - Determine related courses and their common general SLOs
  - Arrange courses to form program with its general SLOs for completers

- Program first:
  - Define program with general SLOs for completers
  - Distribute knowledge delivery into courses with general course SLOs
  - Implement topic course with specific SLOs that support program SLOs
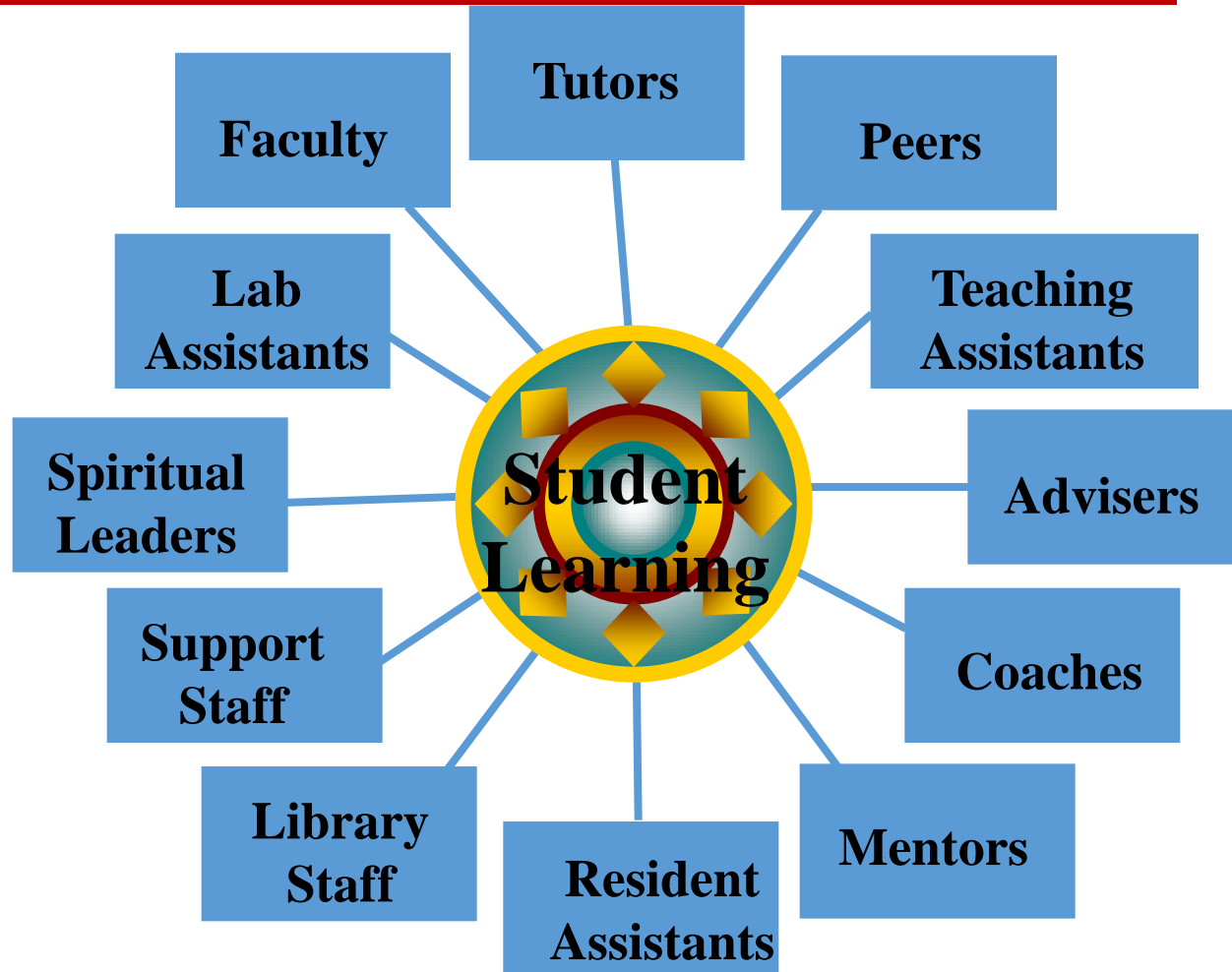
Assessment Cycle Basics

Define Educational Goals

Planning Phase

Identify Student Learning Outcomes

Assess Impact

STUDENT
COURSE
PROGRAM

Identify Measures and Methods

Take Action: Implement Changes

Results Phase

Gather Evidence

Interpret Evidence
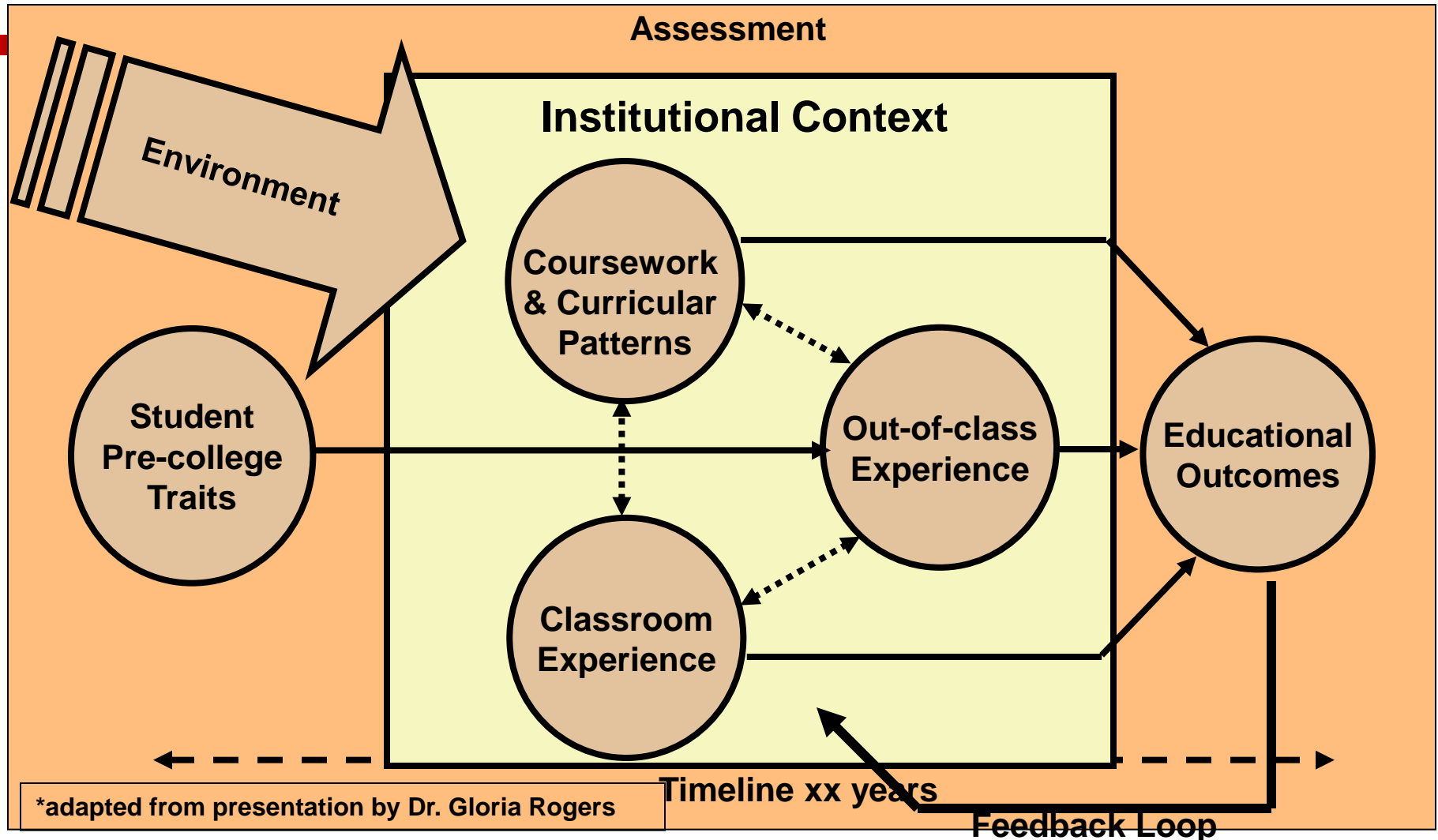
Evidence of Good Assessment

