Measuring Core Competencies in Graduate Programs

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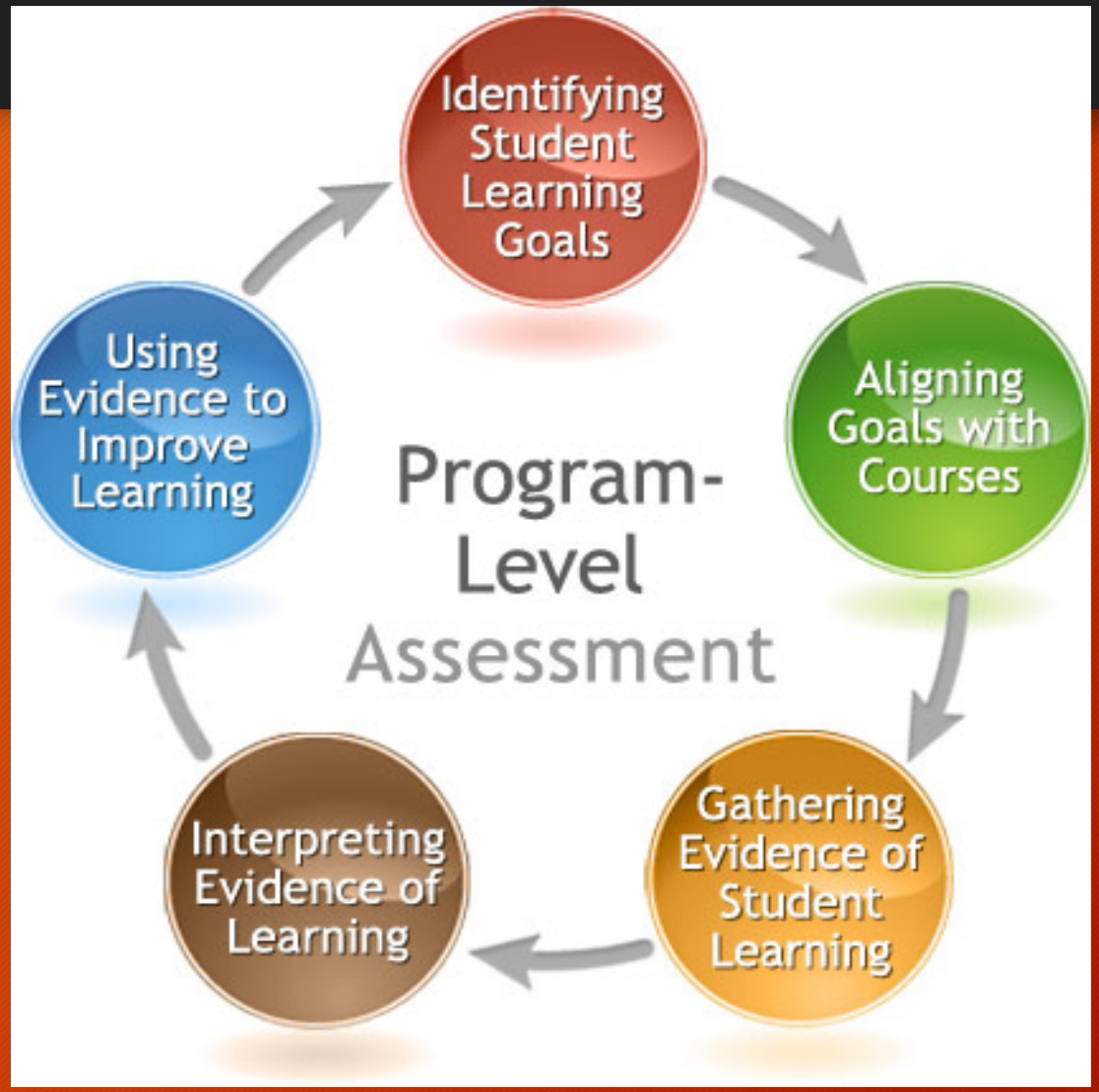
Workshop Learning Goals

- By the end of this workshop participants will be able to:
  - Differentiate between undergraduate and graduate learning outcome expectations for the Big 5 core competencies.
  - Select assignments that can be used to assess core competencies in graduate programs.
  - Formulate a graduate program assessment plan for core competencies.

