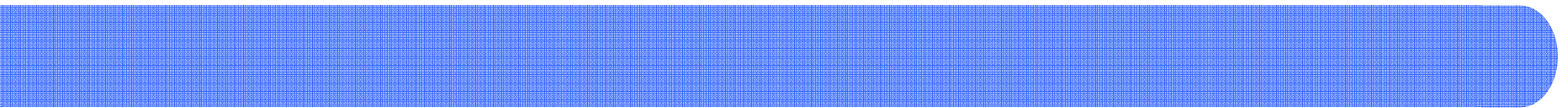




Postsecondary Education Quality Assessment Board
Commission d'évaluation de la qualité de l'éducation postsecondaire

Lessons From Ontario: The Value of Learning Outcomes



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Measuring the Value of Postsecondary Education

May 19-20, 2011, Toronto

Overview

- Qualifications frameworks and learning outcomes
- Ontario's learning outcomes
- Measuring learning outcomes
- Lessons learned and to be learned



Measuring the value of postsecondary education

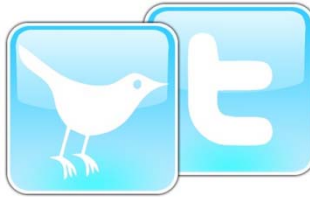
Economic

- increased labour force participation;
- higher earnings;
- greater productivity and competitiveness;
- greater innovation;
- more taxes; and
- a higher standard of living