- Appropriate assessment processes have been implemented

- Processes are being used
  - Data are collected
  - Students are given useful feedback
  - Improvement actions are taken by students, for my course, and for my program

- Detailed records are available

- Multiple cycles are evident (data are collected and reviewed each time the course is taught and compared to results from previous instances of the course)

Student Learning Is Complex

Controlling Educational Outcomes Is Difficult

Assessment

Institutional Context

Environment

Coursework & Curricular Patterns

Student Pre-college Traits

Out-of-class Experience

Classroom Experience

Educational Outcomes

Timeline xx years

**Feedback Loop**

*adapted from presentation by Dr. Gloria Rogers

Course Design Questions for Consideration

- What are my expectations concerning learning that should take place in my course?

- What student learning that is needed for my course is supposed to take place in prior courses?

- Which courses depend on student learning that takes place in my course?

- What types (knowledge, skills, etc.) and levels of learning (introductory or advanced) do these courses depend on?

- What student learning outcomes are important for the program and how should my course contribute to these learning outcomes?

Your Course Is Part of a Program

Courses in the Curriculum
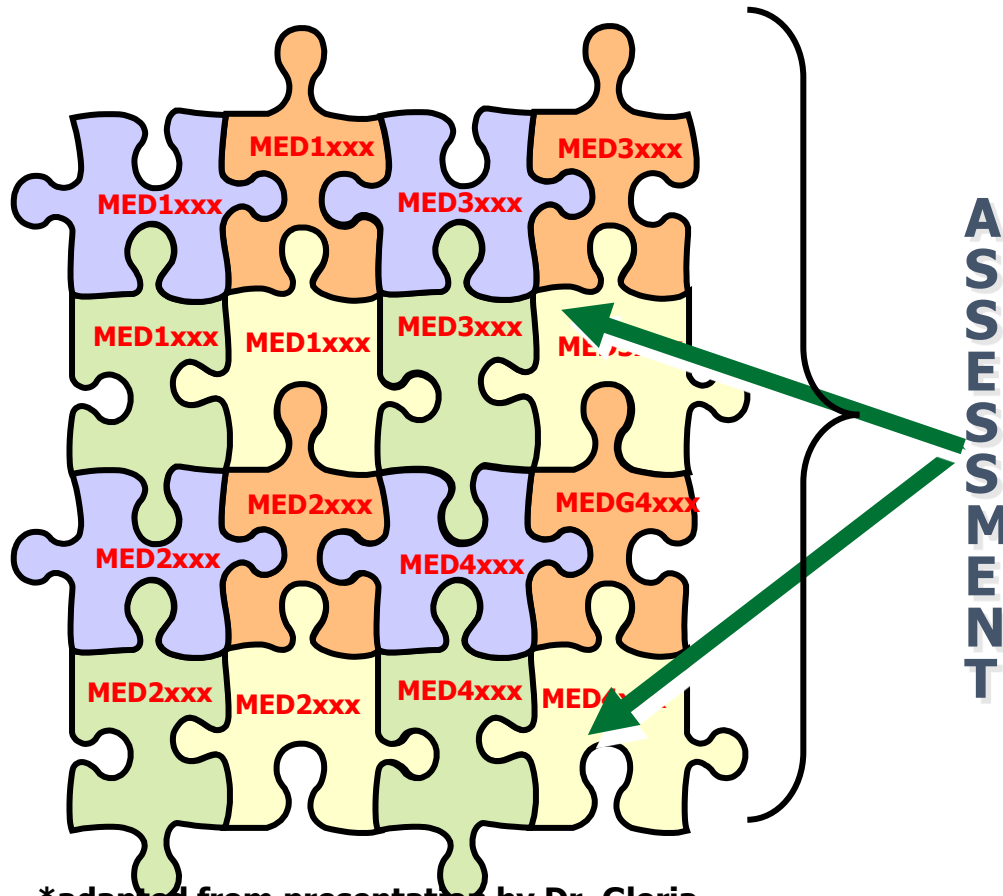
Program Learning Outcomes

- Oral communication
- Written communication
- Teamwork skills
- Clinical skills
- Ethics
- Discipline knowledge
- Professional skills
- Performance skills
- Critical Thinking

ASSESSMENT

*adapted from presentation by Dr. Gloria Rogers

A Curriculum Map Is an Essential Tool for Planning Your Course Design

Program Learning Outcomes	Course 1234	Course 2345	Course 3456	Capstone
Knowledge of the Discipline	**Introduced**	**Emphasized**	**Emphasized**	**Reinforced**
Analytical Skills		**Introduced**	**Emphasized**	**Reinforced**
Communication Skills		**Introduced**	**Emphasized**	**Reinforced**

Good Practices in Course Assessment

- Development of measureable student learning outcomes

- Development of performance measures

- Selection of assessment methods

- Assessment planning and item-outcome mapping

- Test design, blueprinting and item analysis

- Rubrics

- Portfolios

Two Types of Course Outcomes

- Student learning outcome
  - Specific type of course outcome that describes the intended learning outcomes that students must meet on the way to completing a course
  - Things we want students to know, think or do when they complete a course
    - Example: Students will demonstrate competent use of critical thinking skills
    - Example: Students will demonstrate excellent communication skills
- Operational outcome
  - Type of outcome that addresses course, operational or procedural tasks, such as completion rates, efficiency or satisfaction
    - Example: Students will successfully complete the course (e.g., completion rates)
    - Example: Students will be satisfied with course instruction

More on Student Learning Outcomes

- Describe specific performance that students should demonstrate when completing your course

- Focus on <u>intended</u> knowledge, skills, attitudes, and behaviors of students after completion of course

  - What is expected from a course completer?

