Taking it to the Next Level: Measuring Graduate Learning Outcomes



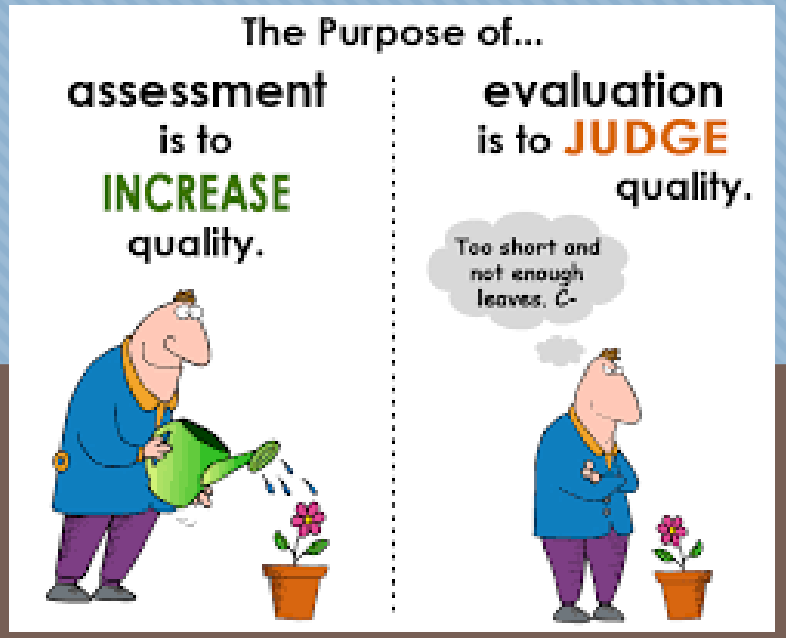
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Workshop Learning Goals

- By the end of this workshop participants will be able to:
  - Differentiate between undergraduate and graduate Program Learning Outcomes.
  - Select a variety of indirect and direct assessment measures to assess graduate outcomes.
  - Formulate a graduate program assessment plan.

Why is assessment important?



- Improve student learning and success
  - Provide faculty and students with useful information about student learning and progress
- Data-driven *culture of evidence* instead of anecdotes and opinions to inform curriculum revision
- Communicate the value of the program to our students and the public
- Program review and WASC Accreditation

