



**Measuring Student Learning for
Policy and Planning**

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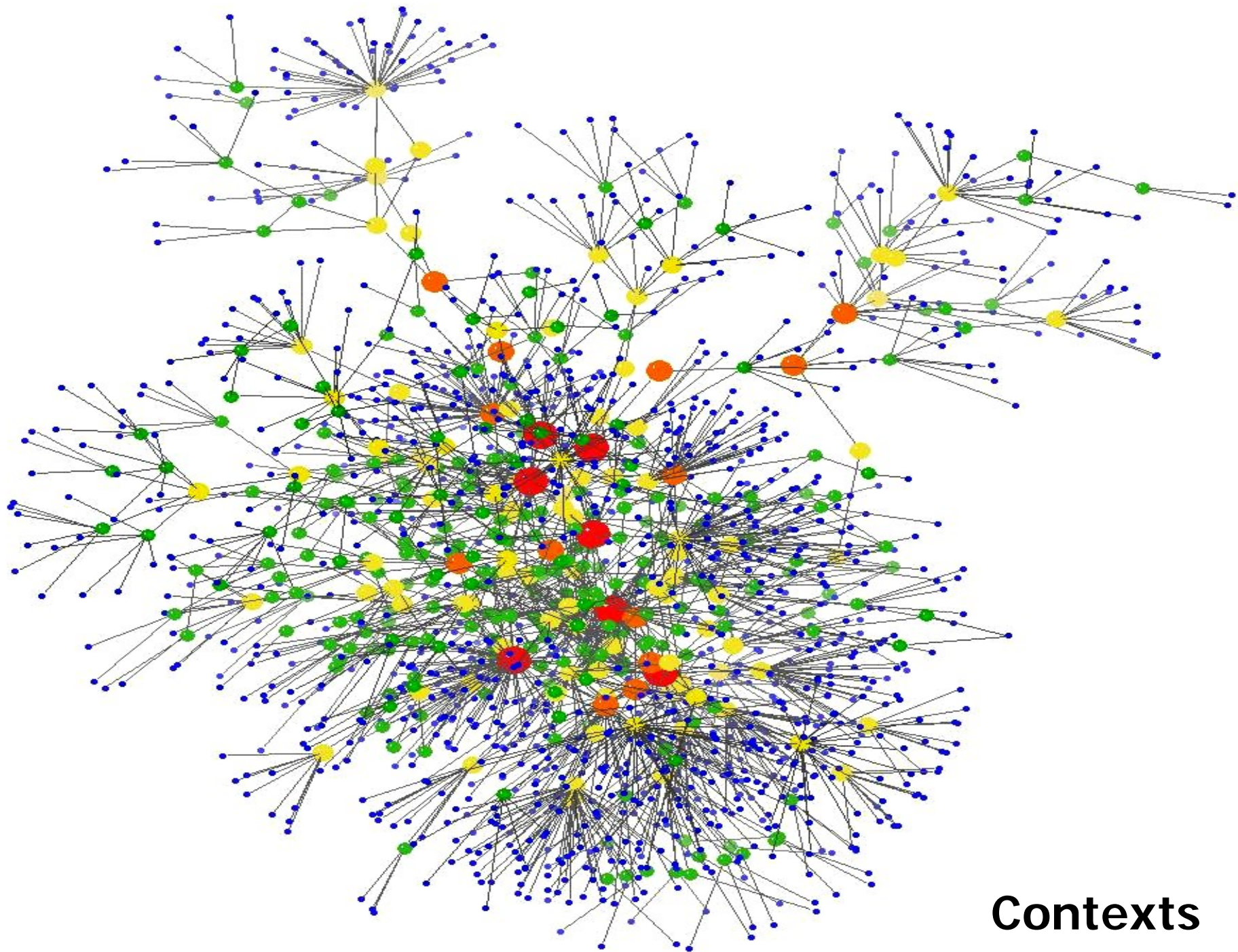


(Australian)
conceptual
contexts

Reporting for
capacity
development

International
case:
OECD AHELO

Building
frameworks and
instruments



Contexts

Career-readiness

National regulation

Academic standards panel

Demand-driven funding

Pan-tertiary links

Curriculum reform

Social inclusion

Productivity

Leadership capacity

Risk-based QA

Expansion targets

Pathways

Transparency (myuni)

New providers

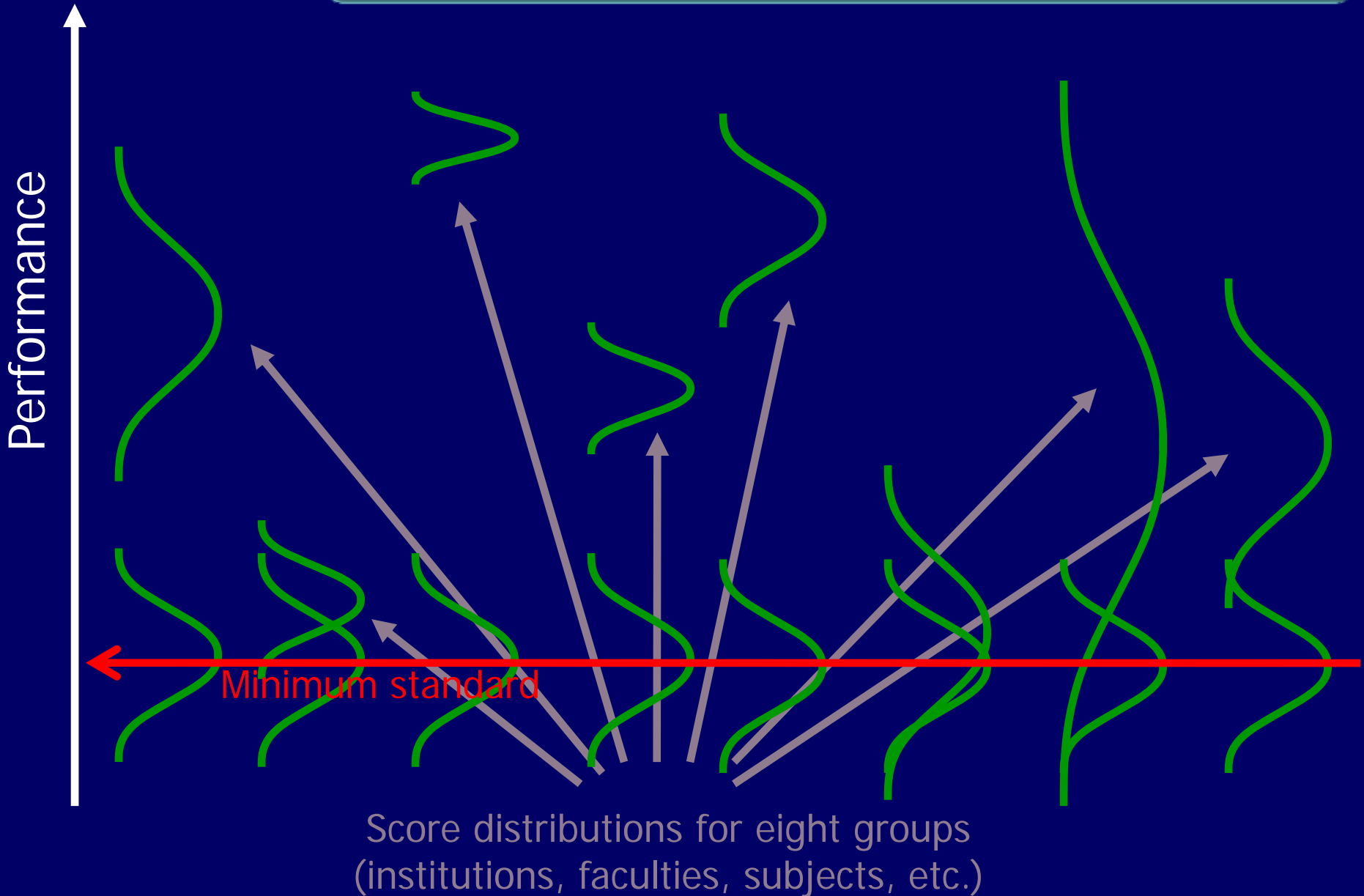
Participation

Base funding review

Research excellence rankings

International education

"Standards", not "standardisation"