  - What is expected as the student progresses through your course?

  - Three questions

    - What does the student know? (cognitive)

    - What can the student do? (psychomotor)

    - What does the student care about? (affective)

Types and Levels of Student Learning Outcomes [Bloom's Taxonomy]

- Cognitive: recall and intellectual skills
  - Knowledge, comprehension, application, analysis, synthesis, evaluation
- Affective: attitudes, values, interests, appreciation and feelings toward people, ideas, places, and objects
  - Receiving, responding, valuing, organization, characterization by
- Skills (Simpson, 1972)
  - Perception, set, guided response, mechanism, complex overt response, adaptation, origination
- Better to use concrete action verbs (e.g., define, classify, operate, formulate) rather than passive verbs (e.g., be exposed to) or vague verbs (e.g., understand, know)

Getting Started Using List of Topics and Outcomes Mapping

Course Learning Outcome	Topic 1 Queueing	Topic 2 Decision Analysis	Topic 3 Linear Programming	Semester Project
Formulation	**Introduced**	**Emphasized**	**Emphasized**	**Reinforced**
Modeling and Analysis	**Introduced**	**Emphasized**	**Emphasized**	**Reinforced**
Sensitivity Analysis		**Introduced**	**Emphasized**	**Reinforced**
Communication		**Introduced**	**Emphasized**	**Reinforced**

Checklist for a Student Learning Outcome

- Does it clearly describe the expected knowledge, skill, attitude, and/or behavior of the completers of my course?

- Does it indicate the level (think Bloom's Taxonomy) and type of competence that is required of completers of my course?

- Does it focus on the learning results and not the learning process?

Exercises—What Is Good or Bad About These As Learning Outcomes?

- Students will have the necessary knowledge and skills to solve problems in microeconomics

- To teach students engineering design principles

- Students in the capstone course will demonstrate knowledge of math, science, and engineering fundamentals, and gain competency in conducting oral presentations

- Students will score over 80% on a locally-developed exam that tests application of engineering principles

- Students will have the ability to analyze relevant information to support a decision

Measuring Outcomes

- Should provide an objective means of quantifying the student learning outcomes

  - Should indicate <u>what</u> you will measure for each of your outcomes

  - Should indicate <u>when</u> you will measure each of your outcomes

  - Should indicate <u>how</u> you will measure each of your outcomes (method)

- Example: Critical thinking is assessed in a final "project" by applying a rubric to assess the student's ability to (1) analyze and evaluate sources, (2) synthesize information to support an argument, and (3) reach appropriate conclusions

Assessment Methods

- **Direct measures** evaluate the competence of students
  - Exam sub-scores
  - Rated portfolios
  - Rubric applied to an assignment
- **Indirect measures** evaluate the perceived learning
  - Student perception of learning
  - Student self-assessment of his/her ability

Assessment Methods

- Performance-based methods related to outcomes
    - Locally-developed exams and quizzes
    - Standardized exams with sub-scores
    - Comprehensive exams with sub-scores
    - Analytic rubrics applied to
        - Projects
        - Performances
        - Portfolios
        - Clinical activities
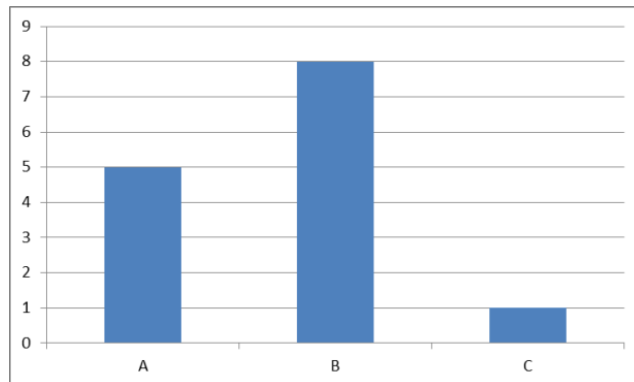   - Internships
        - Observations
        - Simulations

What About Using Course Grades for Measuring SLOs?

- If you know a student's grade, or a course grade average, or a grade distribution, what do you know about student learning and what has to change to improve it?

- Example:
  - Average – 86.7
  - 93% "successful" (> 77%)
  - Distribution

Student	Total (1,599)	
A	1,413	88.4%
B	1,344	84.1%
C	1,499	93.7%
D	1,272	79.5%
E	1,289	80.6%
F	1,445	90.4%
G	1,355	84.7%
H	1,458	91.2%
I	1,341	83.9%
J	1,378	86.2%
K	1,441	90.1%
L	1,452	90.8%
M	1,208	75.5%
N	1,343	84.0%

Problem with Using Grades for Assessing SLOs

- Overall grades can be problematic (e.g., A, B, C in a course or 75% on a project or final exam) for measuring SLOs

  - Do not provide meaningful information on what was learned or not learned

  - Grading standards may be vague or inconsistent

  - May include behaviors not related to SLO (e.g., participation points)

- Grades based on direct evidence of performance linked to student learning outcomes (e.g., using test blueprints and rubrics) may be useful

Developing a Course Assessment Plan

- Need to determine how many and what types of assessment methods you need and for what purpose

- Need to determine how much impact each assessment should have on the overall grade

- Need to understand which learning outcomes are assessed by each assessment method

- This is an iterative process

Assessment Matrix: Link the "Method" with the "Outcomes"

Learning Outcomes	MC Exam	MidTerm Exam	Final	Weekly Quizzes	Survey	Projects (Rubric)
Understand A	X			X	X	
Understand B		X		X	X	
Evaluate A	X	X	X	X		X
Analyze B		X	X	X		X
Demonstrate Critical Thinking			X			X
Written Communication						X
Oral Communication						X
Participation				X	X	X

Course Assessment Plan

	No. of Items or Points	Number of Assessments	Total Points	Weight	Points Possible	Impact on Grade
Test 1	50	1	50			Moderate
MidTerm Exam	50	1	50			High
Final	75	1	75			Very High
Weekly Quizzes	10	12	120			Low
Survey	10	2	20			Very Low
Projects	25	2	50			Very High

Intended Use of Course Assessment Results

- During course:
  - Determine individual student understanding at SLO level to provide feedback to student
  - Determine aggregate student understanding at SLO level to determine immediate course adjustments to improve coverage

- After course:
  - Assess effectiveness of instruction for individual SLOs
  - Assess effectiveness of assessment methods for individual SLOs
  - Identify areas for pedagogical improvements, course content improvements, and implement changes to improve the course

What Makes a Good Test?