The Assessment Cycle



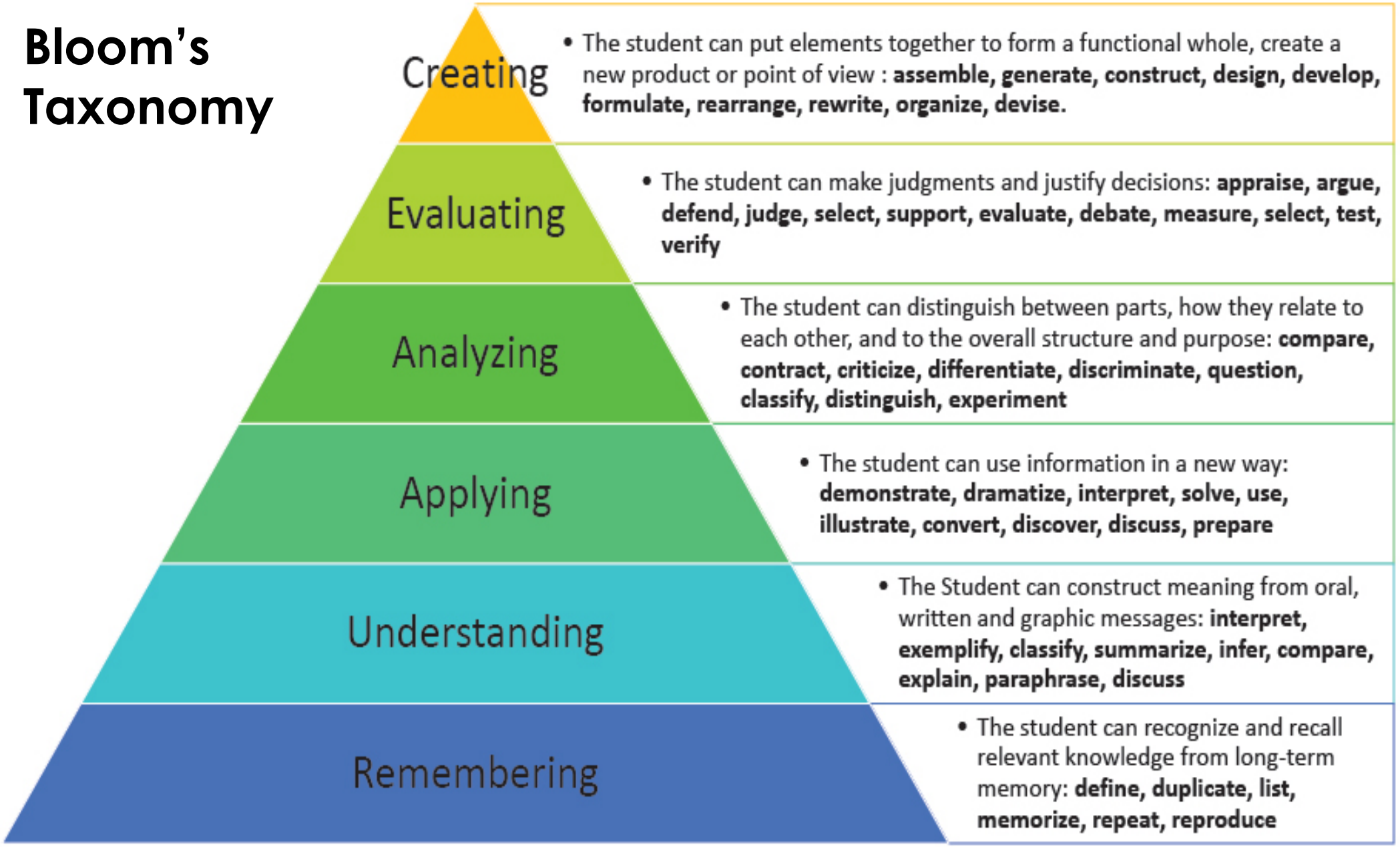
Articulating Graduate Learning Outcomes

Differentiating Undergraduate and Graduate Expectations



- See Chancellor's Office Definitions of Graduate Instruction in the CSU.
- The graduate course deals with more complex ideas, materials, techniques or problems than the undergraduate course, and demands searching and exhaustive analysis.
- The graduate course requires:
  - The identification and investigation of theory or principle.
  - The application of theory to new ideas, problems, and materials.
  - Extensive use of bibliographic and other resource materials with emphasis on primary sources of data.
  - Demonstration of competence in the scholarly presentation of the results of independent study.
- Satisfactory completion of a graduate course requires more creative thinking than an upper division course.

Bloom's Taxonomy



Graduate Learning Outcomes Proposed by Cal State LA Graduate Subcommittee (tentative, not approved by Senate)

- **Specialized Knowledge**
  - Articulates the major theories, research methods, and approaches to inquiry and schools of practice in the field of study; evaluates their sources and illustrates their applications through projects, papers, exhibits, or performances.
- **Broad, Integrative Knowledge**
  - Investigates how the field of study has developed in relation to other major domains of inquiry and practice; and assesses the implications of the resulting advantages, challenges, and trends in a social or global context.
- **Intellectual Skills:**
  - Critiques and synthesizes the assumptions, conventions, and diverse perspectives appropriate to the field of study. (Analytical Inquiry)
  - Frames and examines a controversy or problem via research, project, paper, or performance in the field of study. (Analytical Inquiry)
  - Applies, articulates, and challenges traditions, assumptions, or prevailing practices in the field of study using ethical reasoning in the discipline. (Ethical Reasoning)
  - Critically examines the power and limitations of quantitative evidence in the evaluation, construction, and communication of arguments, in their field of study. (Quantitative Fluency)
  - Demonstrates communicative fluency and information literacy appropriate to their field of study through skillful translation across multiple expressive modes, such as oral, written, or digital forms of communication. (Quantitative Fluency)
- **Civic and Global Learning**
  - Articulates or demonstrates how advancing knowledge in their field of study contributes to the public good.

Degree Specification using the DQP

- The **Degree Qualifications Profile** (DQP) outlines a set of reference points for what students should know and be able to do upon completion of associate, bachelor's and master's degrees – in any field of study.
  - There are five broad categories of proficiencies which provide a profile of what degrees mean in terms of specific learning outcomes.
  - Through focusing on broad areas of learning and the application of that learning, the DQP illustrates progressively challenging performance expectations for all students.

Degree Qualifications Profile (DQP)

1

Specialized Knowledge

This category addresses what students in *any* specialization or major field of study should demonstrate with respect to that specialization. Tuning, a field-specific effort to map learning outcomes, is necessary to describe the concepts, knowledge areas and accomplishments that students in a *particular* specialization should demonstrate to earn the degree.