The Assessment Cycle



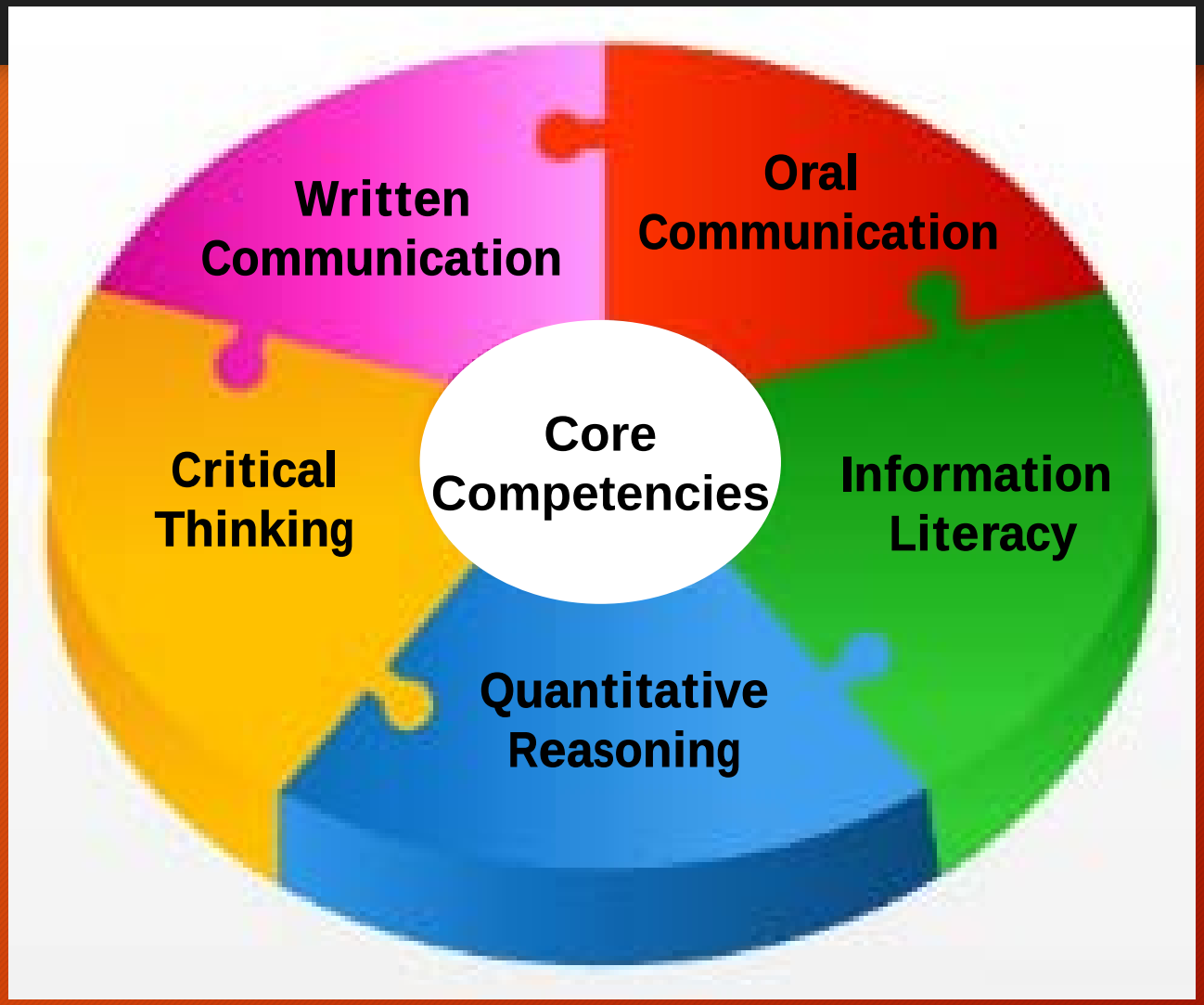
What are core competencies?

Which competencies are essential for professional success?

MBA Program Competencies

Biomedical Science Competencies

WSCUC's Big 5 Undergraduate Core Competencies



WASC Senior College and University Commission (WSCUC)

- In the *2013 Handbook of Accreditation*, Criteria for Review 2.2a states:
  - Baccalaureate programs engage students in an integrated course of study of sufficient breadth and depth to prepare them for work, citizenship, and life-long learning. These programs ensure the development of core competencies including, but not limited to, **written and oral communication, quantitative reasoning, information literacy, and critical thinking.**
- Institutions are free to define each core competency in a way that makes sense for the institution, its mission, its values, and the needs of its student body.

What about graduate programs?