Robert Rauschenberg, Untitled, c1951



**Commitment to
effectiveness**

Little data

Happiness data

Effectiveness
data

Elite

Mass

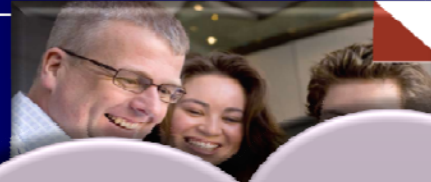
Universal

Indicators for higher education

Outcomes



Processes



Inputs



Learner

Teacher

Institution

Need to privilege outcomes

Educational bottom line – what has been achieved

Net effect of many non-deterministic processes

Notably absent from education, management, enhancement, funding and quality assurance

Need a circuit-breaker to assure the quality of assessment data



Data for transparency

quick search ▶▶

course name ----- ?

history

find any words find all words find exact phrase

course type ----- ?

undergraduate and postgraduate ▼

higher education provider ----- ?

All ACT Providers
All NSW Providers
All NT Providers
All QLD Providers
All SA Providers
All Tas Providers
All Vic Providers
All WA Providers

Adelaide Central School of Art
Adelaide College of Divinity Incorporated
Australian Catholic University

hold down CTRL to select multiple providers

advanced search ▶▶

course entry cut-offs ----- ?

TER/ENTER/UAI ?

(all states except QLD)

QLD OP ?

(QLD only)

course fee type ----- ?

Commonwealth supported & fee-paying ▼

approximate course fee ----- ?

Show me courses costing \$ and under
(for the first year of equivalent full time study)

Plan

Data for
leadership

Improve

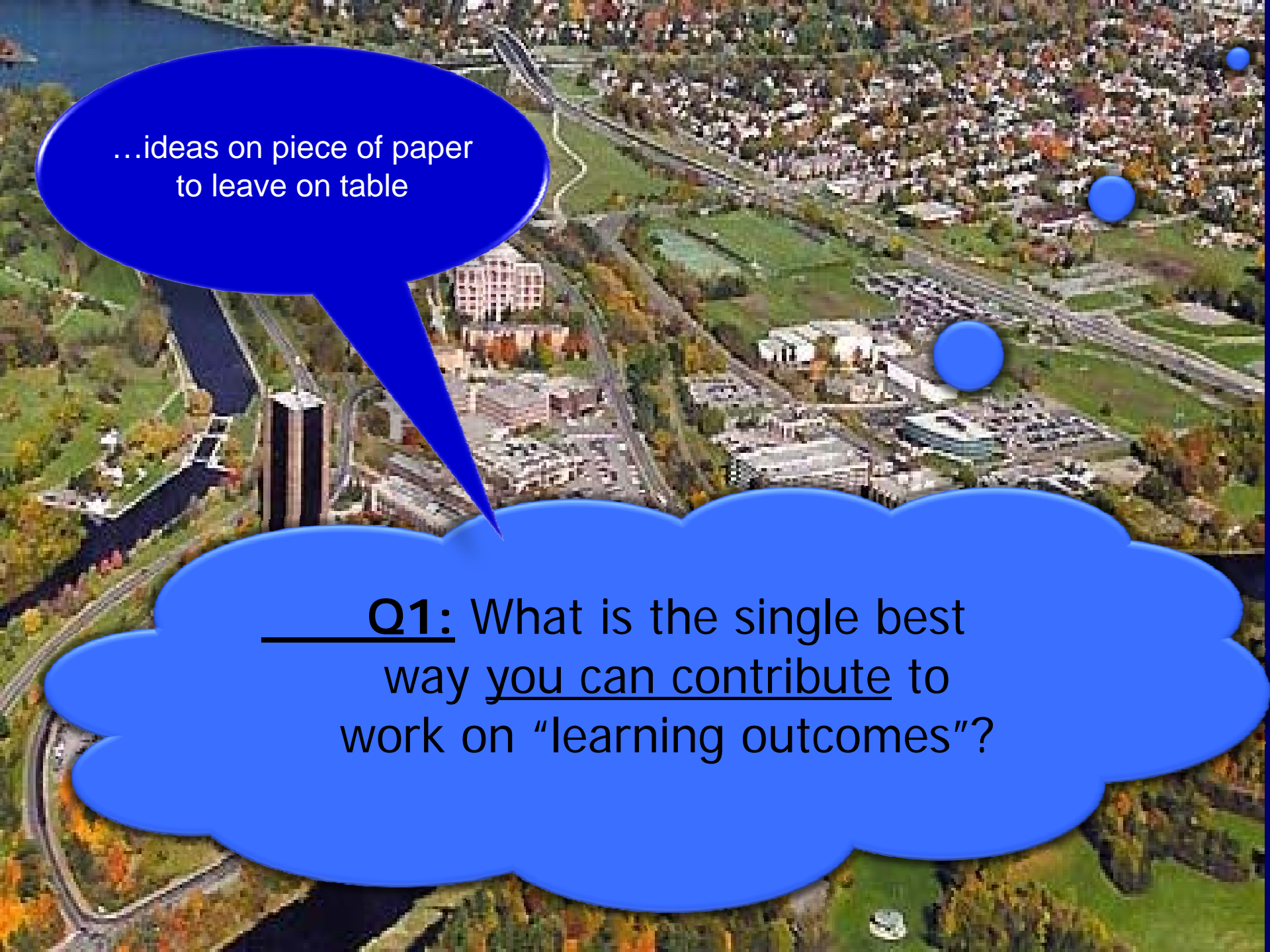
Act

Evaluate

Hunch

Linking policy and learning



An aerial photograph of a city with a river, buildings, and green spaces. A large blue speech bubble is overlaid on the left side, pointing towards the center. There are also three smaller blue circles scattered in the upper right area of the image.

...ideas on piece of paper
to leave on table

Q1: What is the single best
way you can contribute to
work on "learning outcomes"?



ahelo

Assessment of Higher Education Learning Outcomes



INDIANA UNIVERSITY
Center for Postsecondary Research



Statistics
Canada

Statistique
Canada

Are valid and reliable cross-cultural/-institutional/-linguistic comparisons of HE learning outcomes scientifically and practically feasible?

Study at
a glance

An international feasibility study – not a 'pilot'

Conceived ~2005, announced 06, scoping 06-09, work 10-13

For students near end of 'bachelor degree', also faculty, national managers, institutional coordinators, policymakers, expert advisors, etc.

