OECD Assessment of Higher Education Learning Outcomes (AHELO): Rationale, Challenges and Initial Insights from the Feasibility Study

Measuring the value of a Postsecondary Education
Higher Education Quality Council of Ontario
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Outline

- Rationale of AHELO initiative
- Overview of the feasibility study
- Challenges
- Initial insights
- Next steps and longer-term potential of LO data

AHELO rationale

Key trends in higher education

Massification

- Sustained and substantial growth in participation and graduation over 50 years with further increases to be expected

A valuable investment

- Higher education qualifications have a high and increasing value in terms of lifetime earnings and labour market opportunities

Globalisation

- Growth in numbers of international students
- Increasing competition between providers at national and institutional level

Internationalisation of high-skilled labour market

- The professions and increasingly global and migration of high-skilled labour is to increase

But what do we know about HE quality?

Impact of the massification of participation in higher education

- Much more heterogeneous abilities of students than in the past
- More diverse expectations too

Despite huge progress in quality assurance, institutional quality remains largely unknown

- Proxies of higher education quality exist, but none are perfect
- Reputation race: highly subjective
- Rankings: biased towards input factors and research excellence
- Cultural sensitivity of satisfaction factor
- Labour market outcomes sensitive to conjuncture and local economic conditions

So what?

An information vacuum which is filled by available information

Learning outcomes need to be taken into account

- **Defining them (Tuning process in Bologna area and beyond)**
- **Incorporating them in quality assurance (moving from processes to outcomes)**
- **Measuring them (AHELO)**

The aims of the feasibility study

Test the science of the assessment

- whether it is possible to devise an assessment as well as associated contextual data which enables reliable statements to be made about the performance/effectiveness of learning in institutions of very different types, and in countries with different cultures and languages

Test the practicality of implementation

- whether it is possible to motivate institutions and students to take part in such an assessment and find solutions to implement such an assessment

The feasibility study at a glance

Goal? To evaluate whether reliable cross-national assessments of HE learning outcomes are scientifically possible and whether their implementation is feasible.

What? Not a pilot, but rather a research approach to provide a proof of concept and proof of practicality.

Why? The outcomes will be used to assist countries to decide on the next steps.

When? Phase 1 - Development of tools: August 2010 to April 2011
Phase 2 - Implementation: March 2011 to December 2012

Who? Data will be collected from a targeted population of students who are near, but before, the end of their first 3-4 year degree.

How? Establishment of frameworks that guide international expert committees charged with instrument development in the assessment areas.

Overview of the feasibility study

AHELO: 4 strands of work

Discipline strand in Economics

Discipline strand in Engineering

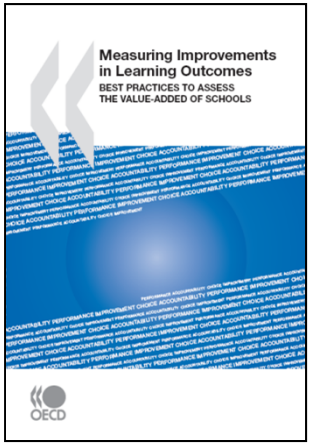
Exploring the feasibility of measuring LO in 2 contrasted disciplines to prove concept

Generic skills strand

Critical to strive in 21st Century knowledge societies

Research-based "Value-added" or "Learning gain" measurement strand

Several perspectives to explore the issue of value-added (conceptually, psychometrics), building on similar work at school level.



Tests of instruments

3 assessment instruments

1. Generic Skills

Discipline-specific skills:

2. Engineering
3. Economics

3 contextual surveys

Contextual indicators to put performance in perspective and better understand teaching and learning processes in HE

1. Student survey
2. Faculty survey
3. Institution survey

Work to be undertaken in 2 phases

Jan 2010-Apr 2011

Phase 1 -*Initial proof of concept*

Frameworks

Instrument development & small-scale validation

Generic Skills Framework	**Economics Framework**	**Engineering Framework**
Generic Skills Instrument	**Economics Instrument**	**Engineering Instrument**

Mar 2011-Dec 2012

Phase 2 - *Scientific feasibility & proof of practicality*

Implementation

Contextual dimension surveys

Project management, survey operations and analyses of results

A range of geographic, linguistic and cultural backgrounds involved

Gen Generic skills
Eco Economics
Eng Engineering

Observer: Saudi Arabia

Challenges

Assessing scientific feasibility

Questions such as :

- Is it possible to develop instruments to capture learning outcomes that are perceived as valid in diverse national and institutional contexts?
- Do the test items perform as expected and do the test results meet pre-defined psychometric standards of validity and reliability?
- Is it possible to score higher-order types of items consistently across countries?
- Is it possible to capture information on teaching and learning contexts that contribute to explaining differences in student performance?