- Variance in scores—discrimination

- Reliability—consistency

- Validity—measuring what it should measure

- Integrity and transparency—free of developer bias

- Standardization—benchmarking

Test Design Principles

- Overall Design
  - Designed with outcomes or objectives in mind
  - Created using test blueprint

- Individual questions
  - Must evaluate important aspect—crucial for test taker to be good at in order to succeed
  - Must be well-structured and avoid flaws that benefit testwise examinee
  - Must be of appropriate difficulty

- Principles apply to course tests, comprehensive exams, and observations

Test Blueprints

- Identify the objectives and skills that are to be tested and the relative weight given to each
- Determine the number of questions related to each competency on the test based on the relative emphasis on each competency
- Provide cognitive level breakup
- Difficulty guideline
  - 1/6 of questions easy—more than 70% of population will answer correctly
  - 1/6 of questions hard —fewer than 30% of population will answer correctly
  - 2/3 of questions moderate—population has 30-70% chance of answering correctly

Test Blueprint Construction

- Competency and difficulty weights

	Number of Items =		120		
	Item Difficulty				
Topic/ Competency	**Easy**	**Med**	**Hard**	Items/ topic	Emphasis
Physiology					30%
Biochemistry					10%
Anatomy					50%
Cell Biology					5%
Clinical					5%
Distribution	20%	50%	30%		100%

Test Blueprint Construction

- Distribution of questions by topic/competency

	Number of Items = 120				
	Item Difficulty				
Topic/ Competency	**Easy**	**Med**	**Hard**	Items/ topic	Emphasis
Physiology				36	30%
Biochemistry				12	10%
Anatomy				60	50%
Cell Biology				6	5%
Clinical				6	5%
Distribution	20%	50%	30%		100%

Test Blueprint Construction

- Question distribution

| Topic/ Competency	Number of Items = 120			Items/ topic	Emphasis
	Item Difficulty				
	Easy	Med	Hard		
Physiology	7.2	18	10.8	36	30%
Biochemistry	2.4	6	3.6	12	10%
Anatomy	12	30	18	60	50%
Cell Biology	1.2	3	1.8	6	5%
Clinical	1.2	3	1.8	6	5%
Distribution	20%	50%	30%		100%

Examine Cumulative Test Results

• More information

Student	Anatomy (175)		Biochemistry (102)		Cell Biology (55)		Clinical (198)		Several Disciplines Cut...	Physiology (125)		Total (1599)	
A	152	86.9%	88	86.3%	46	83.6%	137	83.5%		111	88.8%	1413	88.4%
B	143	81.7%	86	84.3%	49	89.1%	149	75.3%		111	88.8%	1344	84.1%
C	163	93.1%	91	89.2%	48	87.3%	187	94.4%		115	92.0%	1499	93.7%
D	128	73.1%	75	73.5%	30	54.5%	165	83.3%		97	77.6%	1272	79.5%
E	139	79.4%	79	77.5%	42	76.4%	148	74.7%		92	73.6%	1289	80.6%
F	160	91.4%	95	93.1%	49	89.1%	173	87.4%		114	91.2%	1445	90.4%
G	148	84.6%	85	83.3%	40	72.7%	172	86.9%		107	85.6%	1355	84.7%
H	165	94.3%	92	90.2%	48	87.3%	177	89.4%		116	92.8%	1458	91.2%
I	149	85.1%	84	82.4%	48	87.3%	164	82.8%		108	86.4%	1341	83.9%
J	149	85.1%	84	82.4%	48	87.3%	169	85.4%		104	83.2%	1378	86.2%
K	148	84.6%	95	93.1%	50	90.9%	169	85.4%		120	96.0%	1441	90.1%
L	151	86.3%	88	86.3%	50	90.9%	176	88.9%		109	87.2%	1452	90.8%
M	133	76.0%	75	73.5%	34	61.8%	142	71.7%		85	68.0%	1208	75.5%
N	147	84.0%	86	84.3%	45	81.8%	152	76.8%		108	86.4%	1343	84.0%

More Meaningful Assessment of Course
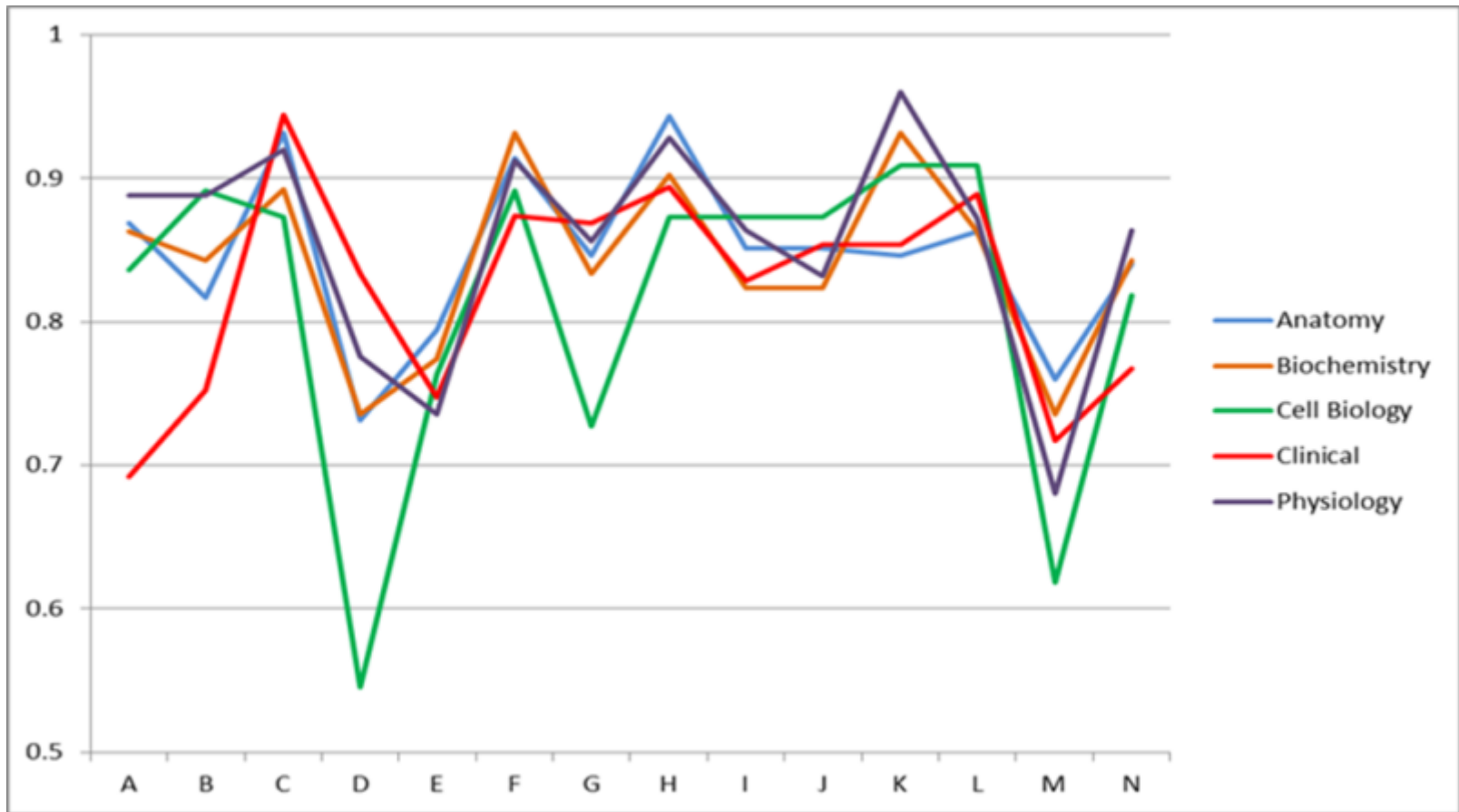
Test Blueprint Structure: Mapping Question Type to Learning Goal