Social

- Greater volunteerism
- Lower incarceration rates
- Greater civic participation





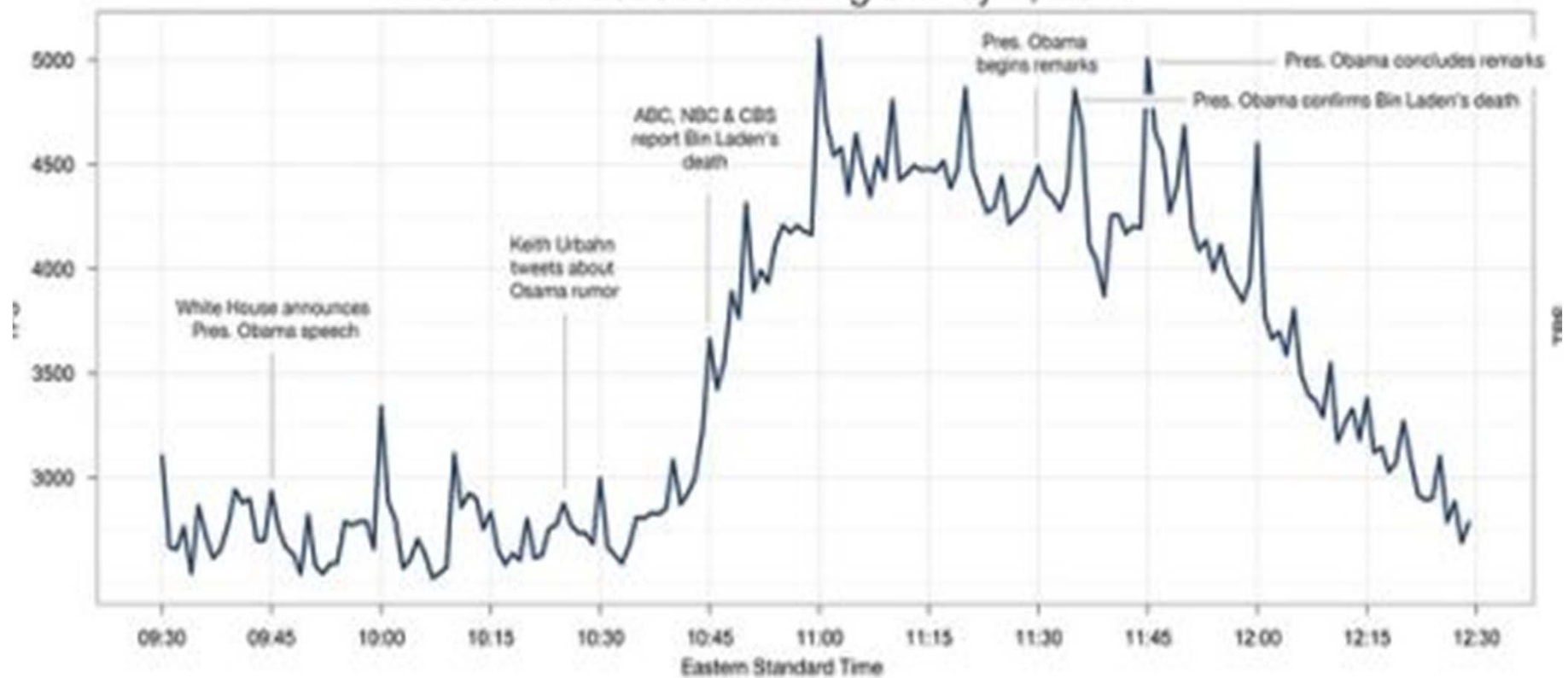
CBCtelevision



PEQAB



Tweets Per Second: Evening of May 1, 2011







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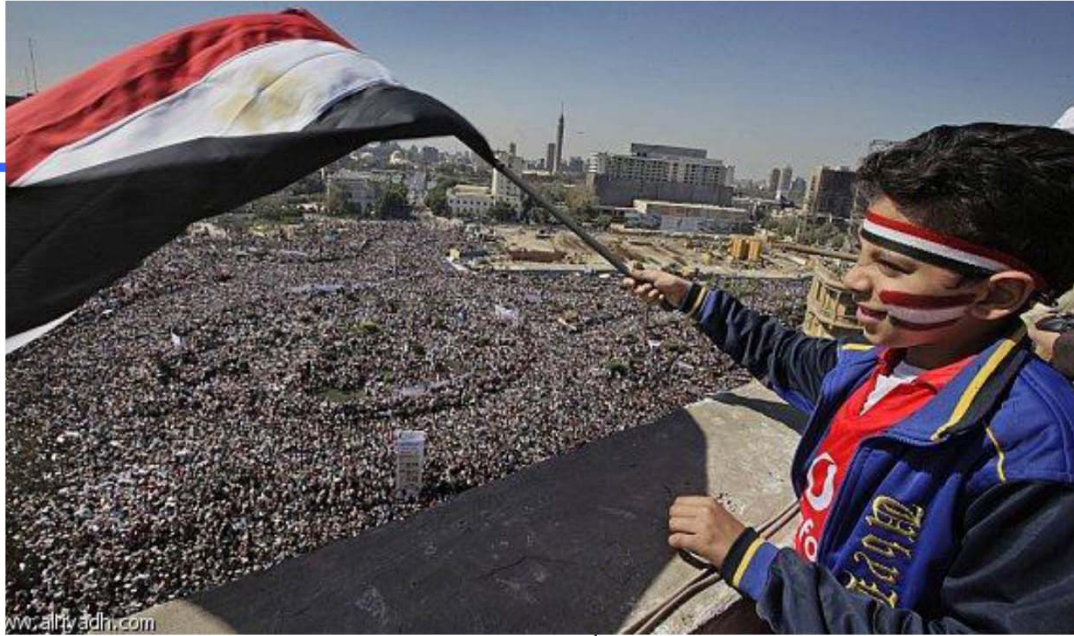
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BOX



BLOGS

CANADA

WORLD

BUSINESS

CULTURE

OPINION

HEALTH

ENVIRONMENT

ONCAMPUS

TRAVEL

CATEGORY: UNIVERSITIES

Beware of Canadian degree mills, Indian media warns

Canadian ministers of education release statement to address mounting quality assurance concerns