Design, develop, validate and evaluate frameworks, tests, infrastructure and processes

HEI reports (not for systems), along with international reports and materials, and recommendations for a main study

Enhanced management, evaluation and quality monitoring – **to do more, better, with less**

Higher education growing in significance and scale: clear rationales for increasing output and ensuring **quality outcomes**

Huge cost and competitive pressures – **evidence-based management helps** expand provision with quality

Internationalisation pervades all facets of teaching and learning, and graduate outcomes – **international perspectives are vital**

**Shaping
complexities**



AHELO addresses **serious information gaps** in higher education

Unique and significant value

Outcomes data **helps leaders** manage growth, quality and cost complexities

Further reliance on flawed, simplistic rankings will constrain growth and prosperity – **robust multidimensional perspectives required**

Measures of learning outcomes are the **key to diagnosis and reform** in higher education worldwide

'Strands' of testing

Generic Skills

Economics

Engineering

Contextual dimension

National Context Information

Institution Context Instrument

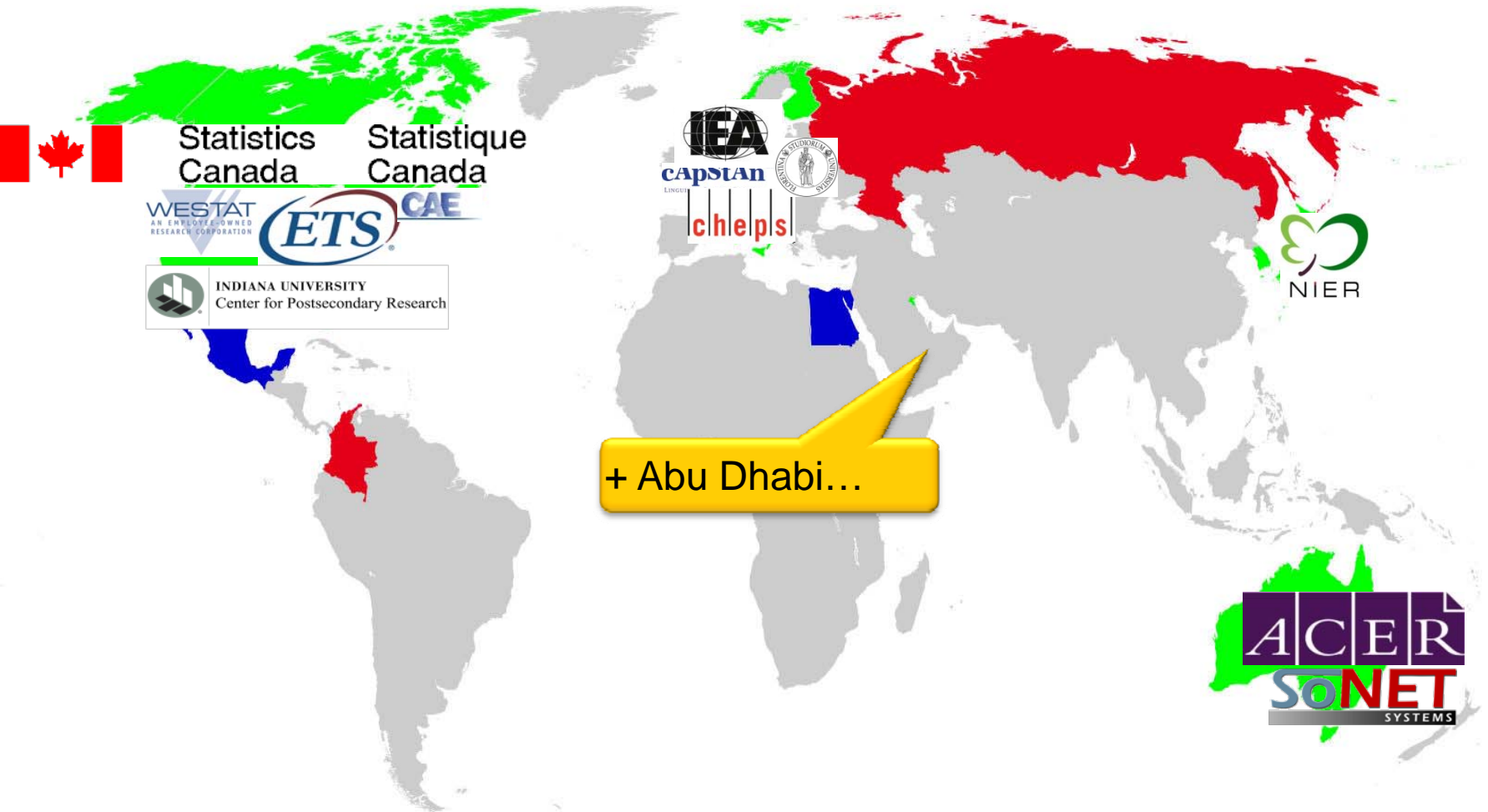
Faculty Context Instrument

Student Context Instrument

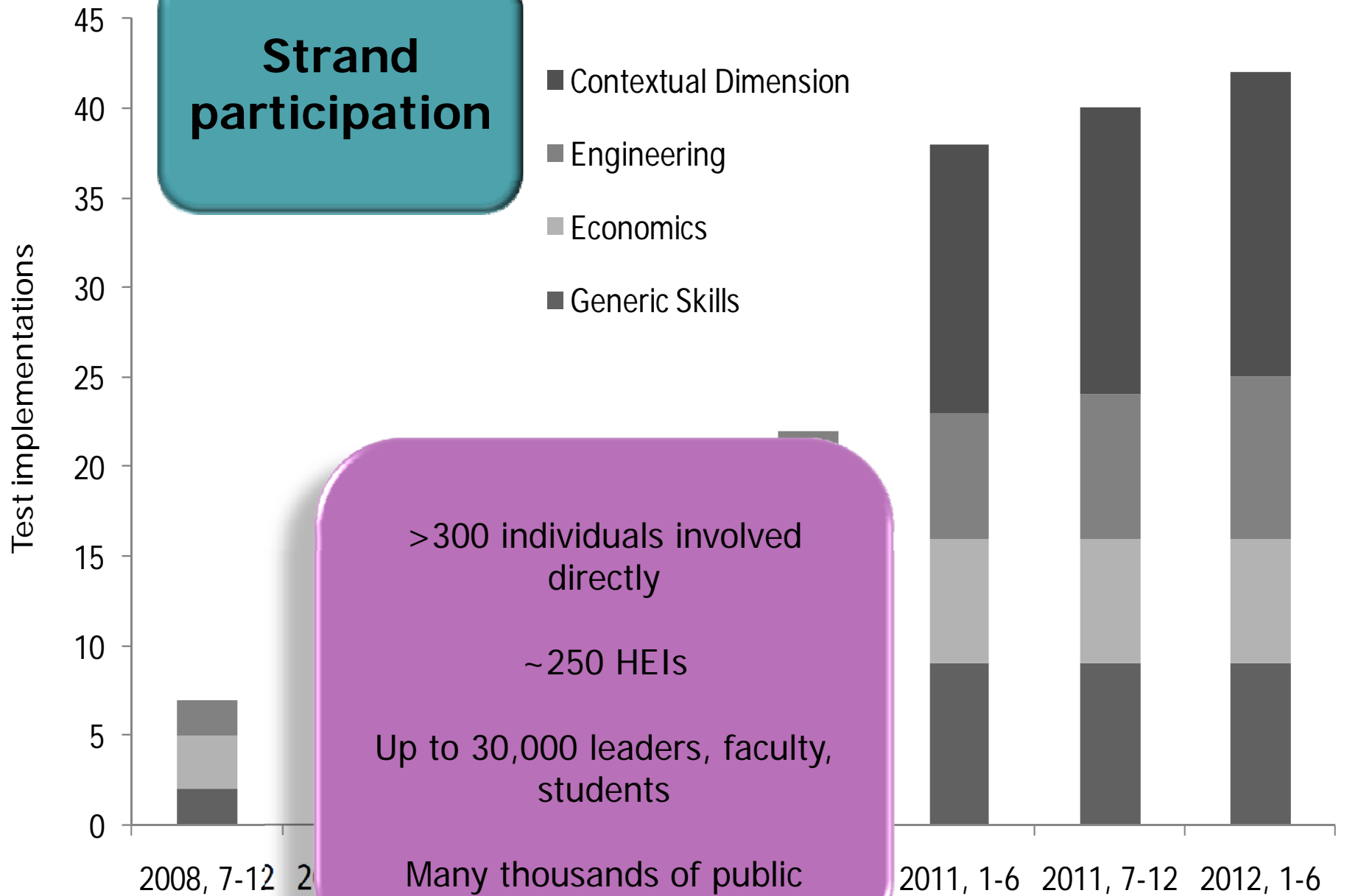
AHELO world map

Linguistically diverse...

Arabic Dutch English Finish
Flemish Italian Japanese Korean
Norwegian Russian Slovak Spanish



Strand participation



>300 individuals involved directly

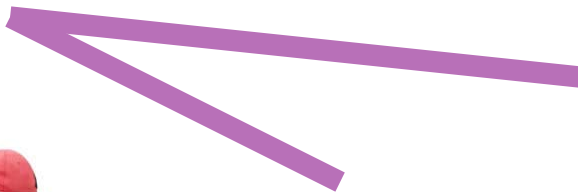
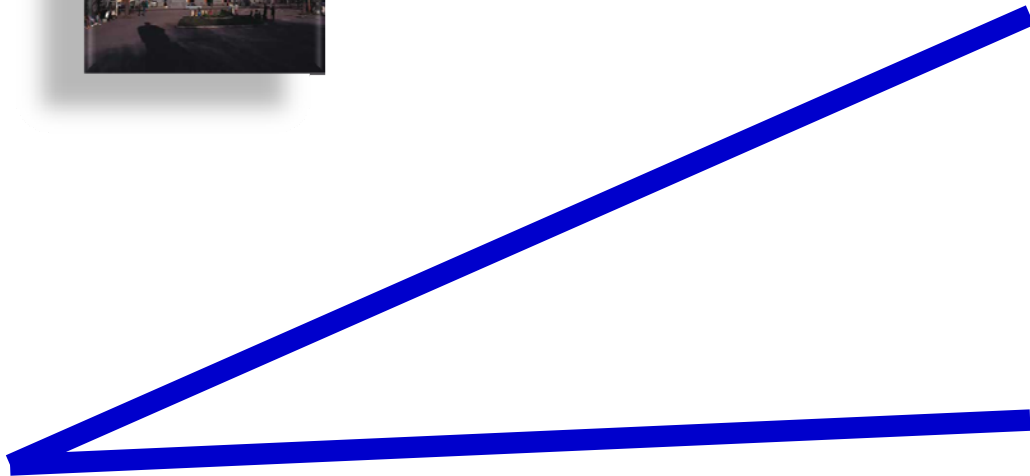
~250 HEIs

Up to 30,000 leaders, faculty, students

Many thousands of public stakeholders



Potential engagement models



Preparation

- Establish National Centre
- Translate and validate instruments
- Engage institutions
- Train Institution Coordinators
- Prepare for testing


Assessment

- Select students
- Administer secure test
- Score responses
- Verify and provide data

Reporting

- Prepare multilevel benchmarking reports
- Distribute reports to National Centres
- Interpretation for monitoring and improvement

**How
AHELO
works**

