資料5-1

Measuring learning outcomes in Higher Education:

Lessons learnt from the AHELO Feasibility Study and next steps.

11-12 March 2013
OECD Conference Centre, Paris

MONDAY 11 MARCH 2013	
	Registration
9:00 – 10:30	**Plenary 1 – Conference opening** **Welcome speech** OECD Director for Education **Opening keynote - The emergence and rationale for measuring learning outcomes** Jamie Merisotis, Lumina Foundation for Education **The making of the AHELO feasibility study and key findings** OECD Secretariat
10:30 – 11:00	*Coffee break*
11:00 – 12:30	**Plenary 2 – Lessons on what worked, what didn't work and what we learnt from the Feasibility Study experience** OECD Secretariat, Chairs of the AHELO GNE and TAG
12:30 – 14:30	*Lunch break*
14:30 – 16:00	**Plenary 3 – What we learnt about the purpose and uses for measures of learning outcomes?** **Keynote 2 - Measuring learning outcomes: what for and for whom?** Andreas Schleicher, OECD **Stakeholders' views on measuring learning outcomes**
16:00 – 16:30	*Coffee break*

16:30 – 17:15	**Plenary 3 - Continued**
17:15 – 18:00	**Plenary 4 – Taking AHELO forward: next steps and the importance of the workshop discussions** Deborah Roseveare

TUESDAY 12 MARCH 2013	
9:00 – 10:30	**Workshop 1** **Are international measures of learning outcomes a valid and valuable response to today's higher education challenges?**
10:30 – 11:00	*Coffee break*
11:00 – 12:30	**Workshop 2** **What are the key challenges in developing an international measurement of learning outcomes?**
12:30 – 14:30	*Lunch break*
14:30 – 16:00	**Workshop 3** **How can we combine an assessment that is useful to institutions with wider policy goals?**
16:00 – 16:30	*Coffee break*
16:30 – 18:00	**Plenary 5 – Conference closing** **What have we learned from the workshops?** Deborah Roseveare **Conference Closing and wrap-up of conference discussions**

資料5-2

AHELO Feasibility Study
Symposium for Participants

13 March 2013
OECD Conference Centre, Paris

WEDNESDAY 13 MARCH 2013	
8:00-9:00	*Registration*
9:00 – 10:00	**Plenary 1 – National management** Presentation from 3 national project manager (NPMs) from 3 different countries Discussion
10:00 – 10:30	*Coffee break*
10:30 – 11:30	**Plenary 2 – Institutional management** Presentation from 3 different countries Discussion
11:30 – 12:00	*Coffee break*
12:00 – 13:00	**Plenary 3 – How to engage students?** Presentation from 3 different countries Discussion
13:00 – 14:30	*Lunch break*
14:30 – 16:00	**Plenary 4 – International/transnational communication – networking experiences** Presentation from 4 different countries Discussion
16:00 – 16:30	*Coffee break*
16:30 – 17:45	**Plenary 5 – Main lessons** Presentation from 4 different countries Discussion
17:45 – 18:00	**Wrap-up**

資料5-3

OECD高等教育における学習成果の評価(AHELO)フィージビリティ・スタディの実施のあり方に関する調査研究
第3回研究会（平成25年3月19日）

OECD AHELO最終会合およびシンポジウム報告

岸本喜久雄（東京工業大学）
深堀聰子（国立教育政策研究所）
J.S. Cross（東京工業大学）

ahelo
Assessment of Higher Education Learning Outcomes

1. Measuring learning outcomes in Higher Education: Lessons learnt from the AHELO Feasibility Study and next steps. (11-12 March 2013)
2. AHELO Feasibility Study Symposium for Participants (13 March 2013)

OECD Conference Centre, Paris

March 11

Plenary 1, The emergence and rationale for measuring learning outcomes
Jamie Merisotis, CEO, Lumina Foundation for Education, Washington DC

- talked about the merits for measuring university learning outcomes
- in US learning outcomes is an important topic
- Note: Lumina Foundation has a Goal to increase US high education attainment of degrees & certificate to 60% of population college age students

Plenary 2 – Lessons on what worked, what didn't work and what we learnt from the Feasibility Study experience
OECD Secretariat, Chairs of the AHELO GNE and TAG

- AHELO feasibility study (FS) was successfully executed world-wide
- FS data analysis incomplete
- Action item: data analysis and feedback to each participating country