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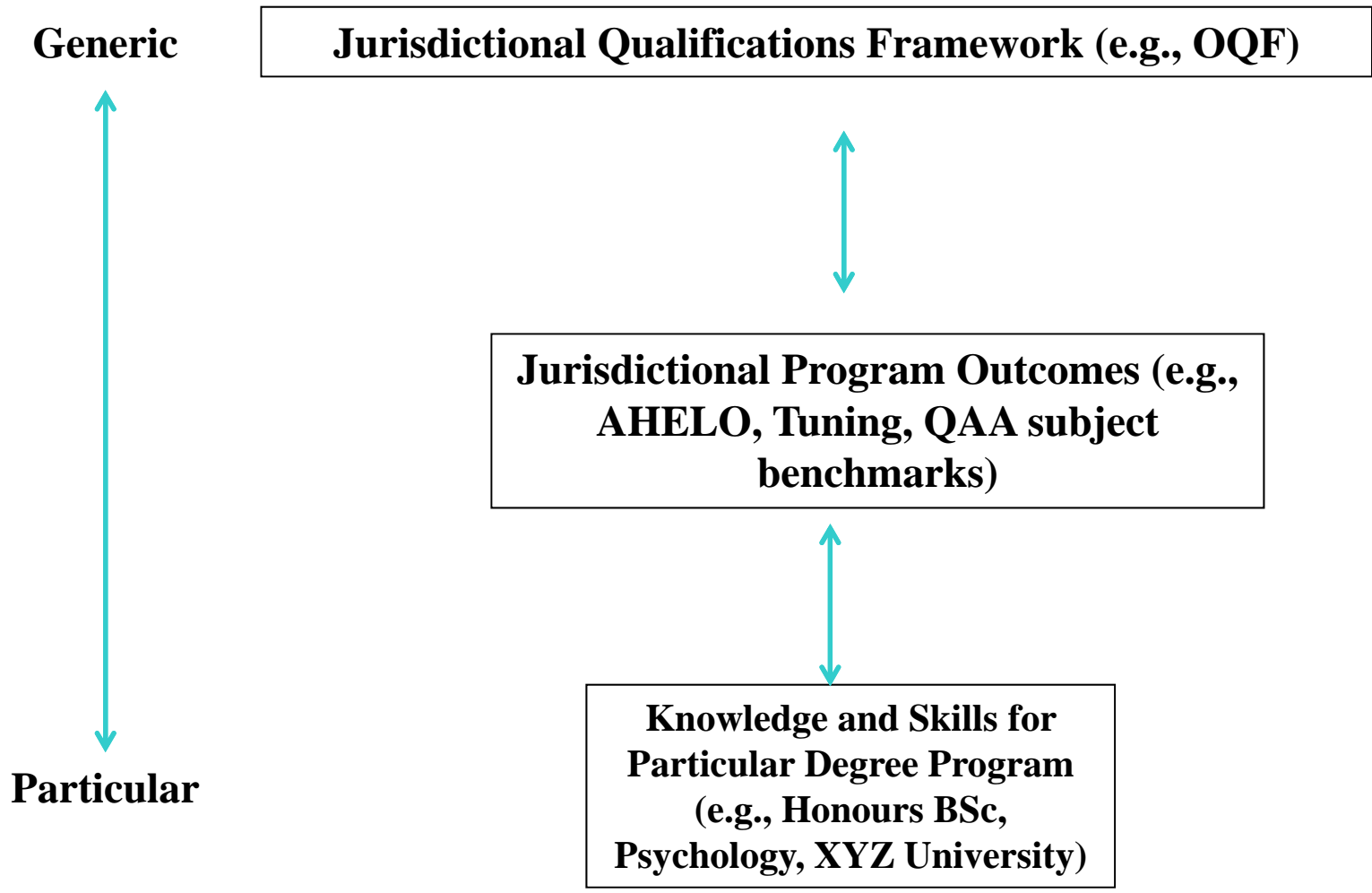