Assessing practical feasibility

Questions such as :

- How effective are strategies implemented at national/institutional level to secure institutional and student cooperation?
- Can students be motivated to take part in such an assessment and take it seriously?
- To what extent does the implementation of the feasibility study assessments bring benefits to participating HEIs?
- To what extent does the implementation of the feasibility study contribute to demonstrating its value for the improvement of teaching and building support for an AHELO?

Initial insights

The Generic Skills Strand

The CLA Performance Task concept

- Requires students to use an integrated set of skills:
  - critical thinking
  - analytic reasoning
  - problem solving
  - written communication

  to answer several open-ended questions about a hypothetical but realistic situation

- Requires students to marshal evidence from different sources such as letters, memos, summaries of research reports, maps, diagrams, tables, …
  and to assess the confidence of various sources (e.g. scientific evidence vs. rumour, misinterpreted data etc.)

The Generic Skills Strand - Status

Phase 1 completed for 1st set of countries: Finland, Korea, Kuwait, Mexico, Norway, United States

- ❑ **Selection of 2 Performance Tasks from CLA pool considered suitable to the range of participating countries**
- ❑ **Adaptation to national contexts/cultures**
- ❑ **Translation in national languages in a way that respects intended meaning and level of difficulty**
- ❑ **Cognitive workshops to pilot test the translated/adapted performance tasks with a small number of students. The goal is to provide small-scale qualitative validation of assessment tool in various national contexts**

Work still underway for latecomer countries: Colombia, Egypt, Slovak Rep.

The Generic Skills Strand – Initial feasibility insights

Insight from Phase 1 in the 1st set of countries

- 2 selected PTs considered suitable to the range of countries
- Initial adaptation proved superficial only (names, city/government structures, date ordering)
- Smooth translation process but new adaptation issues discovered
- PTs functioned as anticipated in cognitive workshops and can be considered valid. Subsequent edits of PTs to foster understanding
- Cognitive workshops pointed to issues for longer-term work

More to come …

The Discipline Strands - Status

ETS in charge of instrument development for ECO

ACER, NIER and Florence School of Engineering in charge of instrument development for ENG

Current status

- TUNING-AHELO frameworks of expected learning outcomes used as a basis
- Draft assessment frameworks and instruments ready
  - Mix of open-ended and multiple choice questions covering a range of economics/engineering skills
- Translation and Adaptation process starting
  - Dual translation + reconciliation
- Training of national teams for focus groups with students

The Discipline Strands – Initial feasibility insights

Insight from development of assessment frameworks and instruments

- Process involving faculties in the related disciplines
- No major hurdles in finding agreement on expected learning outcomes (TUNING-AHELO) in the selected disciplines
- It has been possible to reach agreement on provisional assessment frameworks and test items across a range of diverse countries

More insight to come from the focus groups

The Contextual dimension – 3 surveys

CHEPS and CPR in charge of framework and instrument development

Dual goal of contextual data

- Better interpret resulting learning outcomes measures
  - Comparing like with like
- Explore the "black box" of teaching and learning in HE
  - Psychometric analyses combining performance data and context variables
  - Find out what works, for whom, in which context

The Contextual dimension – 3 surveys

3 Context instruments to be administered alongside the assessments to

- **Students (10 minutes)**
  - Demographic profile of students (age, gender, disadvantaged groups, or socio-economic status…)
  - Practices in teaching and learning (perceptions of academic challenge, clear sense of direction, quality of effort, student-faculty relationship…)
- **Faculties (10 minutes)**
  - Curricular design and pedagogy philosophies (curriculum reforms integrating application and problem solving skills, expectations for teaching practices…)
  - Alternative instructional settings (workplace placements or internships, simulations or problem-based learning…)
- **Institutions (10 minutes)**
  - Institution characteristics (size, curriculum structure, facilities, financial resources, teaching staff, student body…)
  - Institution type (research emphasis, incentives for teaching, teaching/assessment culture, emphasis on generic outcomes…)