- 2.2b The institution's graduate programs establish clearly stated objectives differentiated from and more advanced than undergraduate programs in terms of admissions, curricula, standards of performance, and student learning outcomes. Graduate programs foster students' active engagement with the literature of the field and create a culture that promotes the importance of scholarship and/or professional practice.

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

- **Specialized Knowledge**
  - Demonstrate mastery of the major theories, approaches to inquiry and/or practices relevant to the field of study..
- **Intellectual Skills:**
  - Demonstrate information literacy appropriate to the field of study.
  - Identify and evaluate diverse perspectives, assumptions, and conventions within the field of study.
  - Critically examine the power and limitations of quantitative and/or qualitative evidence in the evaluation, construction, and communication of arguments in the field of study.
  - Demonstrate communicative fluency appropriate to the field of study. Communicative fluency can include multiple expressive modes.
- **Civic and Global Learning**
  - Articulates or demonstrates how advancing knowledge in their field of study contributes to the public good.
- **Broad, Integrative Knowledge**
  - Frame and examine a controversy or problem through research, projects, papers, exhibits, or performances in the field of study.
  - Situate the field of study and its relevance within a broader context.
  - Apply appropriate ethical standards or practices within the field of study

The Big Five Core Competencies as Defined by WASC

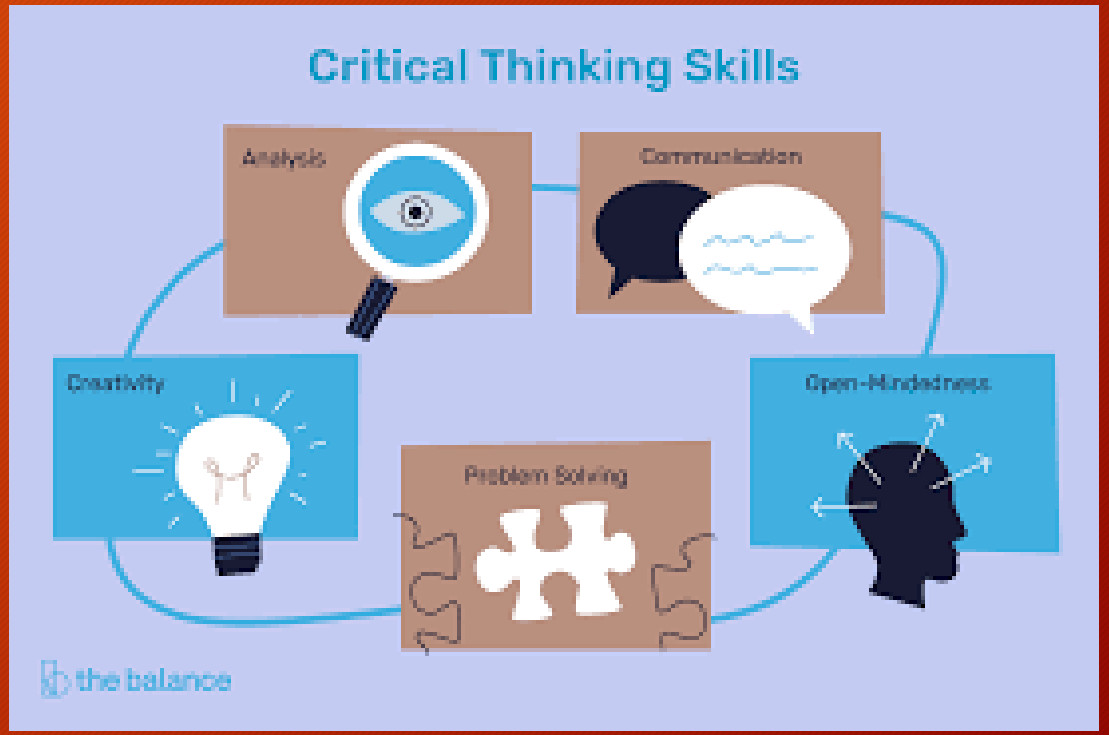
- **Written Communication**
  - Communication by means of written language for informational, persuasive, and expressive purposes.
  - Written communication may appear in many forms or genres.
  - Successful written communication depends of mastery of conventions, faculty with culturally accepted structures for presentation and argument, awareness of audience and other situation-specific factors.

The Big Five Core Competencies as Defined by WASC

- **Oral Communication**
  - Communication by means of spoken language for informational, persuasive, and expressive purposes.
  - In addition to speech, oral communication may employ visual aids, body language, intonation, and other non-verbal elements to support the conveyance of meaning and connection with the audience.
  - This may include speeches, presentations, discussions, dialogue, and other forms of interpersonal communication, either delivered face to face or mediated technologically.