Qualifications frameworks and learning outcomes

- A qualifications framework is a set of knowledge and skills expected of graduates of qualifications /credentials within a jurisdiction.
- Ontario, through PEQAB, was an early adopter of a qualifications framework (2001).
- The Ontario Qualifications Framework identifies outcomes of all postsecondary credentials from apprenticeship certificates to doctoral degrees.
- Each credential identifies 6 categories of learning outcomes – the knowledge and skills a graduate is intended to achieve, regardless of the institution that provides the credential.
- PEQAB standards = UUDLEs and GDLEs = Ontario Qualifications Framework (degree level)



Framework to program outcomes



Learning outcomes for an Honours Bachelor Degree

- The Ontario Qualifications Framework identifies the following six categories of knowledge and skills for each qualification:
 1. Depth and Breadth of Knowledge
 2. Conceptual & Methodological Awareness/Research and Scholarship
 3. Communication Skills
 4. Application of Knowledge
 5. Professional Capacity/Autonomy
 6. Awareness of Limits of Knowledge



Depth and breadth of knowledge

| 8 Advanced Diploma | 9 Post-Diploma Certificate | 10 Baccalaureate/Bachelor's Degree | 11 Baccalaureate/Bachelor's Degree: Honours | 12 Masters Degree | 13 Doctoral Degree |
|---|---|---|--|---|--|
| <p>The skill and knowledge requirements successful performance of a specialized range of activities, most of which could be complex or non-routine in an occupational setting; At least some breadth beyond the vocational and, with exposure to at least one discipline outside the main field of study within the themes of arts in society; civic and social; cultural understanding; personal development; and science and technology, increase awareness of the society and culture in which they live and work.</p> | <p>a) Specialized knowledge in a specific field; b) A level of knowledge and skill that enhances one's ability to perform a more specialized range of complex and non-routine activities within the field; c) Locally determined exposure to disciplines outside the main field of study.</p> | <p>a) A general knowledge and understanding of many key concepts, methodologies, theoretical approaches and assumptions in a discipline; b) A broad understanding of some of the major fields in a discipline, including, where appropriate, from an interdisciplinary perspective, and how the fields may intersect with fields in related disciplines; c) An ability to gather, review, evaluate and interpret information relevant to one or more of the major fields in a discipline; d) Some detailed knowledge in an area of the discipline; e) Critical thinking and analytical skills inside and outside the discipline; f) The ability to apply learning from one or more areas.</p> | <p>a) A developed knowledge and critical understanding of the key concepts, methodologies, current advances, theoretical approaches and assumptions in a discipline overall, as well as in a specialized area of a discipline; b) A developed understanding of many of the major fields in a discipline, including, where appropriate, from an interdisciplinary perspective, and how the fields may intersect with fields in related disciplines; c) A developed ability to: i. gather, review, evaluate and interpret information; ii. compare the merits of alternate hypotheses or creative options, relevant to one or more of the major fields in a discipline; d) A developed, detailed knowledge of and experience in research in an area of the discipline; e) Developed critical thinking and analytical skills inside and outside the discipline; f) The ability to apply learning from one or more areas outside the discipline.</p> | <p>A systematic understanding of knowledge, including, where appropriate, relevant knowledge outside the field and/or discipline, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study or area of professional practice.</p> | <p>A thorough understanding of a substantial body of knowledge that is at the forefront of their academic discipline or area of professional practice, including, where appropriate, relevant knowledge outside the field and/or discipline.</p> |



Depth and breadth of knowledge (honours bachelor)

- A developed knowledge and critical understanding of the key concepts, methodologies, current advances, theoretical approaches and assumptions in a discipline overall, as well as in a specialized area of a discipline;
- A developed understanding of many of the major fields in a discipline, including, where appropriate, from an interdisciplinary perspective, and how the fields may intersect with fields in related disciplines;
- A developed ability to:
 - gather, review, evaluate and interpret information;
 - compare the merits of alternate hypotheses or creative options, relevant to one or more of the major fields in a discipline;
- A developed, detailed knowledge of and experience in research in an area of the discipline;
- Developed critical thinking and analytical skills inside and outside the discipline;
- The ability to apply learning from one or more areas outside the discipline.