		Question Type							
	Learning Objectives	Fill-in the blank	True/False	List	Multiple Choice	Matching	Essay/ Interpret	Weight	Points
Goal 1: The Students will Know	Obj 1.1: Name…	X						20%	
	Obj 1.2: List…			X					
Goal 2: The Students will apply their knowledge	Obj 2.1: Translate…	X						50%	
	Obj 2.2: Show…				X				
	Obj 2.3:				X				
	Obj 2.4					X			
Goal 3: Evaluate	Obj 3.1: Assess…						X	30%	
	Obj 3.3: Compare…					X			

Analysis of Test Results

- How do you know your exam is working as intended?

  - Are the questions too hard or too easy?

  - Does the exam distinguish among students?

  - Do the questions have clearly correct answers?

  - Do the questions have plausible incorrect answers?

- Item Analysis

  - Item difficulty

  - Item discrimination

  - Distractor analysis

Item Difficulty

- Fraction of students who answer the question correctly (also called the p-value—*not statistical*)
- What if p = 1?
- What if p = 0?
- What if p = 0.6?
- Should be compared to intended difficulty of the question

Item Discrimination

- Measures relationship between examinees performance on an item and the examinees overall performance on the exam

- Concept of point biserial correlation (number between -1 and 1)

PBC = 1.0	Fraction Correct	Fraction Wrong
Top 30%	1.0	0
Bottom 30%	0	1.0

- The stronger students got it right
- The weaker students got it wrong
- Discriminates completely

PBC = -1.0	Fraction Correct	Fraction Wrong
Top 30%	0	-1.0
Bottom 30%	-1.0	0

- The stronger students got it wrong
- The weaker students got is right
- Something is wrong with the question or the way it was graded
- Should it be thrown out?

Course Assessment

Item Discrimination

PBC = 0	Fraction Correct	Fraction Wrong
Top 30%	0.5	-0.5
Bottom 30%	-0.5	0.5

- Discrimination = 0
- No separation between strong and weak students
- Doesn't discriminate

PBC is negative	Fraction Correct	Fraction Wrong
Top 30%	0.3	-0.7
Bottom 30%	-0.6	0.4

- Equals a negative value (-0.3)
- Strong students got it wrong, weaker students got it right
- Something is wrong

PBC is positive	Fraction Correct	Fraction Wrong
Top 30%	0.8	-0.2
Bottom 30%	-0.2	0.8

- Equals a positive value (0.6)
- Discriminates fairly well

Distractor Analysis for Multiple Choice Questions

- Response options for incorrect answers should be
  - Clearly incorrect
  - Plausible
- Compute percent of students who selected each response

Correct Response	Answer Option	Fraction Endorsing
	A	0.2
	B	0.1
X	C	0.6
	D	0.1

- Moderately difficult question (p = 0.6)
- Majority selected the correct response
- Distractors appear plausible

Distractor Analysis for Multiple Choice Questions

Correct Response	Answer Option	Fraction Endorsing
X	A	0.4
	B	0.0
	C	0.4
	D	0.2

Correct Response	Answer Option	Fraction Endorsing
	A	0.05
X	B	0.05
	C	0.8
	D	0.1

- Difficult question (p = 0.4)
- One of the distractors is never chosen
  - Replace or eliminate?

- An extremely difficult question (p = 0.05)
  - Is it intended to be very difficult?
- The correct response is very seldom chosen
  - Is it keyed correctly?
  - Are the distractors clearly wrong?
- All distractors appear to be at least somewhat plausible

You Might Need a Rubric If…

- You are getting carpal tunnel syndrome from writing the same comments on almost every student paper
- Students often complain they can't read the notes you labored so long to produce
- After grading, you are worried that the last ones graded may have been graded differently than the first ones.
- You give a long narrative description of the assignment in the syllabus, but students continue to ask about your expectations
- You work with colleagues designing a common assignment for program courses but wonder if your grading scales are different

[See Stevens, D.D. and Levi, A.J., Introduction *to Rubrics*, Stylus Publishing, 2005]

So, What Is a Rubric?

- Scoring tool that lays out specific expectations for an assignment
  - Papers, speeches, problem solutions, portfolios, clinical cases, etc.
  - Detailed description of performance standards
- Used to get consistent scores across all students
- Allows students to be aware of expectations for performance and consequently improve performance
  - Provide students with rubric at time of assignment

Advantages of a Rubric

- Create objectivity and consistency

- Clarify criteria in specific terms

- Show how work will be evaluated and expectations

- Promote student awareness

- Provide benchmarks

- Caution: challenge with multiple raters and inter-rater reliability

Types of Rubrics

- Holistic
  - Single score based on overall impression of work
  - Quick score
  - No detailed information
- Analytic
  - Specific feedback along several dimensions
  - Scoring more consistent across students and graders
  - More time consuming to score

Holistic vs. Analytic Rubrics

- Holistic rubric

Proficient- 3 points	The student's project has a hypothesis, a procedure, collected data, and analyzed results. The project is thorough and the findings are in agreement with the data collected. There may be minor inaccuracies that do not affect the quality of the project.
Adequate- 2 points	The student's project may have a hypothesis, a procedure, collected data, and analyzed results. The project is not as thorough as it could be; there are a few overlooked areas. The project has a few inaccuracies that affect the quality of the project.
Limited- 1 point	The student's project may have a hypothesis, a procedure, collected data, and analyzed results. The project has several inaccuracies that affect the quality of the project.