The Big Five Core Competencies as Defined by WASC

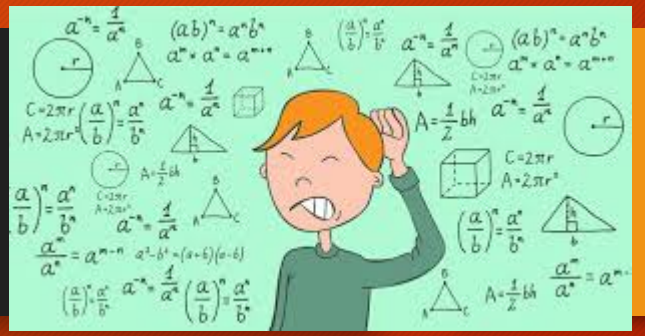
- **Critical thinking**
  - The ability to think in a way that is clear, reasoned, reflective, informed by evidence, and aimed at deciding what to believe or do.
  - Dispositions supporting critical thinking include open-mindedness and motivation to seek the truth.



The Big Five Core Competencies as Defined by WASC

- **Information Literacy**
  - According the Association of College and Research Libraries, the ability to "recognize when information is needed and have the ability to locate, evaluate, and use the needed information" for a wide range of purposes.
  - An information-literate individual is able to determine the extent of information needed, access it, evaluate it and its sources, use the information effectively, and do so ethically and legally.

The Big Five Core Competencies as Defined by WASC



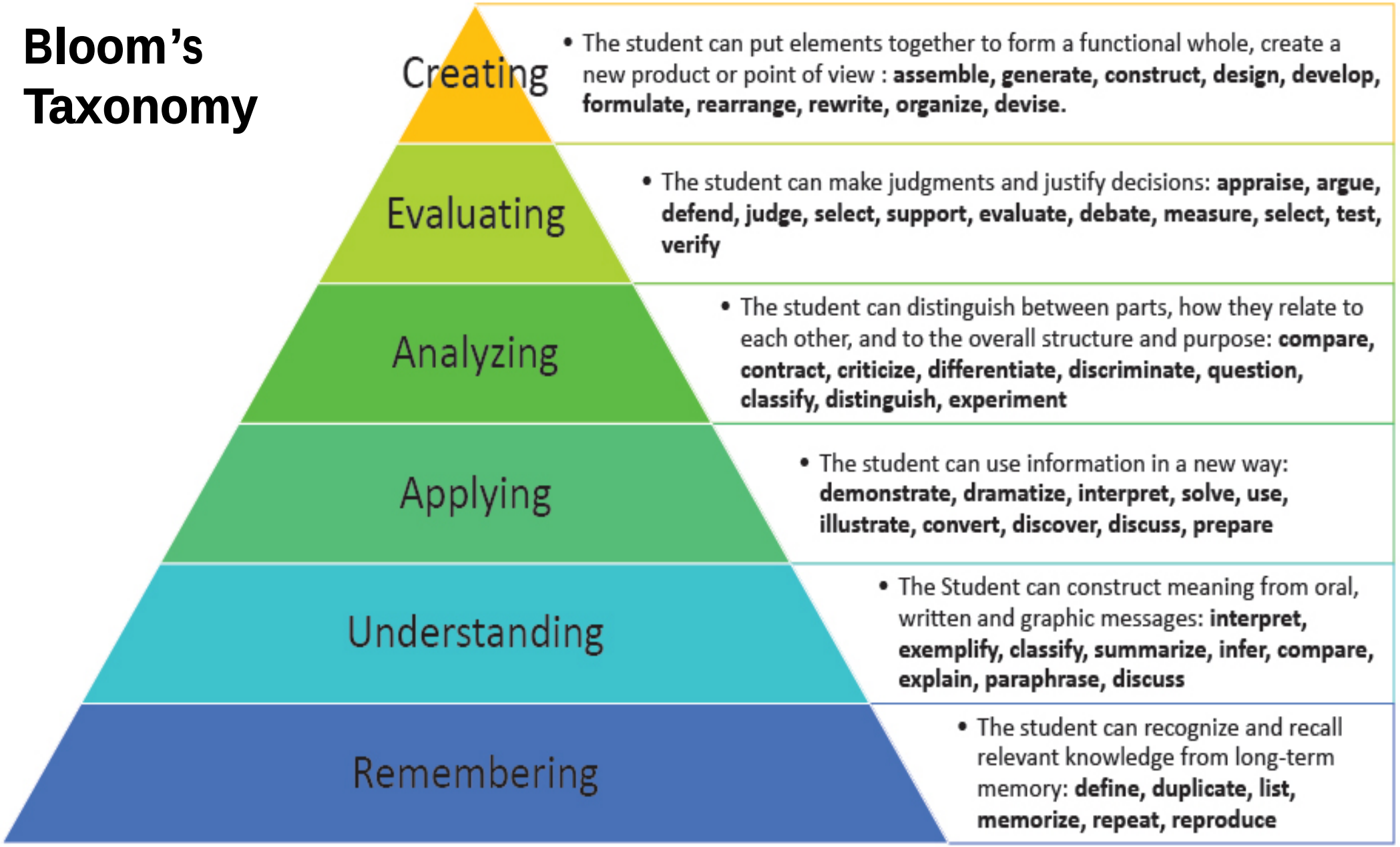
- **Quantitative Reasoning**
  - The ability to apply mathematical concepts to the interpretation and analysis of quantitative information in order to solve a wide range of problems, from those arising in pure and applied research to everyday issues and questions.
  - It may include such dimensions as ability to apply math skills, judge reasonableness, communicate quantitative information, and recognize the limits of mathematical or statistical methods.