At the associate level, the student	**At the bachelor's level,** the student	**At the master's level,** the student
Describes the scope of the field of study, its core theories and practices, using field-related terminology, and offers a similar description of at least one related field. Applies tools, technologies and methods common to the field of study to selected questions or problems. Generates substantially error-free products, reconstructions, data, juried exhibits or performances appropriate to the field of study.	Defines and explains the structure, styles and practices of the field of study using its tools, technologies, methods and specialized terms. Investigates a familiar but complex problem in the field of study by assembling, arranging and reformulating ideas, concepts, designs and techniques. Frames, clarifies and evaluates a complex challenge that bridges the field of study and one other field, using theories, tools, methods and scholarship from those fields to produce independently or collaboratively an investigative, creative or practical work illuminating that challenge. Constructs a summative project, paper, performance or application that draws on current research, scholarship and techniques in the field of study.	Elucidates the major theories, research methods and approaches to inquiry and schools of practice in the field of study, articulates their sources and illustrates both their applications and their relationships to allied fields of study. Assesses the contributions of major figures and organizations in the field of study, describes its major methodologies and practices and illustrates them through projects, papers, exhibits or performances. Articulates significant challenges involved in practicing the field of study, elucidates its leading edges and explores the current limits of theory, knowledge and practice through a project that lies outside conventional boundaries.

DQP cont.

2

Broad and Integrative Knowledge

This category asks students at all three degree levels to consolidate learning from different broad fields of study (e.g., the humanities, arts, sciences and social sciences) and to discover and explore concepts and questions that bridge these essential areas of learning.

At the associate level, the student	**At the bachelor's level,** the student	**At the master's level,** the student
Describes how existing knowledge or practice is advanced, tested and revised in each core field studied — e.g., disciplinary and interdisciplinary courses in the sciences, social sciences, humanities and arts. Describes a key debate or problem relevant to each core field studied, explains the significance of the debate or problem to the wider society and shows how concepts from the core field can be used to address the selected debates or problems. Uses recognized methods of each core field studied, including the gathering and evaluation of evidence, in the execution of analytical, practical or creative tasks. Describes and evaluates the ways in which at least two fields of study define, address and interpret the importance for society of a problem in science, the arts, society, human services, economic life or technology.	Describes and evaluates the ways in which at least two fields of study define, address and interpret the importance for society of a problem in science, the arts, society, human services, economic life or technology. Explains how the methods of inquiry in these fields can address the challenge and proposes an approach to the problem that draws on these fields. Produces an investigative, creative or practical work that draws on specific theories, tools and methods from at least two core fields of study. Defines and frames a problem important to the major field of study, justifies the significance of the challenge or problem in a wider societal context, explains how methods from the primary field of study and one or more core fields of study can be used to address the problem, and develops an approach that draws on both the major and core fields.	Articulates how the field of study has developed in relation to other major domains of inquiry and practice. Designs and executes an applied, investigative or creative work that draws on the perspectives and methods of other fields of study and assesses the resulting advantages and challenges of including these perspectives and methods. Articulates and defends the significance and implications of the work in the primary field of study in terms of challenges and trends in a social or global context.

DQP cont.

3

Intellectual Skills

This category includes both traditional and nontraditional cognitive skills: analytic inquiry, use of information resources, engaging diverse perspectives, ethical reasoning, quantitative fluency and communicative fluency. Throughout, the DQP emphasizes that students should confront and interpret ideas and arguments from different points of reference (e.g., cultural, technological, political).

	At the associate level, the student	**At the bachelor's level,** the student	**At the master's level,** the student
Analytic inquiry	Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.	Differentiates and evaluates theories and approaches to selected complex problems within the chosen field of study and at least one other field.	Disaggregates, reformulates and adapts principal ideas, techniques or methods at the forefront of the field of study in carrying out an essay or project.
Use of information resources	Identifies, categorizes, evaluates and cites multiple information resources so as to create projects, papers or performances in either a specialized field of study or with respect to a general theme within the arts and sciences.	Locates, evaluates, incorporates and properly cites multiple information resources in different media or different languages in projects, papers or performances. Generates information through independent or collaborative inquiry and uses that information in a project, paper or performance.	Provides evidence (through papers, projects, notebooks, computer files or catalogues) of contributing to, expanding, evaluating or refining the information base within the field of study.
Engaging diverse perspectives	Describes how knowledge from different cultural perspectives might affect interpretations of prominent problems in politics, society, the arts and global relations. Describes, explains and evaluates the sources of his/her own perspective on selected issues in culture, society, politics, the arts or global relations and compares that perspective with other views.	Constructs a written project, laboratory report, exhibit, performance or community service design expressing an alternate cultural, political or technological vision and explains how this vision differs from current realities. Frames a controversy or problem within the field of study in terms of at least two political, cultural, historical or technological forces, explores and evaluates competing perspectives on the controversy or problem, and presents a reasoned analysis of the issue, either orally or in writing, that demonstrates consideration of the competing views.	Investigates through a project, paper or performance a core issue in the field of study from the perspective of a different point in time or a different culture, language, political order or technological context and explains how this perspective yields results that depart from current norms, dominant cultural assumptions or technologies.