Q2: How can  be most relevant to you and to your learners?



Framework and item development

Tuning AHELO / QAA frameworks
Curriculum documents
Accreditation systems
Discipline research

- Outcome specification
- Document analysis
- Consultation
- Synthesis, review

Framework creation

Item creation

- Gather existing materials
- Item workshops
- Technical review
- Framework mapping
- Adaptation, translation
- Verification

- Qualitative testing
- Quantitative testing
- Operationalisation

Instrument validation

Authentic, hybrid item types
'Above content' reasoning
Focus on 'common core'

Translation, adaptation and verification

Designed to maintain cross-national comparability of assessment materials

A holistic, robust and flexible approach, linked with item production and validation

Adaptations managed as a continuous process

Native speakers of target language trained to detect specific pitfalls

Economists or engineers who are speakers of target language





**Context
Assessment**

Jon File (Director)



INDIANA UNIVERSITY
Center for Postsecondary Research



AHELO Technical Advisory Group

- Peter Ewell, United States (Chair)
- Vaneeta D'Andrea, United Kingdom
- Paul Holland, United States
- Motohisa Kaneko, Japan
- Lynn Meek, Australia
- Keith Rust, United States
- Frans Van Vught, Netherlands
- Robert Wagenaar, Netherlands

Student questions

University
Satisfaction
Work read
Academic
Work/indu
Interaction
Active lea
Student de
Enrolment
Destination

System-level data

Attainment rates
Graduate outcomes
Funding
Sector dimensions
Student demographics

Faculty culture
Modes of teaching
Faculty characteris
Teaching load

Contextual dimensions

Institution contexts

Retention
Graduate outcomes
Selection of students
Support services
Degree structure
Curriculum



INDIANA UNIVERSITY
Center for Postsecondary Research



Engineering Assessment

Julian Fraillon (Director)



cApStAn^{GM}
LINGUISTIC QUALITY CONTROL

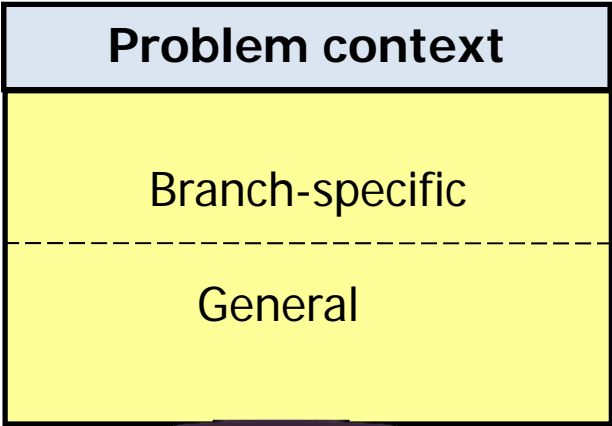


- Robin King, Australia (Chair)
- Giuliano Augusti, Italy
- Mario Gomez, Mexico
- Michael Hoffman, Germany
- Kikuo Kishimoto, Japan
- Johan Malmqvist, Sweden
- Nobutoshi Masuda, Japan
- Jim Melsa, United States
- Lueny Morell, United States