Learning outcomes for an Honours Bachelor Degree

Depth and Breadth of Knowledge

OQF

- Graduates will have... a developed understanding of many of the major fields in a discipline...

Jurisdictional (BSc Honours Psychology)

- Graduates will have introductory knowledge in many of the major fields within psychology, including knowledge of research methods and statistics, and have advanced and specialized knowledge in some of them...

Particular expectation (BSc Honours Psychology at a Particular Institution)

- Graduates will have knowledge in at least 6 and no more than 9 of the following fields, 60% of which will be at an advanced level, and 15% of which must be at a specialized level: sensation, perception, learning, cognition, history, developmental, abnormal, biological; social, motivation, personality and linguistics; and will have advanced knowledge of statistics, research methods, and psychological measurement.



Outcomes at the program level

While the generic expectations expressed in the OQF can assist in program design, when the generic standard is articulated for a particular program, (and when there is a credible measure of their achievement) it

- informs students, employers, other institutions, and the general public about the knowledge and skills graduates of that program will have;
- allows for the comparison (within & across jurisdictions) of that program with other programs that have been operationalized against a framework;
- facilitates judgments about credit transfer, advanced standing and the recognition of credentials for employment and further study.



Learning outcomes for an Honours Bachelor Degree

Conceptual & Methodological Knowledge/Research and Scholarship

An understanding of methods of enquiry or creative activity, or both, in their primary area of study that enables the student to:

- Evaluate the appropriateness of different approaches to solving problems using well established ideas and techniques;
- Devise and sustain arguments or solve problems using these methods;
- Describe and comment upon particular aspects of current research or equivalent advanced scholarship.



Learning outcomes for an Honours Bachelor Degree

Conceptual & Methodological Knowledge/Research and Scholarship

OQF

- Graduates will ...evaluate the appropriateness of different approaches to solving problems using well established ideas and techniques

Jurisdictional (BSc Honours Psychology)

- Graduates will be able to calculate a range of descriptive and univariate, inferential statistics and use them correctly in the appropriate circumstances

Particular expectation (BSc Honours Psychology at a Particular Institution)

- Graduates will be able to select and calculate the appropriate statistics to test hypotheses, describe and interpret data, including: measures of central tendency; Pearson's r ; Student's t ; Wilcoxon T ; Chi-square; Fisher's F ; and R^2 .



Learning outcomes for an Honours Bachelor Degree

Communication Skills

The ability to communicate information, arguments and analyze accurately and reliably, orally and in writing, to specialist and non-specialist audiences using structured and coherent arguments, and, where appropriate, informed by key concepts and techniques of the discipline.



Learning outcomes for an Honours Bachelor Degree

Communication Skills

OQF

- Graduates will have ...the ability to communicate information, arguments ... informed by ...techniques of the discipline.

Jurisdictional (BSc Honours Psychology)

- Graduates' communications reflect the ability to deploy a range of rhetorical strategies and adhere to American Psychological Association style rules

Particular expectation (BSc Honours Psychology at a Particular Institution)

- Graduates will be able to write essays, psychometric reports, and research reports consistent with the stylistic and format requirements of the American Psychological Association, and will be expected to select and use, as appropriate, persuasion, logical analysis, exemplification; description; narration; process analysis; comparison and contrast; division and classification; definition; cause and effect analysis; and logical argumentation.