DQP cont.

Ethical reasoning	Describes the ethical issues present in prominent problems in politics, economics, health care, technology or the arts and shows how ethical principles or frameworks help to inform decision making with respect to such problems.	Analyzes competing claims from a recent discovery, scientific contention or technical practice with respect to benefits and harms to those affected, articulates the ethical dilemmas inherent in the tension of benefits and harms, and either (a) arrives at a clearly expressed reconciliation of that tension that is informed by ethical principles or (b) explains why such a reconciliation cannot be accomplished. Identifies and elaborates key ethical issues present in at least one prominent social or cultural problem, articulates the ways in which at least two differing ethical perspectives influence decision making concerning those problems, and develops and defends an approach to address the ethical issue productively.	Articulates and challenges a tradition, assumption or prevailing practice within the field of study by raising and examining relevant ethical perspectives through a project, paper or performance. Distinguishes human activities and judgments particularly subject to ethical reasoning from those less subject to ethical reasoning.
Quantitative fluency	Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. Creates and explains graphs or other visual depictions of trends, relationships or changes in status.	Translates verbal problems into mathematical algorithms so as to construct valid arguments using the accepted symbolic system of mathematical reasoning and presents the resulting calculations, estimates, risk analyses or quantitative evaluations of public information in papers, projects or multimedia presentations. Constructs mathematical expressions where appropriate for issues initially described in non-quantitative terms.	Uses logical, mathematical or statistical methods appropriate to addressing a topic or issue in a primary field that is not for the most part quantitatively based. ***or*** Articulates and undertakes multiple appropriate applications of quantitative methods, concepts and theories in a field of study that is quantitatively based. Identifies, chooses and defends the choice of a mathematical model appropriate to a problem in the social sciences or applied sciences.
Communicative fluency	Develops and presents cogent, coherent and substantially error-free writing for communication to general and specialized audiences. Demonstrates effective interactive communication through discussion, i.e., by listening actively and responding constructively and through structured oral presentations to general and specialized audiences. Negotiates with peers an action plan for a practical task and communicates the results of the negotiation either orally or in writing.	Constructs sustained, coherent arguments, narratives or explications of issues, problems or technical issues and processes, in writing and at least one other medium, to general and specific audiences. Conducts an inquiry concerning information, conditions, technologies or practices in the field of study that makes substantive use of non-English-language sources. Negotiates with one or more collaborators to advance an oral argument or articulate an approach to resolving a social, personal or ethical dilemma.	Creates sustained, coherent arguments or explanations summarizing his/her work or that of collaborators in two or more media or languages for both general and specialized audiences.

DQP cont.

4

Applied and Collaborative Learning

This category emphasizes what students can *do* with what they know. Students are asked to demonstrate their learning by addressing unscripted problems in scholarly inquiry, at work and in other settings outside the classroom. This category includes research and creative activities involving both individual and group effort and may include practical skills crucial to the application of expertise.

At the associate level, the student	**At the bachelor's level,** the student	**At the master's level,** the student
Describes in writing at least one case in which knowledge and skills acquired in academic settings may be applied to a field-based challenge, and evaluates the learning gained from the application. Analyzes at least one significant concept or method in the field of study in light of learning outside the classroom. Locates, gathers and organizes evidence regarding a question in a field-based venue beyond formal academic study and offers alternate approaches to answering it. Demonstrates the exercise of any practical skills crucial to the application of expertise.	Prepares and presents a project, paper, exhibit, performance or other appropriate demonstration linking knowledge or skills acquired in work, community or research activities with knowledge acquired in one or more fields of study, explains how those elements are structured, and employs appropriate citations to demonstrate the relationship of the product to literature in the field. Negotiates a strategy for group research or performance, documents the strategy so that others may understand it, implements the strategy, and communicates the results. Writes a design, review or illustrative application for an analysis or case study in a scientific, technical, economic, business, health, education or communications context. Completes a substantial project that evaluates a significant question in the student's field of study, including an analytic narrative of the effects of learning outside the classroom on the research or practical skills employed in executing the project.	Creates a project, paper, exhibit, performance or other appropriate demonstration reflecting the integration of knowledge acquired in practicum, work, community or research activities with knowledge and skills gleaned from at least two fields of study in different segments of the curriculum. Articulates the ways in which the two sources of knowledge influenced the result. Designs and implements a project or performance in an out-of-class setting that requires the application of advanced knowledge gained in the field of study to a practical challenge, articulates in writing or another medium the insights gained from this experience, and assesses (with appropriate citations) approaches, scholarly debates or standards for professional performance applicable to the challenge.