- Analytic rubric

Criteria	4 points	3 points	2 points	1 point
Has a plan for Investigation	The plan is thorough	The plan is lacking a few details	The plan is missing major details	The plan is incomplete and limited
Use of Materials	Manages all materials responsibly	Uses the materials responsibly most of the time	Mishandles some of the materials	Does not use materials properly
Collects the Data	Thorough collection	Some of the data	Major portions of the data are missing	The data collection consists of a few points

Essential Parts of a Rubric

- Task description (the assignment) or clear reference to where it can be found
  - Include descriptive title
- Scale
  - Levels of achievement (qualitative/quantitative)
  - Generally no more than five or six levels of performance
- Dimensions of the assignment (criteria)
  - Breakdown of the skills/knowledge involved in the assignment
  - Generally no more than seven dimensions
- Description of what constitutes each level of performance (standards)

Types of Scales

- Needs improvement … Satisfactory …Good … Exemplary

- Beginning … Developing … Accomplished … Exemplary

- Needs work … Good … Excellent

- Novice … Apprentice … Proficient … Distinguished

- Milestones: Knows … Knows how … Shows how … Does

- Numeric scale over some range (e.g., 1 to 5)

Steps in Developing a Rubric

- Define the assignment (topic, process, and product students are expected to produce)
- Determine and define key dimensions (criteria) of interest
- Decide on type of rubric
- Develop scoring scale
  - Define number of levels
  - Analytic scoring scale should be consistent across all key dimensions
- Establish detailed standards of performance for each dimension
  - Think of how you would describe low, middle, and high
  - Avoid comparative language

t Writing Rubric

Attribute	6	5	4	3	2	1	Points Earned	Comments
Ideas	The topic, focus, and supporting details make the report truly memorable. A great variety of sources is used.	The report is informative with a clear focus. Supporting details come from many sources.	The report is informative with a clear focus and supporting details, but a greater variety of sources is needed.	The focus of the report needs to be clearer. More supporting details are needed, and more types of sources should be used.	The topic needs to be narrowed or expanded. The report needs to show the research that was done.	A new topic needs to be selected, and research needs to be done.		
Organization	The organization makes the report very informative and makes sources easy to find.	The beginning is interesting. The middle supports the focus. The ending works well. Text citations are correct and match the works-cited page.	The report is divided into a beginning, a middle, and an ending. Some text citations are used. A works-cited page is included, and most entries are correctly formatted.	The beginning or ending is weak. The middle needs a paragraph for each main point. More citations should be used, and their form should be correct. The works-cited page needs to correctly list all sources cited in the report.	The beginning, middle, and ending all run together. Text citations and a works-cited page are needed.	The report should be reorganized.		
Voice	The voice sounds confident, knowledgeable, and enthusiastic. Quotations from other sources demonstrate strong understanding.	The voice sounds knowledgeable and confident, and sources are quoted appropriately.	The voice sounds well-informed most of the time. The report uses too many or too few quotations from other sources.	The voice sometimes sounds unsure. Some quotations from other sources are inappropriate or awkward.	The voice sounds unsure and needs to quote other sources.	The voice cannot be heard.		
Word Choice	The word choice makes the report very clear, informative, and enjoyable to read.	Specific nouns and action verbs make the report clear and informative. Unfamiliar terms are defined.	Some nouns and verbs could be more specific. Unfamiliar terms are defined.	Too many general words are used. Specific nouns and verbs are needed. Some words need to be defined.	General or missing words make this report hard to understand.	Many more specific words are needed.		
Sentence Fluency	The sentences flow smoothly and are enjoyable to read.	The sentences read smoothly. A variety of sentences is used.	Most of the sentences read smoothly, but more variety is needed.	Many short, choppy sentences need to be combined to make a better variety of sentences.	Many sentences are choppy or incomplete and need to be rewritten.	Most sentences need to be rewritten.		
Conventions	Punctuation and grammar are correct. Spelling is correct.	The report has a few minor errors in punctuation, spelling, or grammar.	The report has several errors in punctuation, spelling, or grammar.	Some errors are confusing.	Many errors make the report confusing and hard to read.	Help is needed to make corrections.		

Comments		
	Total Points	0
http://www.greatsource.com/iwrite/educators/e_rubrics.html	Possible Points	36
	Grade	**0.00%**

Report Writing Rubric

| Attribute	6	5	4
Ideas	The topic, focus, and supporting details make the report truly memorable. A great variety of sources is used.	The report is informative with a clear focus. Supporting details come from many sources.	The report is informative with a clear focus and supporting details, but a greater variety of sources is needed.
Organization	The organization makes the report very informative and makes sources easy to find.	The beginning is interesting. The middle supports the focus. The ending works well. Text citations are correct and match the works-cited page.	The report is divided into a beginning, a middle, and an ending. Some text citations are used. A works-cited page is included, and most entries are correctly formatted.
Voice	The voice sounds confident, knowledgeable, and enthusiastic. Quotations from other sources demonstrate strong understanding.	The voice sounds knowledgeable and confident, and sources are quoted appropriately.	The voice sounds well-informed most of the time. The report uses too many or too few quotations from other sources.

http://www.greatsource.com/iwrite/educators/e_rubrics.html

Example Rubric Results

	Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	Student 7	Student 8	Student 9	Student 10
Ideas	6	2	3	6	3	5	1	5	6	3
Organization	5	6	5	5	5	5	2	3	5	2
Voice	5	5	4	6	4	5	5	6	6	5
Word Choice	6	4	4	6	3	5	3	4	6	2
Sentence Fluency	3	2	2	3	2	2	1	2	4	2
Conventions	5	4	3	6	6	5	3	4	4	5