Learning outcomes for an Honours Bachelor Degree

Application of Knowledge

The ability to review, present and critically evaluate quantitative and qualitative information to:

- develop lines of argument;
- make sound judgments in accordance with the major theories, concepts and methods of the subject(s) of study;
- apply underlying concepts, principles, and techniques of analysis, both within and outside the discipline;
- where appropriate, use this knowledge in the creative process;

The ability to use a basic range of established techniques to:

- initiate and undertake critical evaluation of arguments, assumptions, abstract concepts and information;
- propose solutions;
- frame appropriate questions for the purpose of solving a problem;
- solve a problem or create a new work;

The ability to make use of scholarly reviews and primary sources.



Learning outcomes for an Honours Bachelor Degree

Application of Knowledge

OQF

- Graduates will have ...the ability to use a basic range of established techniques to....solve a problem...

Jurisdictional (BSc Honours Psychology)

- Graduates will be able to conduct experiments under supervision and/or write major research papers.

Particular expectation (BSc Honours Psychology at a Particular Institution)

- Graduates will be able to write major research papers and conduct experiments under supervision.



Learning outcomes for an Honours Bachelor Degree

Professional Capacity/Autonomy

The qualities and transferable skills necessary for further study, employment, community involvement and other activities requiring:

- the exercise of initiative, personal responsibility and accountability in both personal and group contexts;
- working reflectively with others;
- decision-making in complex contexts;

The ability to manage their own learning in changing circumstances, both within and outside the discipline and to select an appropriate program of further study;

Behaviour consistent with academic integrity and social responsibility.



Learning outcomes for an Honours Bachelor Degree

Professional Capacity/Autonomy

OQF

- Graduates will have ... the ability to manage their own learning in changing circumstances

Jurisdictional (BSc Honours Psychology)

- Graduates will be able to use a variety of sources to further their learning and to solve problems in novel contexts.

Particular expectation (BSc Honours Psychology at a Particular Institution)

- Graduates will be proficient in identifying credible sources through library searches, databases, and the internet; and will be able to determine when expertise or instruction is required.



Learning outcomes for an Honours Bachelor Degree

Awareness of the Limits of Knowledge

An understanding of the limits to their own knowledge and ability, and an appreciation of the uncertainty, ambiguity and limits to knowledge and how this might influence analysis and interpretations.



Learning outcomes for an Honours Bachelor Degree

Awareness of the Limits of Knowledge

OQF

- Graduates will have an understanding of the limits to their own knowledge and ability, and an appreciation of the uncertainty, ambiguity and limits to knowledge...

Jurisdictional (BSc Honours Psychology)

- Graduates will have more than an introductory knowledge in psychology.

Particular expectation (BSc Honours Psychology at a Particular Institution)

- Graduates will have specialized, interdisciplinary knowledge in three of the following disciplines: humanities, natural science, other social sciences, modes of reasoning, and mathematics.



Measuring learning outcomes: Direct peer review

PEQAB

- direct review, by academic peers, of samples of student work in the terminal stage of the program that reflects exemplary, average and minimally acceptable performance to ensure that the knowledge and skills have been achieved at an acceptable level of performance.



Lessons learned and to be learned

- Context for interpreting related measures
- Clarity and expertise
- Efficient and rigorous quality assurance
- The role of liberal education in an understanding/thinking society
- Innovation vs homogeneity



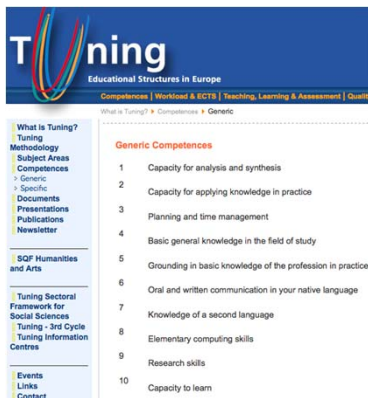
1. Context for other metrics

- Participation rates
- Retention rates
- Graduation rates



2. Clarity and expertise

- Expectations must be sufficiently clear and comprehensive
- Expertise in the discipline and in credential-wide outcomes is required to assess whether the outcomes are achieved
- VALUEs rubrics (American Association of Colleges & Universities): Inquiry and analysis; Critical thinking; Creative thinking; Written communication; Oral communication; Reading; Quantitative literacy; Information literacy; Teamwork; Problem solving; Civic knowledge and engagement; Intercultural knowledge and competence; Ethical reasoning; Foundations and skills for lifelong learning; Integrative and applied learning