DQP cont.

5

Civic and Global Learning

This category recognizes higher education's responsibilities both to democracy and the global community. Students must demonstrate integration of their knowledge and skills by engaging with and responding to civic, social, environmental and economic challenges at local, national and global levels.

At the associate level, the student	**At the bachelor's level,** the student	**At the master's level,** the student
Describes his/her own civic and cultural background, including its origins and development, assumptions and predispositions. Describes diverse positions, historical and contemporary, on selected democratic values or practices, and presents his or her own position on a specific problem where one or more of these values or practices are involved. Provides evidence of participation in a community project through either a spoken or written narrative that identifies the civic issues encountered and personal insights gained from this experience. Identifies an economic, environmental or public health challenge spanning countries, continents or cultures, presents evidence for the challenge, and takes a position on it.	Explains diverse positions, including those representing different cultural, economic and geographic interests, on a contested public issue, and evaluates the issue in light of both those interests and evidence drawn from journalism and scholarship. Develops and justifies a position on a public issue and relates this position to alternate views held by the public or within the policy environment. Collaborates with others in developing and implementing an approach to a civic issue, evaluates the strengths and weaknesses of the process, and, where applicable, describes the result. Identifies a significant issue affecting countries, continents or cultures, presents quantitative evidence of that challenge through tables and graphs, and evaluates the activities of either non-governmental organizations or cooperative inter-governmental initiatives in addressing that issue.	Assesses and develops a position on a public policy question with significance in the field of study, taking into account both scholarship and published or electronically posted positions and narratives of relevant interest groups. Develops a formal proposal, real or hypothetical, to a non-governmental organization addressing a global challenge in the field of study that the student believes has not been adequately addressed. Proposes a path to resolution of a problem in the field of study that is complicated by competing national interests or by rival interests within a nation other than the U.S.

Using the DQP for Tuning

- **Tuning** is the collaborative process of coming together to define core competencies expected of students studying a particular discipline

- **Activity #1:** Look at the degree specification rubrics and worksheet.
  - How can you use these help you to differentiate expectations for the Bachelor's and Master's degrees?
  - How could you involve the other faculty in the tuning process?

Assessment Methods

Indirect Methods of Assessment

- Graduation or completion rates
- Placement rates
- Student, employer, alumni, and faculty surveys
- Student focus groups
- Exit (end of program) survey or interviews
- Reflection essays
- Self-ratings
- Diaries or journals
- Data from institutional surveys (NSSE)
- Curriculum/syllabus analysis
- Checklists

Direct Methods of Assessment

- Capstone products, theses, dissertations
- Comprehensive exams
- Pass rates on certification or licensure exams
- Oral exams or competency interviews
- Portfolios
- Off-campus professional presentations (for clients, agencies, etc.)
- Case studies
- Artistic performances, recitals, & products
- Field evaluations (supervisor or instructor)
- Published (standardized) test (e.g., Major Field Test)

Direct Methods of Assessment: Class-based

- Term papers or projects
- Oral or poster presentations
- Simulations
- Embedded questions in course exams

Assessing the Culminating Experience

Using Rubrics for Direct Assessment of Learning Outcomes

- Why use rubrics?
  - Chance for faculty to explicitly articulate and specify criteria for evaluating student learning
  - Student work can be scored to examine for which skills are they meeting expectations and which need improvement

Creating a Rubric

Scale

Dimensions	1 - Does not meet expectations	2 - Meets expectations	3 - Exceeds expectations	Comments (Descriptions)
Listens effectively ☐	What does this look like?	What does this look like?	What does this look like?	
Writes in a professional manner ☐	What does this look like?	What does this look like?	What does this look like?	
Speaks clearly and concisely ☐	What does this look like?	What does this look like?	What does this look like?	
Total:				