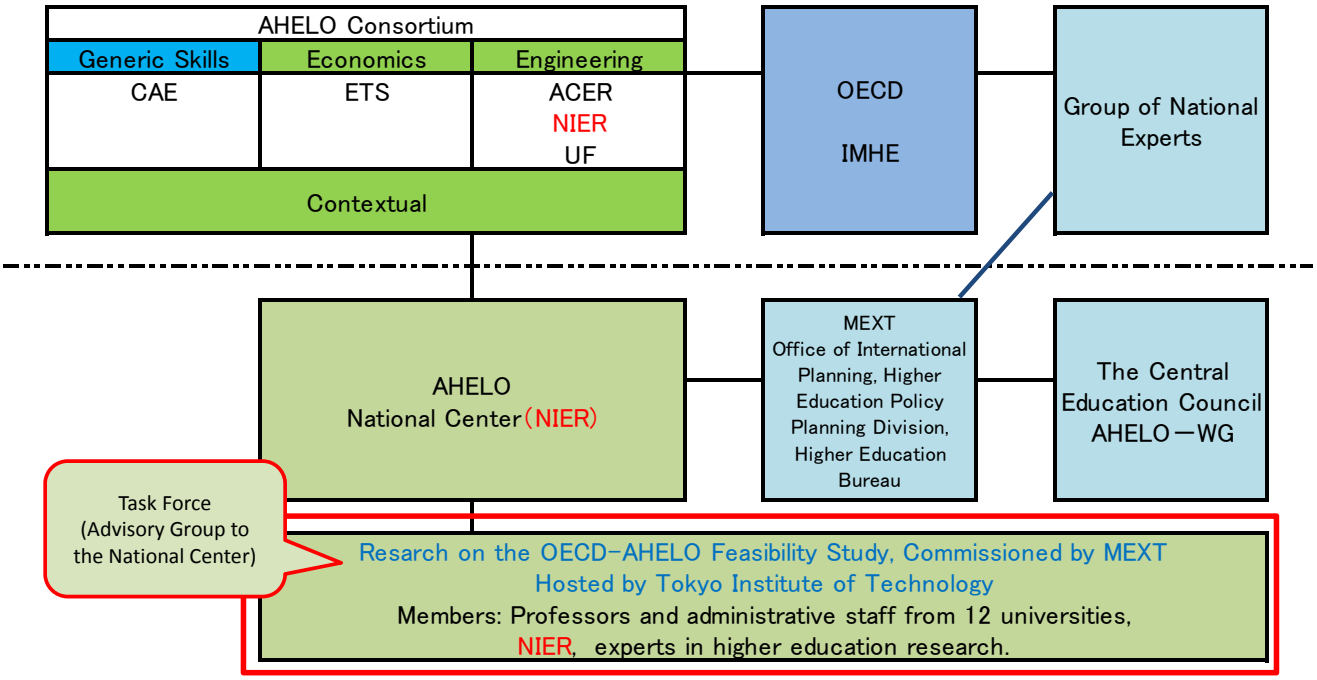
Measuring learning outcomes in Higher Education: Lessons learnt from the AHELO Feasibility Study and next steps.
March 11-12, 2013
OECD Conference Centre, Paris
Plenary 2: Lessons on what worked, what didn't work, and what we learnt from the Feasibility Study experience
March 11, 2013, 11:00-12:30

Lessons on what worked, what didn't work, and what we learnt from the Feasibility Study experience: The Japanese perspective

Satoko Fukahori
National Institute for Educational Policy Research

National Management

A research driven collaboration among engineering and HE research experts.
A shared understanding of AHELO as an approach to enhance and assure the quality of HE.



What worked in Japan

Through this research driven collaboration, the Japanese AHELO team:

- 1) Came to share the sense of urgency to embrace learning outcomes based quality assurance schemes, and the idea that AHELO would provide important implications for educational improvement.
  - Educational improvement must be faculty driven.
  - AHELO was understood as an assessment tool that informs institutions/programs about their educational status, and not as a tool to be used for ranking.
  - The National Center worked closely with the task force (5 professors), which oversaw the verification of instruments and its translation. In effect, a strong sense of ownership of the project developed over time.
- 2) Developed a genuine interest in conceptualising and measuring engineering competencies and learning outcomes.
  - Achieved a tangible and substantive understanding of a conceptual framework of engineering competencies and learning outcomes that can be shared globally.
  - Empowered with concrete and innovative ideas for developing assessment tools.

What didn't work in Japan

- 1) Translating instruments according to protocols:
  - Learning from mistakes.
    - Lack of plural forms, word order, passive voice.
  - Achieving substantive equivalence requires some flexibility (less focus on word to word correspondence) and extensive knowledge of the language and the subject matter.
- 2) Involving faculties within institutions:
  - Taking faculty time away from teaching and research requires a very good reason, as well as a clear description of how the activity might benefit institutions.
    - Secure sufficient time and resources to communicate the importance of AHELO. Do not miss the momentum. The prolonged planning period made it difficult to keep the higher education community interested and engaged.
    - Be specific about what kind of feedback institutions will receive.

What we learnt in Japan

- 1) An international assessment of higher education learning outcomes can become a useful tool for educators to globally benchmark and update their teaching practices.
  - As a necessary condition, the instrument must be embraced by faculty as relevant and reliable.
  - There should be a shared understanding of the conceptual framework of competencies and learning outcomes, and of the approach to their measurement.
  - Feedback must be provided in a way that it will inform institutions, not threaten them.

- 2) The exercise of scoring and modifying scoring rubrics by an international and national team of experts is extremely important in order to reach consensus on the scope and level of expected learning outcomes.
  - Measuring how students can "think" like an engineer requires a thoughtful balance between preciseness and open-endedness.