Example Outcome View
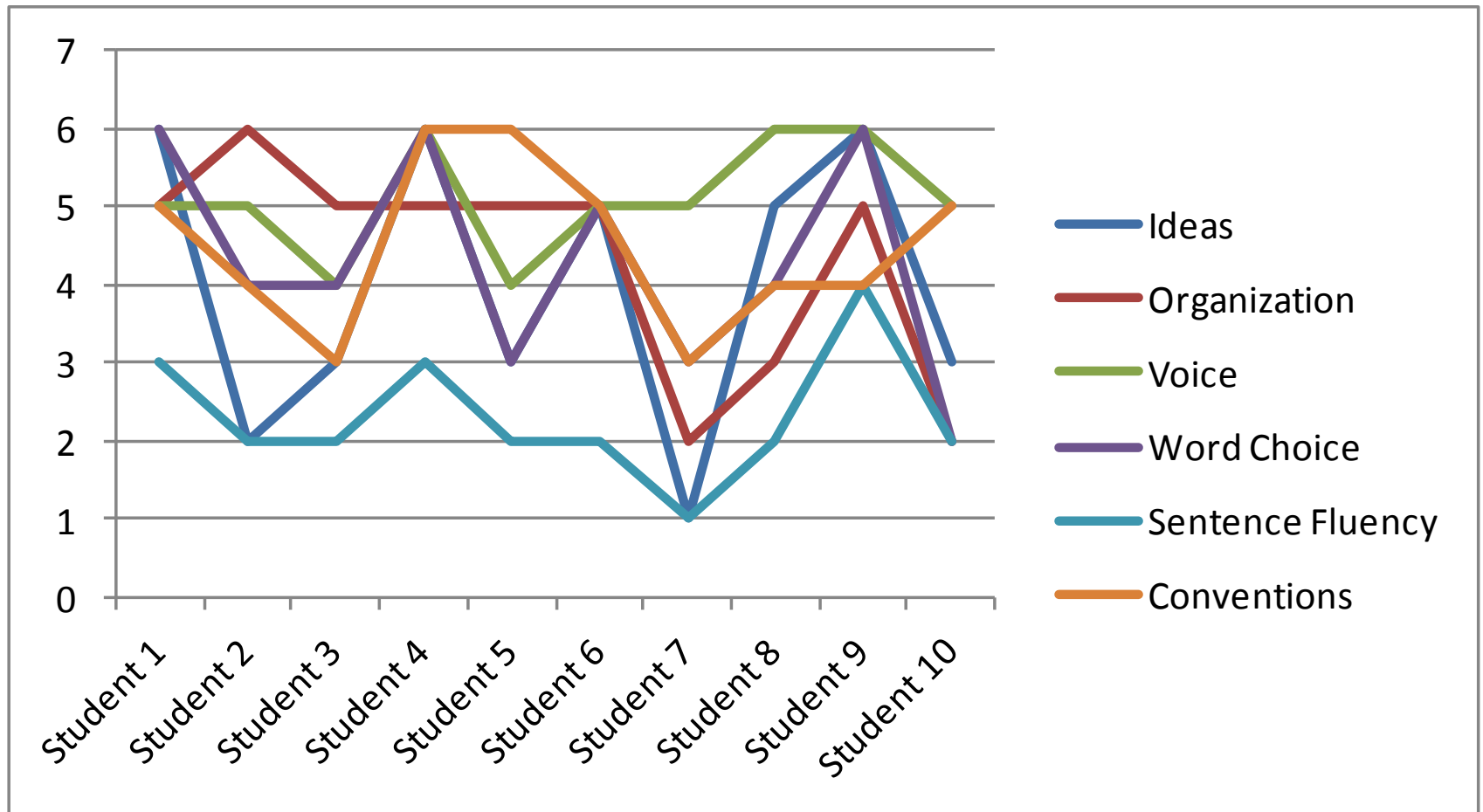
Example Student View
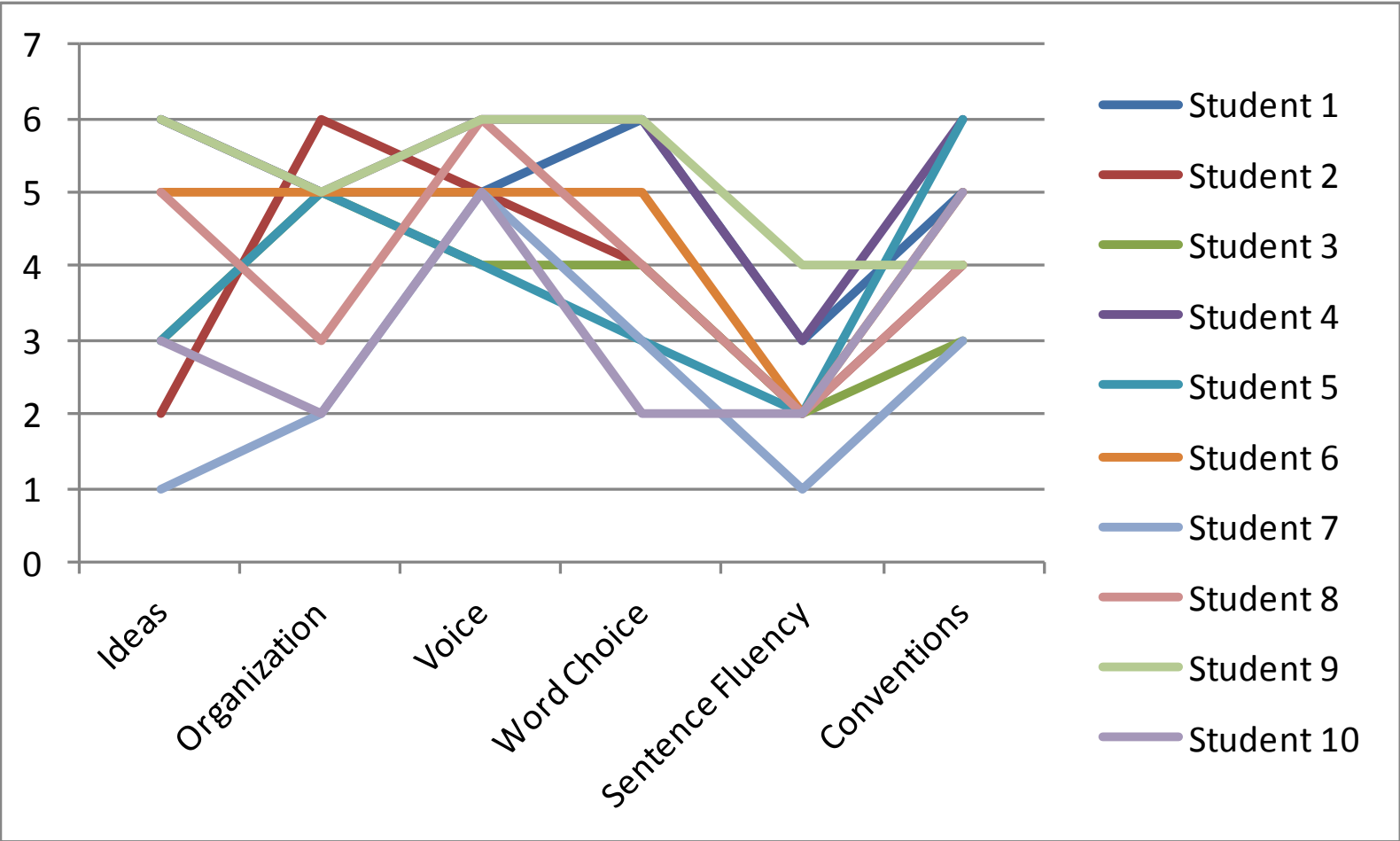
Portfolios

- Collection of student work for the purpose of demonstrating learning or showcasing best work
- Types
  - Growth—show student progress or growth over time
  - Presentation—show student's best work or final accomplishments
  - Evaluation—record student's achievement for grading or placement purposes
- Typically assessed using a rubric