Thesis Rubric Example 1

Assessment Criteria	4=Exceptional	3=Strong	2=Marginal	1=Unacceptable
PART I: Written Defense Draft				
1. Mastery of fundamental knowledge in the field	Consistently applies fundamental and advanced concepts to topics in subject area.	Frequently applies fundamental and some advanced concepts to topics in subject area.	Somewhat applies fundamental concepts to topics in subject area.	Does not apply fundamental concepts to topics in subject area.
2. Ability to access and integrate information into a cohesive overview of current knowledge; ability to critically evaluate the meaning, value, and contribution of published literature in the field	Command and understanding of the current research literature in the field.	Relates and understands the current research literature in the field.	Aware of the research literature in the field.	Knowledge is unrelated to the current research literature in the field.
3. Imagination and originality of thought	Problem/purpose of study very creative or original with new and innovative ideas; Explored original topic and discovered new outcomes.	Problem/purpose of study original or creative; Design/approach appropriate or innovative.	Problem/purpose of study moderately original or creative; Design/ approach moderately appropriate or innovative.	Problem/purpose of study lacked creativity or not new; Duplication of previous work.
4. Ability to design and implement an appropriate collection and analysis of data or ability to articulate a critical response to dramatic or artistic theory, literature, design and	Data interpretation is appropriate and creatively uses correct methodology; identifies weaknesses in interpretation; Demon-	Data interpretation is appropriate and uses many correct methodology; identifies some weaknesses in interpretation	Data interpretation is appropriate and uses limited number of correct methodology; identifies no weaknesses in	Data interpretation is inappropriate and/or uses incorrect methodology; identifies no weaknesses in interpretation Demonstrates a lack of

Thesis Rubric Example 2

	1. Deficient	2. Acceptable	3. Proficient	4. Exemplary
Communications Skills: *The ability to express oneself clearly, accurately, and professionally in both oral and written form.*				
Level of communications skills reflected in the thesis/report.	__ Reflects unacceptable ability to express oneself clearly, accurately and professionally in writing.	__ Reflects acceptable ability to express oneself clearly, accurately and professionally in writing.	__ Reflects above average ability to express oneself clearly, accurately and professionally in writing.	__ Reflects outstanding ability to express oneself clearly, accurately and professionally in writing.
Level of skill reflected in oral defense.	__ Reflects unacceptable ability to orally express oneself clearly, accurately and professionally.	__ Reflects acceptable ability to orally express oneself clearly, accurately and professionally.	__ Reflects above average ability to orally express oneself clearly, accurately and professionally.	__ Reflects outstanding ability to orally express oneself clearly, accurately and professionally.
Attitudes and Professional Conduct: *The ability to engage in professional conduct, integrity, and ethical behavior.*				
Level of attitude and professionalism reflected in the examination.	__ Does not honor the needs and best interests of the profession or demonstrate a pattern of professional behavior. {absence, tardiness, failure to complete tasks, or academic dishonesty.	__ Reflects acceptable ability to honor the needs and best interests of the profession or demonstrate a pattern of professional behavior such as promptness, task completion, maintaining confidentiality, and academic honesty.	__ Consistently and appropriately honors the needs and best interests of the profession demonstrating a pattern of professional behavior such as promptness, task completion, maintaining confidentiality, and academic honesty.	__ Consistently and appropriately honors the needs and best interests of the profession demonstrating a pattern of professional behavior while actively seeks or leads opportunities to select or create appropriate new forums to become involved the profession.

Exercise #2: Assessing Graduate Outcomes in the Culminating Experience

- For culminating experience options:
  - What are the learning outcomes measured?
  - On what basis is it decided if performance is satisfactory?
  - Do faculty (outside of the committee) regularly discuss student performance?
  - How could you use a rubric to aid in the assessment of student performance?
    - If you already use a rubric, how could the rubric or procedure be improved upon?

Assessment at Key Transition Points

Formative vs. Summative Assessment

- Formative assessment:
  - takes place during the learning process
  - gauges student progress
  - allows for modification of teaching and learning activities
  - e.g., quizzes, field ratings, student reflections
- Summative assessment:
  - evaluate student learning at the end of an instructional unit
  - compares student performance against some standard or benchmark
  - tend to be high stakes
  - e.g., papers, exams, projects

Combining Formative and Summative Assessment in Graduate Programs

- Assessing outcomes only at the culminating experience doesn't allow students and faculty to monitor progress
- Are there transition points within the program (e.g., admission, completion, completion of a field experience) that lend themselves to assessing student learning?
  - Faculty, students, field supervisors, etc. can all play a role in providing useful assessment and feedback

Example- Assessment of Dispositions in CCOE's Los Angeles Urban Teaching Residency Program (LAUTR)