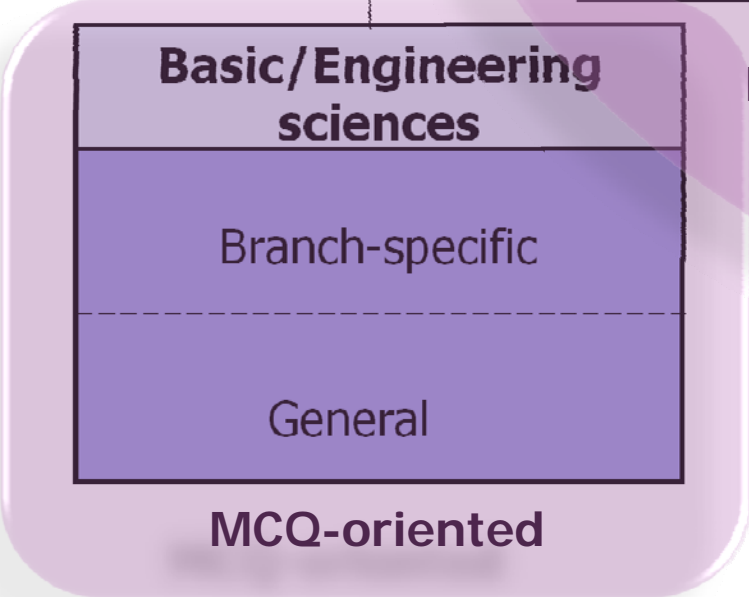
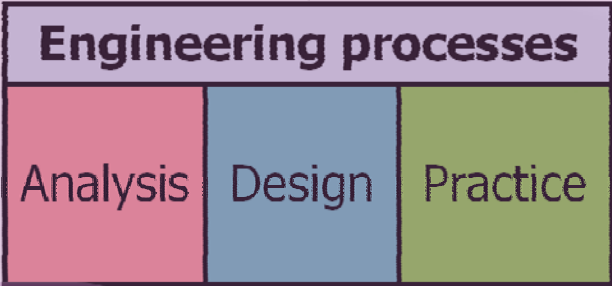
Engineering Expert Group

Engineering Assessment Framework

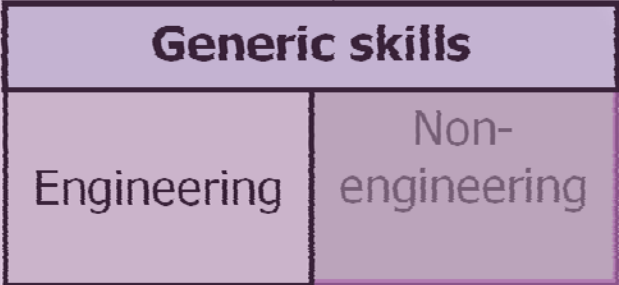


Item situation

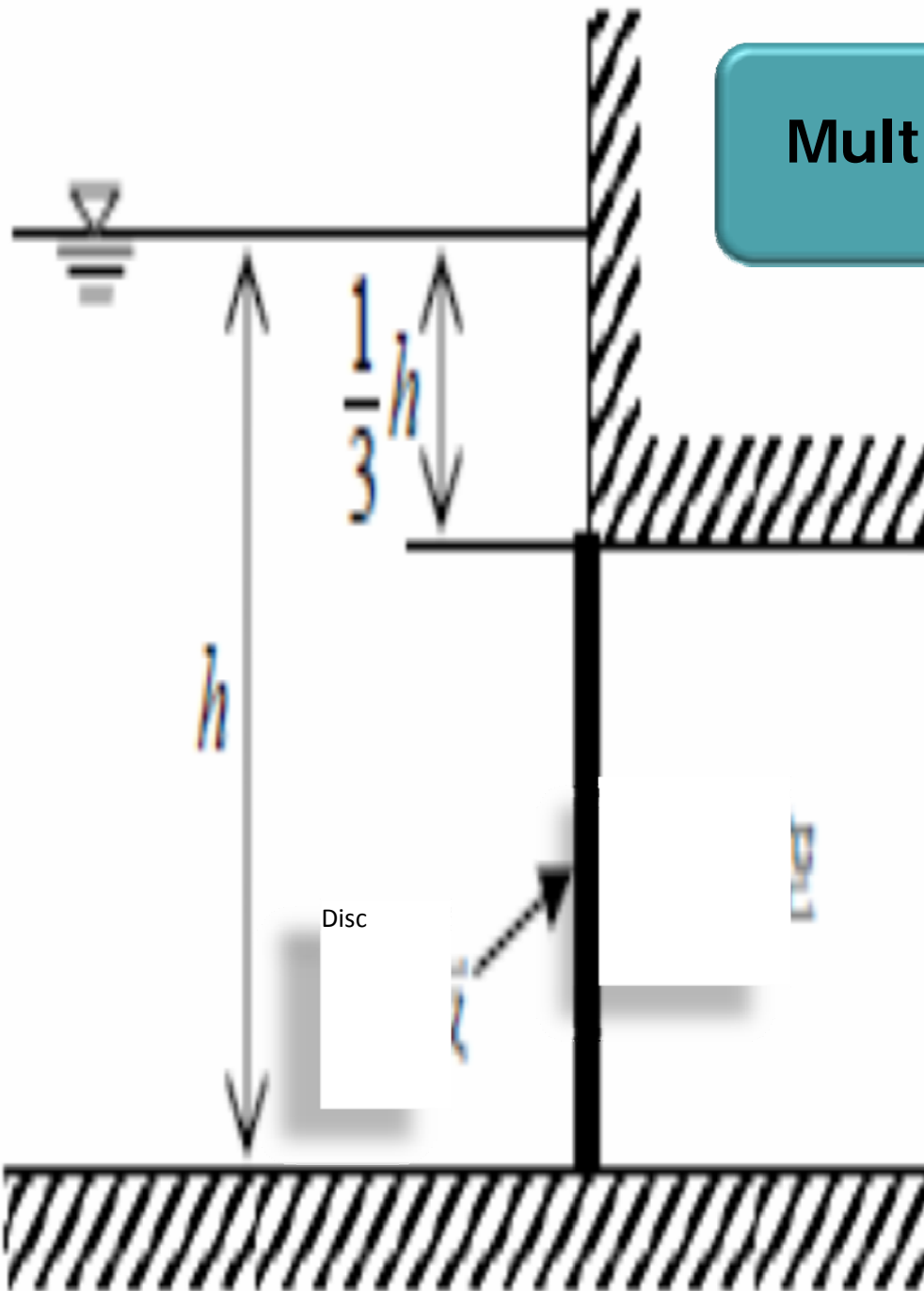
Engineering competence



Emphasis on constructed response



Multiple choice items



Based on Japanese licensing examinations

Focused on Basic and Engineering Sciences

40 items selected, revised and internationalised

Items panelled and mapped



Representative sample of authentic and engaging Civil Engineering contexts



Photographs, diagrams and charts used to stimulate interest and minimise text



Students need to exercise components of Engineering competency



Can they think like an Engineer?