Portfolio Pros and Cons

- Strengths of portfolios
  - Promotes student engagement
  - Documents change in performance over time
  - Assess student's work holistically
  - Student opportunity for reflection and evaluation of own work
  - Peer review possible
  - Flexible options that promote individualization
- Weaknesses of portfolios
  - More time required for planning and coordinating
  - Students may require more guidance from instructor
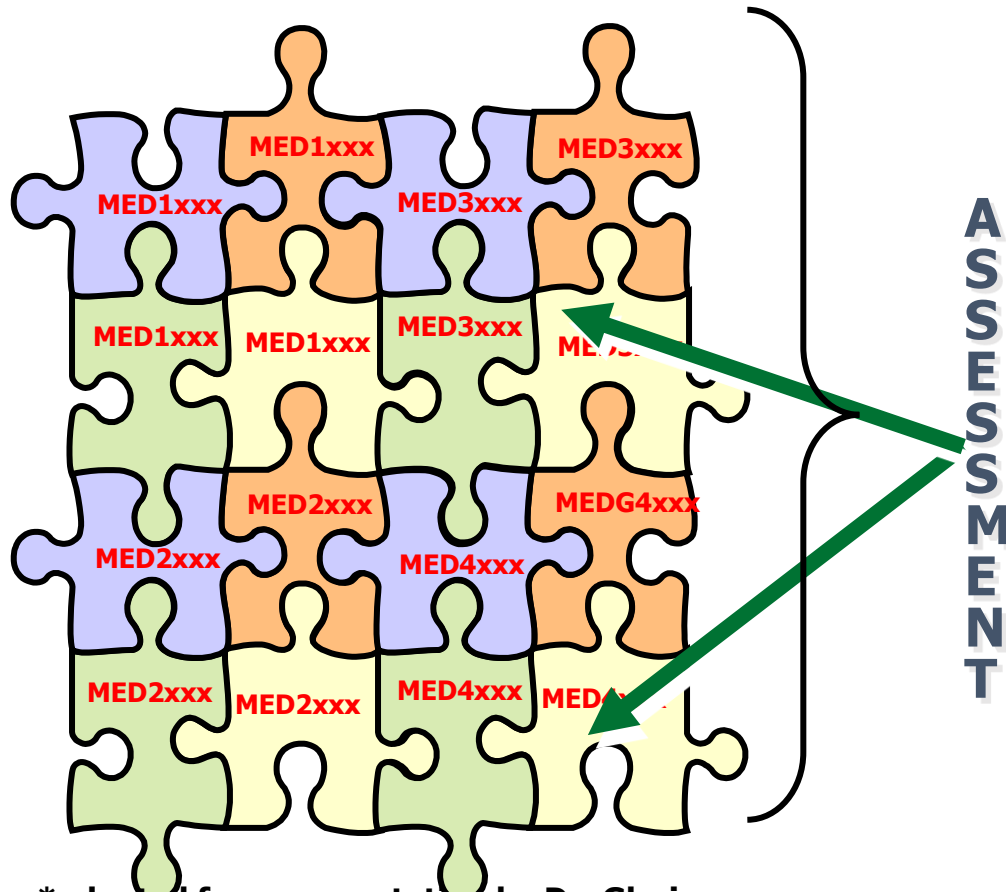 - Inappropriate for measuring student's factual knowledge

From Course Assessment to Program Assessment

- Individual course assessment
  - Involves assessment of all students
  - Assess student learning
  - Support assignment of grades
  - Identify areas for course improvement

- Program assessment
  - Uses same assessment processes and structure
  - Program outcomes developed as synthesis of course outcomes
  - Assessment may be conducted at completion of program or at intermediate points
  - Assessment frequently conducted in selected courses, often a sample

Your Course Is Part of Program

Courses in the Curriculum

MED1xxx, MED1xxx, MED3xxx, MED3xxx, MED1xxx, MED1xxx, MED3xxx, MED2xxx, MED2xxx, MED2xxx, MED4xxx, MEDG4xxx, MED2xxx, MED2xxx, MED4xxx, MED4xxx

ASSESSMENT

Program Learning Outcomes

- Oral communication
- Written communication
- Teamwork skills
- Clinical skills
- Ethics
- Discipline knowledge
- Professional skills
- Performance skills
- Critical Thinking

*adapted from presentation by Dr. Gloria Rogers

Program Assessment Questions for Consideration

- What student learning outcomes have been identified in the program courses?

- How do those student learning outcomes relate to the program student learning outcomes?

- Are there particular courses where there is a focused assessment on major program learning outcomes?

- Are there particular courses where these assessments are conducted near the end of the student's program of study?

- Are there intermediate courses in a program of study where assessments could identify progress toward competency in a program student learning outcome?

Curriculum Map Can Be Useful to Identify Program Assessment Points

Learning Outcome	Course 1234	Course 2345	Course 3456	Capstone
Application of theory	**Introduced** **Assess**	**Emphasized**	**Emphasized** **Assess**	**Reinforced** **Assess**
Skills and knowledge		**Introduced**	**Emphasized** **Assess**	**Reinforced** **Assess**
Communication skills		**Introduced**		**Emphasized** **Assess**

Resource Links

- Test Blueprint
    - http://www.uis.unesco.org/Education/Documents/National_assessment_Vol2.pdf
    - http://www.aspiringminds.in/researchcell/articles/how_to_create_test_blueprint.html
- Rubrics
    - http://ctl.utexas.edu/assets/Evaluation--Assessment/Using-Rubrics-to-Grade-Student-Performance-10-15-07.pdf
    - http://ctl.utexas.edu/
- Portfolios
    - http://www.utexas.edu/academic/ctl/assessment/iar/students/plan/method/portfolios.php

Other Resources

- Internet Resources for Higher Education Outcomes Assessment
  - http://www2.acs.ncsu.edu/upa/assmt/resource.htm
- UCF Operational Excellence and Assessment Support Office
  - http://www.assessment.ucf.edu/

Summary

- Course-level assessment can help students understand how to improve their learning
  - Where the student is doing well
  - Where learning needs to be improved
- Course-level assessment can help you determine how to improve your courses and assessment instruments
  - Consider use of test blueprints, item analysis, rubrics, and portfolios to better define and measure expected student learning outcomes
- Course-level assessment results can be used to assess the overall program
  - What the students' knowledge, skills, attitudes, and behaviors are at the end of the program

Summary: Potential To Do's

- Re-examine how your course fits into the overall program
- Re-examine your course's student learning outcomes and how they may contribute to program assessment
- Formalize your course's assessment plan
- Try test blueprinting to better construct the exams and evaluate the learning
- Try using item analysis concepts with one of your exams
- Try creating an analytic rubric for grading an assignment
- Try to collect more detailed data (expanded gradebook) on student performance on exams and assignments (performance broken down by learning outcome)

Questions and Discussion

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