- **RT360 Formative Framework**
  - Integrates 360 degrees of dispositional data from online surveys into systematic reflection between residents and support providers about strengths, needs, areas for improvement, and action plan generation
  - Culminates in two-levels of facilitated debrief meetings (Residents and LAUTR Faculty and Staff)
  - Generates "actionable goals" for resident growth
  - Actionable plans for growth implemented collaboratively by residents and mentors in the field

Dispositions Assessed with RT360



Sampling of RT360 Items

- Diversity and Social Justice
  - **14-1 - Demonstrated unbiased treatment of students**
  - **14-2 - Honored and acknowledged diversity among students**
  - **14-3 - Effectively built upon students' backgrounds**
  - **14-4 - Views diversity as an asset which enhances student knowledge**

Sample Open-Ended Responses

- Resident
  - It took me some time to get to know the students, their backgrounds and interests. I have some good ideas as to how can incorporate social justice themes into my teaching though I didn't always feel comfortable doing so. There were some aspects of the content material that I struggled with connecting to social justice themes (e.g. photosynthesis and cellular respiration).
- Mentor
  - The Resident has participated in several Restorative Justice Circles. S/he greets students on a daily basis. S/he will ask students how they are doing.
- Supervisor
  - S/He has articulated that he desires to have more opportunities to engage in social justice work within the classroom and is finding the right opportunities to express this desire with his mentor.

Curriculum Mapping

PLO	4950	4910	5040	5150 or 5910	Elective 1	Elective 2	Elective 3	Elective 4
1 Knowl	I		I		P/D	P/D	M	M
2 Skills		I	P/D	M				
3 Comm	I	I	P/D	M	P/D	P/D	M	M
4 Prof	I		M	P/D				

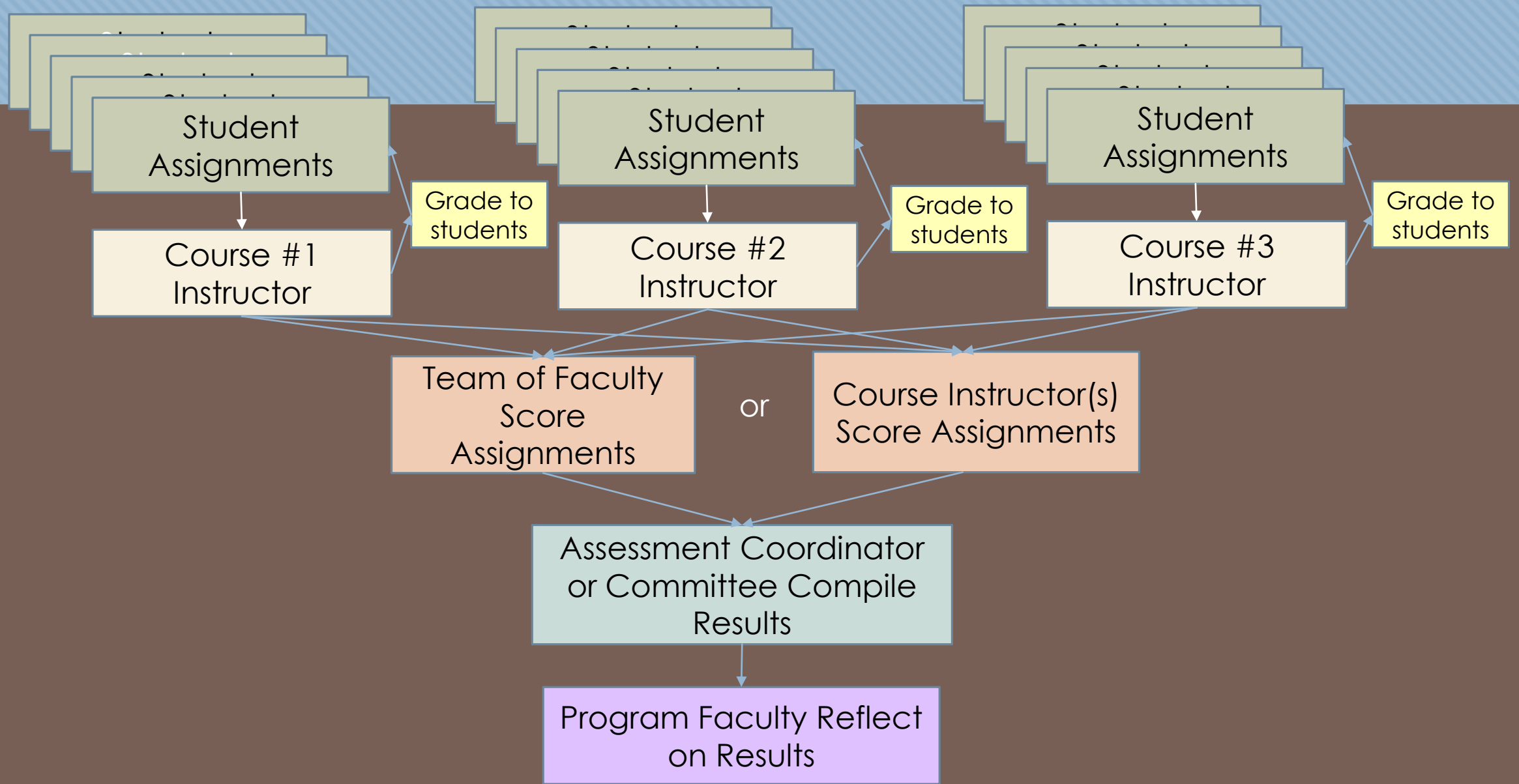
- Identify which PLOs will be Introduced (I), Practiced/Developed (P/D), and Mastered (M) across the curriculum