Competencies demonstrated in student responses

Constructed response tasks

法に満たないガセット板（厚さ 13mm）が見つかった。すなわち、「各継手組、合計 16 枚の板が、要求される厚さの約半分であり、その薄さでは、架された橋に期待される安全性を確保するに至らなかった。」

この所見は、事故の原因が継手部分における疲労に違いないとする当初のものであった。



Construct validation

Students (X)

22	23	55	61		
15	36				
41	68				
11	59				
26	67				
65					
9	10	33			
16	21	24	25		
12	51				
30	48				
32	66				
7	46	53	60	64	
18					
13	50	56			
28	63				
17	42	47	49		
1	20				
6	54				
2					
43	44				
5	8	31	35	57	62
19					
58					
27	29				
4					
3	38				
14	40				
45	52				
37					
39					
34					

Four constructed response modules (28 items) and 40 multiple-choice items

7					
1					
2	6				
5					
4					
3					

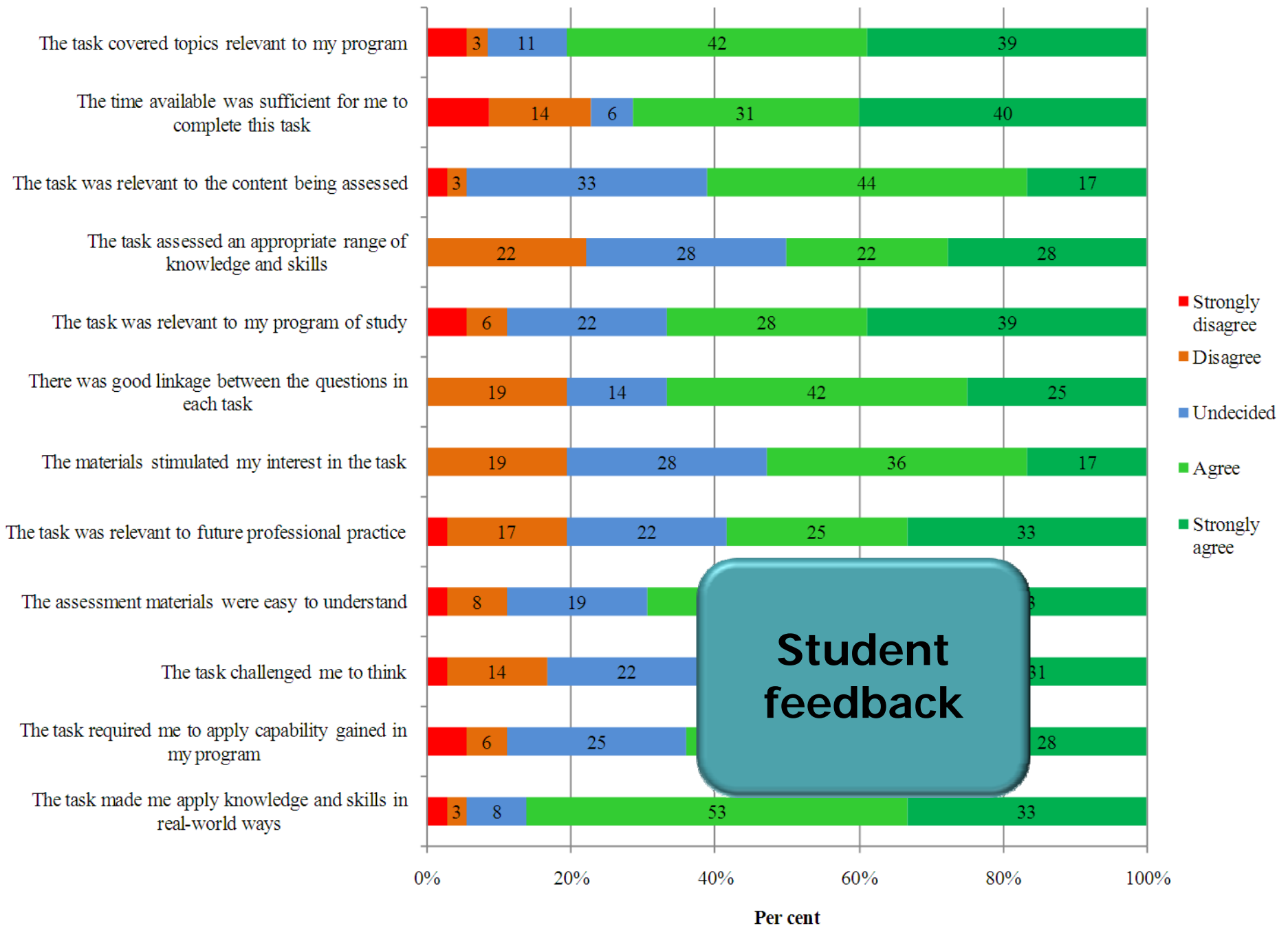
4				
3				
2				
5				
1				
1				
5				
4				
3				
1				

Linear metric being measured

Test items

Second constructed response module (5 items)

First constructed response module (7 items)



Sample student feedback

The multiple choice items were easy compared to the constructed response task. There should be a better balance.

Some of the options are obviously incorrect, thus making the task too easy.

The diagrams were helpful in understanding the question. Focus on real world situations.

Had not learned much about environmental impact assessment and ethical issues. Very unfamiliar.

Its realistic problems make me to think and understand that the knowledge I learned from university are being applied in real world

Too technical, especially with the levels of assumed knowledge

We haven't touched on sustainable development so these questions were a bit tricky

Interest question which challenges people to think. Real situation for real application was interesting

Made me realise I forget things easily

Q3: What is the best way
you could get involved in
building frameworks and
instruments?



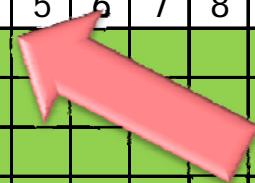
Taking stock

Phase 1

	2010												2011											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Generic Skills	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Economics							█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Engineering							█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Contextual Dimension													█	█	█	█	█	█	█	█	█	█	█	█
International Management							█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█

Phase 2

	2011												2012											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Generic Skills	█	█	█				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Economics	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Engineering	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Contextual Dimension	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
International Management	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█





Implementation support resources

Computer-based delivery platform

Training of test supervisors and scorers

Sampling students and faculty

Managing and quality assuring test administration

Scoring and data verification

Scaling and statistical analysis

Evaluation, and HEI and international reports

**Implementation
work**

Defined **engagement cycle** established to support countries, institutions and students

Designed **sustainable business models** for AHELO

Assessment frameworks and test instruments developed to support multidimensional test/context instrumentation

Established methods for test design, development, translation/adaptation and validation

Defined operational workflow and quality control procedures required to support global testing

Forming awareness of how AHELO is **positioned globally**

Interim report into "Phase 1: instrumentation"...

Emerging insights, findings



EDU/IMHE/AHELO/GNE(2012)5
Unclassified

Unclassified

EDU/IMHE/AHELO/GNE(2012)5

Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development

12-Mar-2012

English - Or. English

DIRECTORATE FOR EDUCATION
INSTITUTIONAL MANAGEMENT IN HIGHER EDUCATION GOVERNING BOARD

Group of National Experts on the AHELO Feasibility Study

REVISED INTERIM FEASIBILITY REPORT

9th meeting of the AHELO GNE

Paris, 19-20 March 2012

*This document was prepared by the ACER Consortium.
The AHELO GNE is invited to TAKE NOTE of this document.*

Contact:
Consortium: ahelo@acer.edu.au
OECD Directorate for Education: Diane.Labancette@oecd.org

JT03317552

*Complete document available on OLIS in its original format
This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of
international frontiers and boundaries and to the name of any territory, city or area.*