The longer-term potential

Next steps

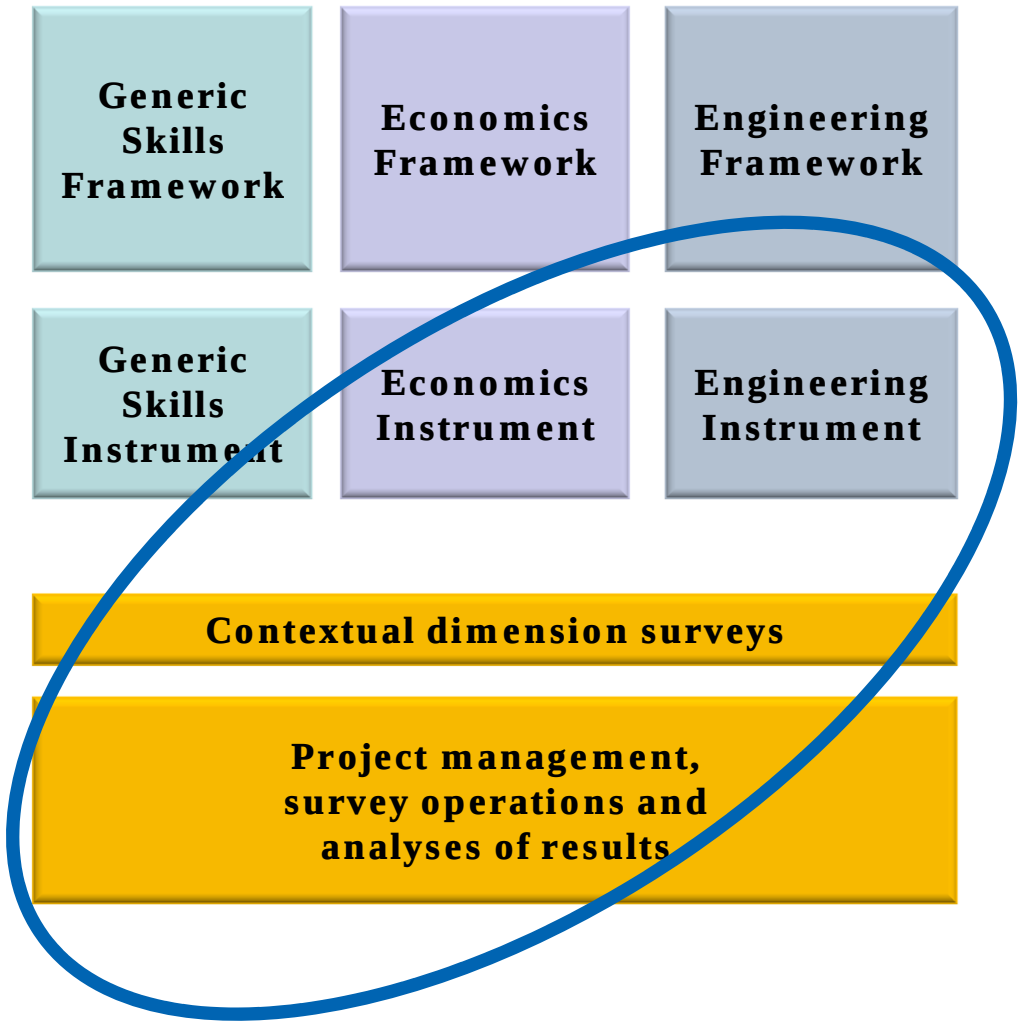
Phase 1 - ***Initial proof of concept***

Frameworks

Instrument development & small-scale validation

Phase 2 - ***Scientific feasibility & proof of practicality***

Implementation



Beyond the feasibility study

Assuming positive outcomes of the feasibility study…

- Qualitative proof of concept (already achieved for Generic Skills strand)
- Scientific feasibility (quantitative/psychometric focus)
- Feasibility of implementation

OECD member countries to decide on way forward

Scope for international programme similar in scope as PISA, PIAAC

Likely focus:

- **A core assessment of generic 21st century skills**
- **Disciplinary modules /cycle rotation**
- **Strong contextual dimension**

Self-funded by participating countries and institutions, with scope for external funding for non-core work

A study with great potential…

… Diagnosis is the basis of any improvement

Better information on student learning outcomes is the first step to **improve teaching** and learning for all:

- Provide evidence for national and institutional policy and practice
- Equip institutions with the method and tools to improve teaching

… Shaping the future of higher education to address key challenges

Equity

Build fairer higher education systems, promoting success for all

Responsiveness

Better connect higher education and society

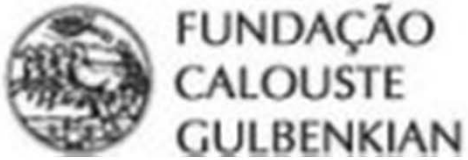
Effectiveness

Help students make informed choices to ensure success for all

Impact

Foster international transparency and mobility

Funding - Current sponsors



Support to U.S. participation

Thank you!

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