Activity #1

- Focus on the core competency for your table:
  - How do your expectations for performance differ in graduate courses compared to undergrad ones?
    - Write the differences on a post-it note and place it on the board.
  - How you convey these expectations to students?

Differentiating Graduate Learning Outcomes

Bloom's Taxonomy



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.

- Includes five broad categories of proficiencies

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 contro-versy 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.

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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.

Master's Level Intellectual Skills with Elements of Critical Thinking

- Analytic inquiry
  - Disaggregates, reformulates and adapts principal ideas, techniques or methods at the forefront of the field of study in carrying out an essay or project.
- Engaging Diverse Perspectives
  - 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.
- Ethical Reasoning
  - 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.

Master's Level Intellectual Skills Related to Communication and Information Literacy

- Communicative Fluency
  - 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.
- Use of Information Sources
  - 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.

Master's Level Intellectual Skill Similar to Quantitative Reasoning

- Quantitative Fluency
  - 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 mathematical model appropriate to a problem in the social sciences or applied sciences.

Activity #2

- **Choose a rubric related to the core competency for your table**.
  - Does this rubric reflect the levels of proficiency you would expect for graduate students?
  - What modifications would help to differentiate graduate-level learning?

Designing Assignments for Assessment

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

Methods of Assessment

Class-based

- Term papers or projects
- Brief or reflective writing
- Oral or poster presentations
- Simulations
- Exams
- Lab assignments

Field-based

- Off-campus professional presentations (for clients, agencies, etc.)
- Artistic performances, recitals, & products
- Field evaluations (supervisor or instructor)

Summative or End of Program

- Thesis
- Comprehensive exams
- Portfolios
- Published (standardized) test (e.g., Major Field Test)

Signature assignments

- An assignment embedded in a course
- Used for course grade and program assessment
- Aligned with Program Learning Outcomes
- Collaboratively designed by faculty
- Meaningful and integrative

- Why?
  - Allows a program to assess learning across course sections or instructors
  - Creates consistency
  - Useful for assessing course sections with different modalities/pedagogies

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

Curriculum Mapping

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

- 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	Elective 1	Elective 2	Elective 3	Elective 4	Thesis
1 Knowl	I				P/D				M
2 Skills		I	P/D						M
3 Comm	I		P/D						M
4 Prof	I			P/D					M