English - Or. English

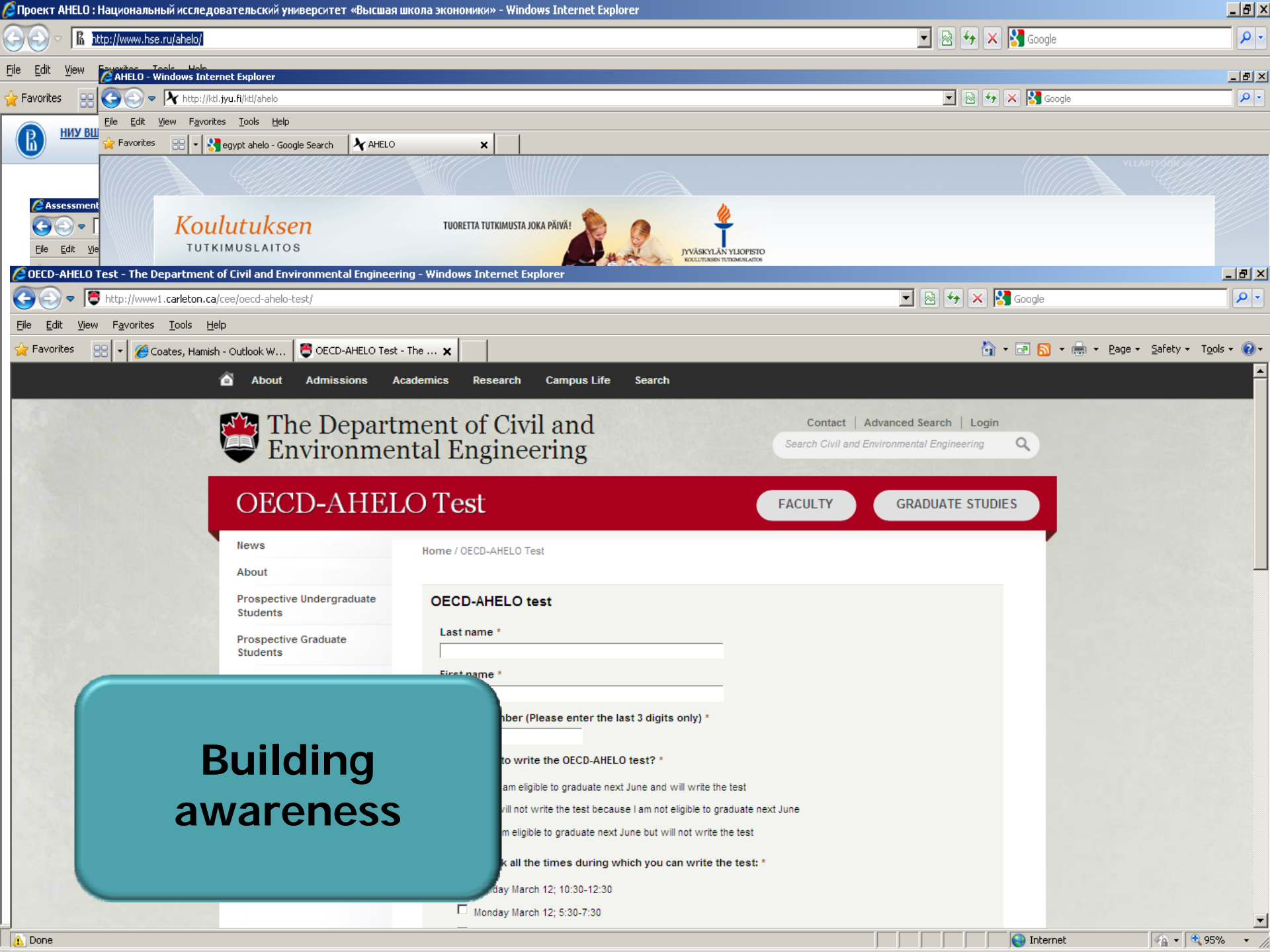


Change horizons

- Operational / technical materials
- HEI reports
- Technical reports
- International FS report
- Data files, etc.
- Communities of practice



**Building
communities**



Building awareness

The Department of Civil and Environmental Engineering

OECD-AHELO Test

FACULTY

GRADUATE STUDIES

- News
- About
- Prospective Undergraduate Students
- Prospective Graduate Students

Home / OECD-AHELO Test

OECD-AHELO test

Last name *

First name *

Number (Please enter the last 3 digits only) *

Do you plan to write the OECD-AHELO test? *

I am eligible to graduate next June and will write the test

I will not write the test because I am not eligible to graduate next June

I am eligible to graduate next June but will not write the test

When will you write the test? *

- Friday March 12; 10:30-12:30
- Monday March 12; 5:30-7:30

The screenshot shows the OECD Better Life Index website's 'Finder & Viewer' tool. The interface includes a navigation menu with options like Home, Regions, U-Map LLL, Finder & Viewer, News, About, Methodology, FAQ, and Contact. A search bar is located at the top right. The main content area is divided into several filter categories:

- Teaching and Learning:** Subject areas covered (comprehensive, broad, specialised, none), Degree level focus (Doctorate, Master, Bachelor, short first, doctorate-master, master-bachelor, bachelor-short first), Orientation of degree (general formative focus, licensed/regulated professional orientation, other career oriented focus, mixed focus), and Expenditure on teaching (major, substantial, some, none).
- Student profile:** Mature students (major, substantial, some, none), Part-time students (major, substantial, some, none), Distance education students (major, substantial, some, none), and Total enrolment (very large, large, medium sized, small).
- Knowledge exchange:** Start-up firms (major, substantial, some, none), Patent applications (major, substantial, some, none), Cultural activities (major, substantial, some, none), and Income from knowledge transfer (major, substantial, some, none).
- International orientation:** Exchange students, Incoming (major, substantial, some, none), Exchange students, sent out (major, substantial, some, none), Foreign degree seeking students (major, substantial, some, none), Non-national academic staff (major, substantial, some, none), and Income from international sources (major, substantial, some, none).
- Research involvement:** Peer reviewed academic publications (major, substantial, some, none), Professional publications (major, substantial, some, none), Other research output (major, substantial, some, none), Doctorate production (major, substantial, some, none), and Expenditure on research (major, substantial, some, none).