3. Efficiency and rigor

- Direct review of learning outcomes is sufficient and necessary for ongoing quality assurance

When and if outcomes are inappropriate or not achieved, revert to more traditional approaches for diagnostics:

- Program inputs
- Institutional inputs
- Audit of internal quality assurance



Indirect assessments of whether the outcomes will be achieved:

Program inputs

- admission requirements;
- gap analyses for any advance standing;
- faculty qualifications and scholarship;
- curricular elements, including
 - the balance of theory and practice;
 - increasing complexity across the curriculum;
 - time allotments for elements;
 - coherent non-core curriculum;
 - currency of curriculum;
 - type and frequency of assessments;
- library holdings, lab equipment, and other learning resources;
- delivery method and expertise to support it;
- characteristics of work experiences or internships;



Indirect assessments of whether the outcomes will be achieved: Institutional inputs

- governance and administrative structures;
- policies and procedures pertaining to
 - internal quality assurance and continuous improvement;
 - academic freedom;
 - academic honesty;
 - research with animals and humans;
 - intellectual property and copyright;
- student protection, including those governing
 - Withdrawals and refunds;
 - student dismissal and appeals;
 - dispute resolution;
 - credit transfer and recognition;
 - protection of privacy;
- financial stability and viability;
- academic and business planning



Indirect assessments of whether the outcomes will be achieved: Audits of internal quality assurance

Comprehensive self-study:

- the continuing consistency of the program with the organization's mission;
- the outcomes achieved of students;
 - graduate employment rates;
 - graduate satisfaction;
 - employer satisfaction;
 - student satisfaction;
 - graduation rate;
 - student retention rates;
 - time to completion;
- the continuing relevance of the program to the field of practice it serves;
- the continuing appropriateness of the
 - method of delivery;
 - admission requirements;
 - program's structure, and curriculum;
 - methods used for evaluating student progress and achievement;
- efficient and effective utilization and adequacy of existing human, physical, technological and financial resources;
- indicators of faculty performance; and
- review of individual student work in the terminal stage of the program that reflects exemplary, average and minimally acceptable performance



Indirect assessments of whether the outcomes will be achieved: Audits of internal quality assurance

And their implementation, including that

- the self study be evaluated by senior academic peers from within and external to the institution;
- the peers conduct a site visit and meet with faculty, administration, and students;
- the peers prepare a report with recommendations on program quality; and that the report must be addressed to the senior administration and shared with the academic council, governing board, faculty members and students in the program, together with a plan of action for responding to the recommendations.



4. Role of liberal education in undergraduate learning outcomes

General education/skills: transferable skills (critical thinking, quantitative reasoning, logical analysis, etc)

Liberal education: curriculum outside the field of focus

PEQAB's clarification of depth and breadth of knowledge outside the field of study

The non-core curriculum contributes to the achievement of:

- a. more than introductory knowledge in the humanities, sciences, social sciences, global cultures, and/or mathematics;
- b. knowledge of society and culture, and skills relevant to civic engagement; and
- c. a more than introductory knowledge of the distinctive assumptions and modes of analysis of a discipline outside the core field(s) of study.



5. Innovation versus homogeneity

- Frameworks created in part to facilitate graduate mobility and credential recognition
- Most are explicitly harmonized with existing frameworks
- Shift of emphasis from inputs to outcomes imposes one limit: knowledge and skills must meet the credential level