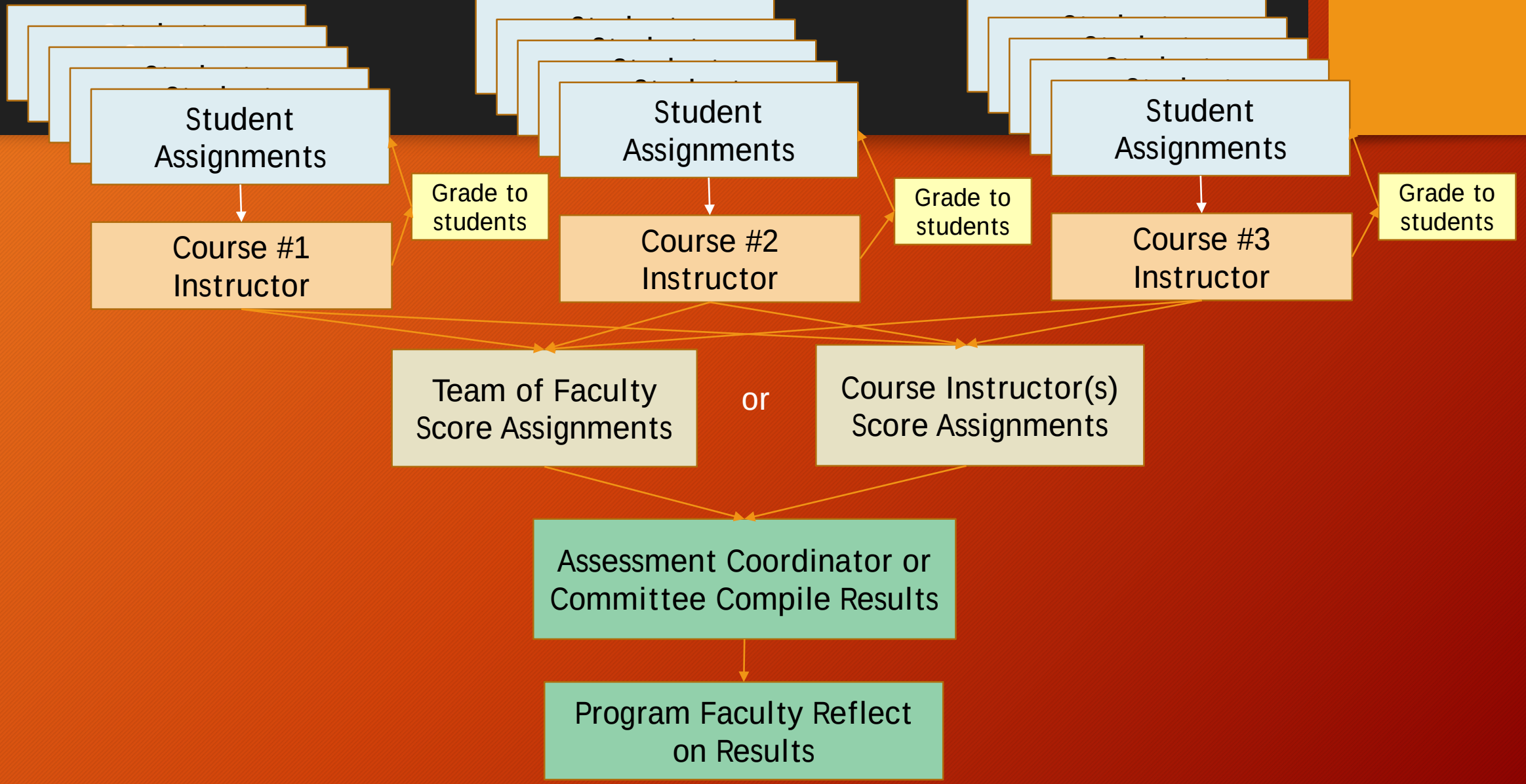
- Identify where you will collect assessment evidence for analysis at the program-level

Exercise #3: Assessing at Transition Points

- What are 3 transition points where your program could assess student proficiency in the competency?
- What assignments or other activities would be collected?
  - Can the rubric you chose be used to score these assignments?

Involving Faculty and Closing the Loop

Gathering Evidence in Multiple Courses



Why involve faculty in assessment?

Consistent standards

Shared expectations

Connections between courses

Creative use of results

Greater interest in results

Culture of evidence

How to involve faculty?

Input in planning

Signature assignments

Distribute rubrics

Discuss results

What else?

Provide Incentives

How can we use assessment results?

- Begin with the questions you care about:
  - What do you want to know about your program?
  - How can the assessment data be collected to provide answers to these questions?

- Look for areas that need improvement and brainstorm changes to:
  - Pedagogy- involve CETL if needed
  - Curriculum
  - Field or other professional experiences
  - Resources or budget

Assessment Resources

- Cal State LA Assessment Resources website:
  - *http://www.calstatela.edu/apra/assessment-resources*
- National Institute for Learning Outcomes Assessment (NILOA)
  - http://www.learningoutcomesassessment.org
- NILOA Assignment Library
  - http://www.assignmentlibrary.org/
- Degree Qualifications Profile (DQP)
  - http://degreeprofile.org
- Association of American Colleges and Universities (AAC&U) VALUE rubrics
  - https://www.aacu.org/value/rubrics

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?