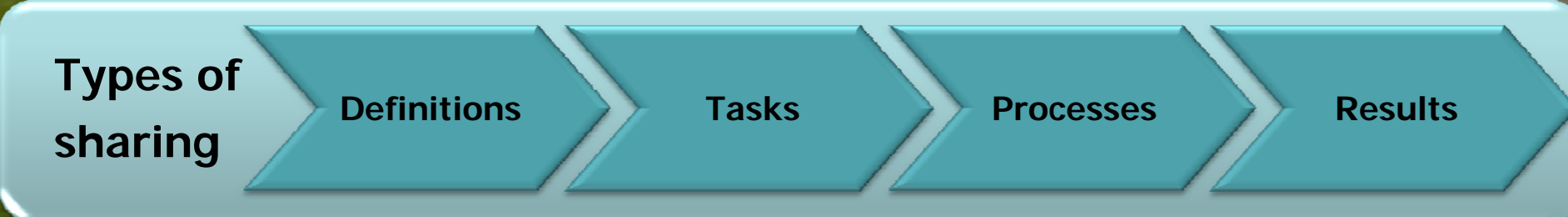
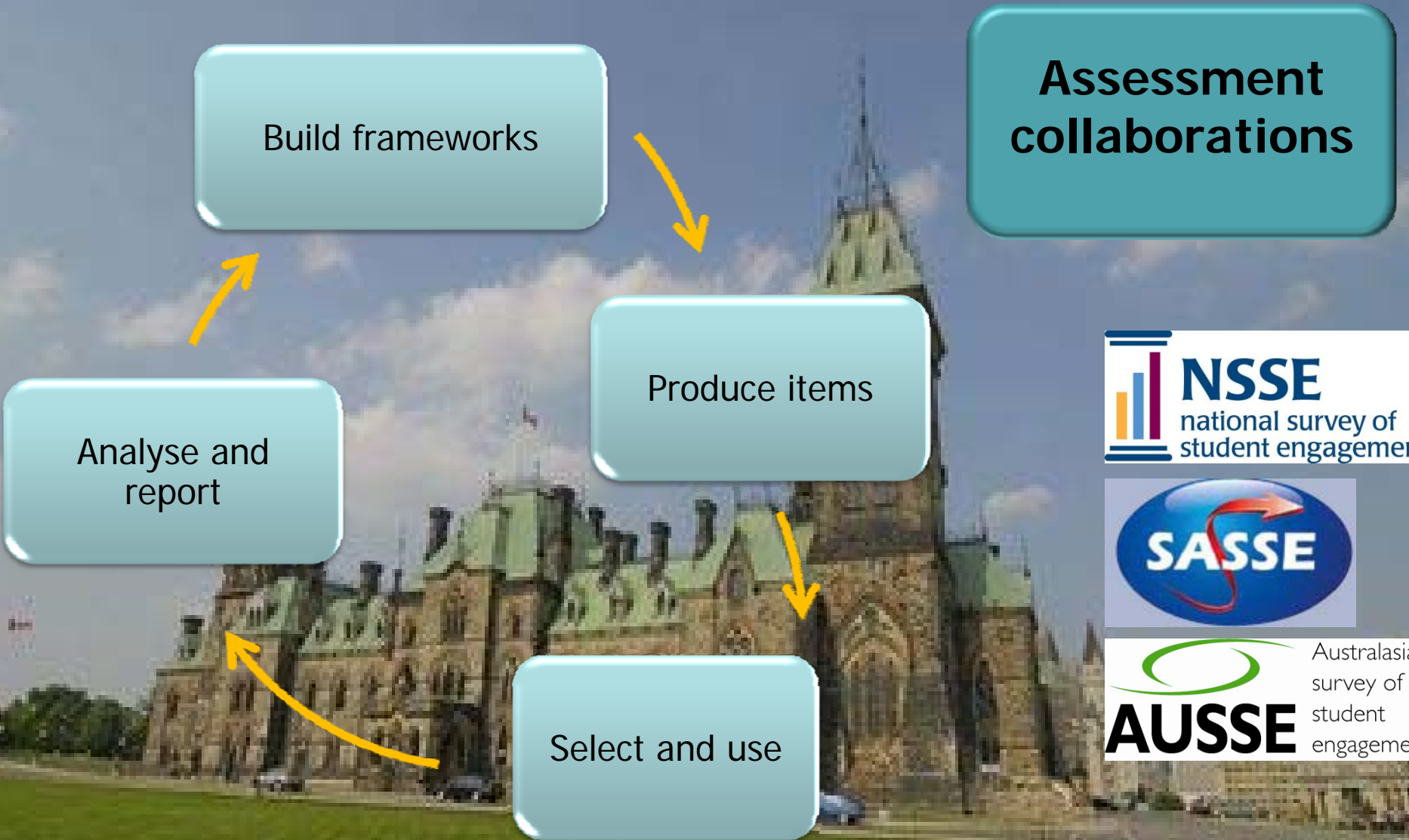
A map on the left side of the interface shows the geographical distribution of results, with labels for Austria and Belgium. At the bottom of the page, it indicates 'Found 67 of 67' results. A large blue button in the foreground contains the text 'Reporting results'.

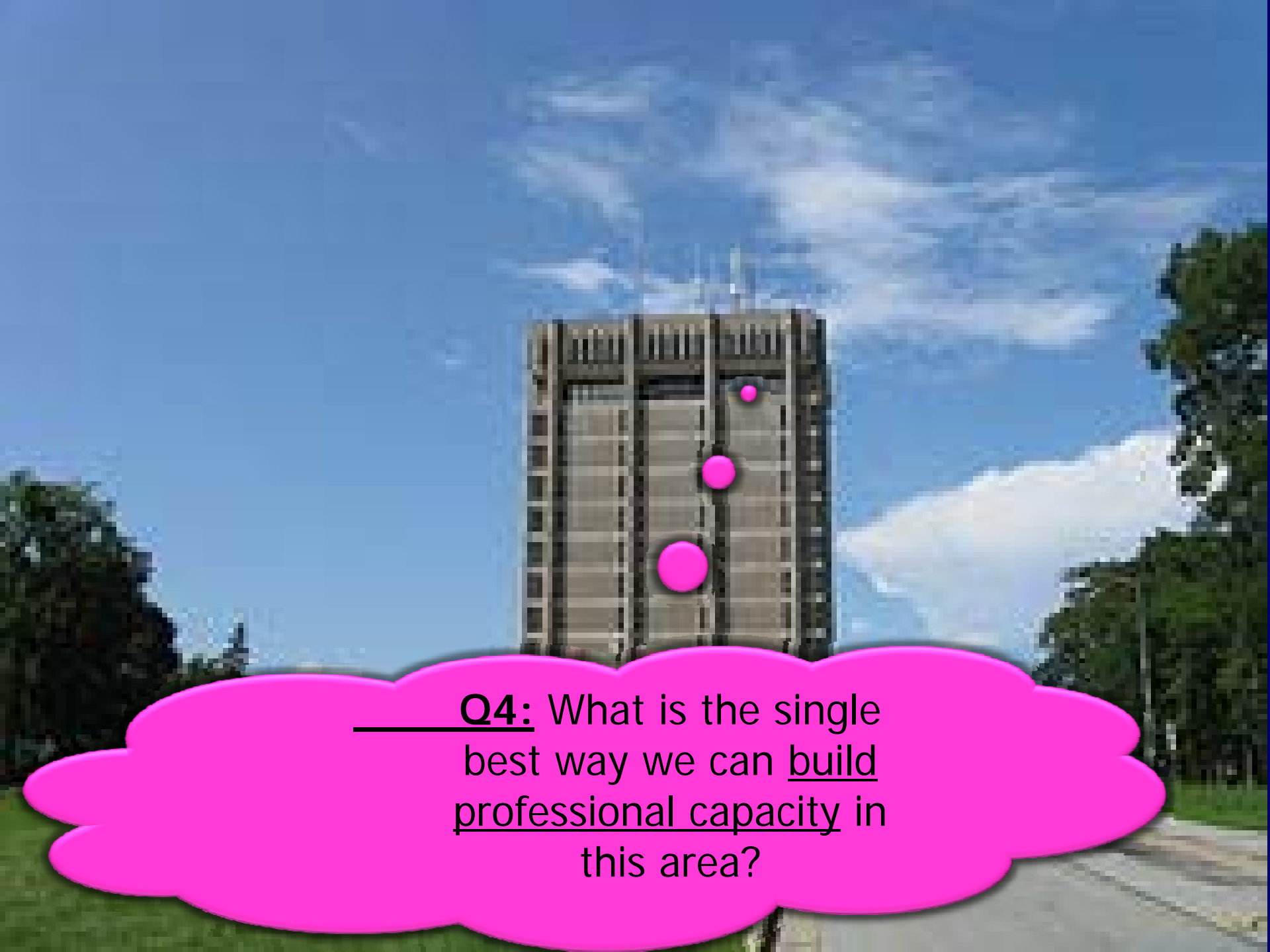
<http://oecdbetterlifeindex.org>



PCVEY

"These new regulations will fundamentally change the way we get around them."





Q4: What is the single best way we can build professional capacity in this area?



**Measuring Student Learning for
Policy and Planning**

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responses to the four
questions....