Assessment across the Curriculum

PLO	4950	4910	5040	5150 or 5910	Elective 1	Elective 2	Elective 3	Elective 4
1 Knowl	I							M
2 Skills		I	P/D	M				
3 Comm	I		P/D					M
4 Prof	I		M					

- Identify where you will collect assessment evidence for analysis at the program-level

Gathering Evidence in Multiple Courses



Assessment Resources

- National Institute for Learning Outcomes Assessment (NILOA)
- Degree Qualifications Profile (DQP)
- Association of American Colleges and Universities (AAC&U) VALUE rubrics
  - ***Intellectual and Practical Skills, including***
    - Inquiry and analysis
    - Critical thinking, creative thinking
    - Written communication, oral communication
    - Quantitative literacy, information literacy
    - Teamwork, problem solving
  - ***Personal and Social Responsibility, including***
    - Civic knowledge and engagement—local and global
    - Intercultural knowledge and competence
    - Ethical reasoning and action
    - Foundations and skills for lifelong learning

Exercise #3: Assessing at Transition Points

- Are there transition points within the program (e.g. admission, completion, completion of a field experience) that lend themselves to assessing student learning?
- Does your program have a practical field experience component? If so, what is the purpose of that component? How can assessment take place in those experiences?

Comprehensive Assessment Plan

PLO	Course(s) where PLO is assessed	Assessment activity/ assignment used to measure PLO	Assessment tool used to measure outcome success	Criteria/benchmark	Assessment schedule – how often SLOs will be assessed	Designated personnel to collect, analyze, and interpret student learning outcome data	Program data/ findings dissemination plan	Possible actions based on results
		Oral pres., written exam, essay, etc.	Rubric or other scoring system	Specify benchmark performance for students in program	Collect in classes & analyze every other year, etc.	Committee, instructors, etc.	How will the results be shared/discussed?	What actions could results inform?

Example: Engineering

PLO	Course	Activity	Assessment Tool	Benchmark	Schedule	Personnel	Program dissemination plan	Possible actions
B1. Ability to effectively collect and present data	ME 5150 (Thermal Lab)	Lab report	Rubrics in lab report	90% meet or exceed standard	Spring 1st year	Instructor	Committee compiles results and presents at fall faculty meeting	Changes in courses, increased opportunities for practice, feedback to students, etc.
B2. Ability to clearly analyze and interpret results	ME 5060 (Heat Transfer)	Lab report	Rubrics in lab report		Spring 1st year	Instructor		
B3. Ability to develop a proper testing and/or data collection process as appropriate to the project.	ME 5972 (Design II)	Final Project Report	Rubrics in project report		Spring 2nd year	Instructor and faculty advisor		
B4. Ability to design and conduct experiments and/or data analysis to verify design analysis.	ME 5972 (Design II)	Project presentation	Rubrics in design presentation survey		Spring 2nd year	Instructor and faculty advisor		

Closing the Loop: Strategies for Effective Use of Assessment Results

- Present results at department meetings or retreats to stimulating faculty discussion on student learning and pedagogy
- You might also:
  - Present results to student groups or within key classes to engage students in their own learning
  - Report results on the website to demonstrate student achievement or raise awareness of learning goals
  - Seek input from alumni or employers to improve practices

Next Steps

- What have you learned today that you want to share with others in your department?

- Write down 1-3 you can do **this semester** to keep your assessment momentum going?