AHELO can become a powerful tool for educational improvement, when instruments and scoring rubrics are made fully available to participating institutions, and when
coupled with workshops that induce discussion about curriculum design and encourage innovation in teaching and learning.

Thank you for your attention.

fukahori@nier.go.jp

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Plenary 3 – What we learnt about the purpose and uses for measures of learning outcomes?

Keynote: Measuring learning outcomes what for and for whom?
Andreas Schlieder, OECD

-asked a lot of interesting questions about learning outcomes but provided few examples

Measuring learning outcomes in Higher Education:
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11-12 March 2013, OECD Conference Centre, Paris
Plenary 3 – What we learnt about the purpose and uses for measures of learning outcomes?

The Universities' Viewpoints

Kikuo Kishimoto
Dean, School of Engineering
Tokyo Institute of Technology

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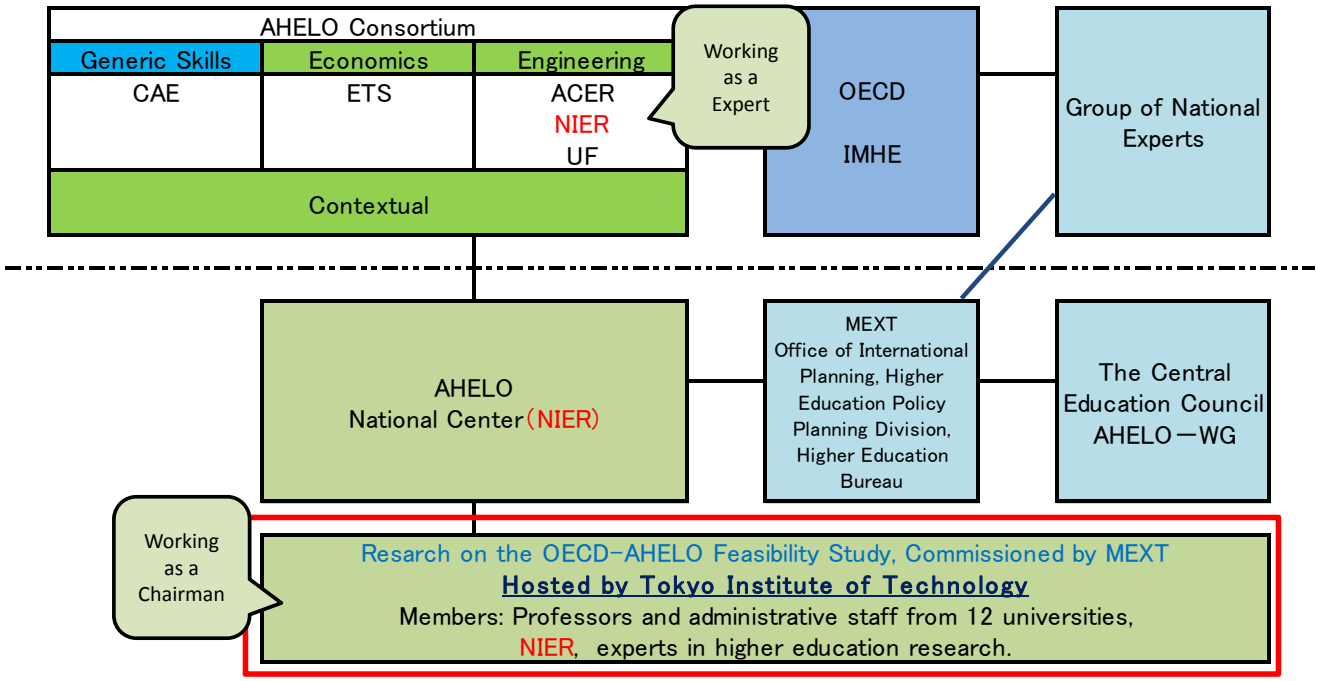
Assessment of Higher Education Learning Outcomes

National Management in Japan

A research driven collaboration among engineering and HE research experts.

A shared understanding of AHELO as an approach to enhance and assure the quality of HE.



Findings from Instrument Development, Implementation, and Scoring

Findings from Instrument Development, Implementation, and Scoring

- MCI(Basic and Engineering Sciences)
  - Verification of the International validity of items developed by Japanese experts.
- CRT (Engineering Process)
  - Instrument development and scoring are difficult tasks.
  - Some of the difficulties can be overcome through experience.
  - High correlation between CRT and MCI.
  - Why should we try to develop CRTs?
    - A powerful message that higher order skills such as "engineering processes competencies" are important.
    - Will urge universities to engage in institution/programme-wide efforts to construct and reconstruct their teaching and learning programme so that students are able to achieve the higher order thinking skills that CRTS aim to measure.

The Impact of AHELO
An Opportunity for Universities to Engage in an International Effort toward Educational Improvement

- The successful collaboration of international experts proved that a consensus can be reached on what learning outcomes university students are expected to achieve, and how they can in fact be measured.
  - Provides important implications to the international benchmarking of Japanese engineering education.
- How can we maximize the educational improvement function of AHELO?
  - Open access to assessment instruments and scoring rubrics.
  - Exchanging ideas and sharing experiences on effective approaches to the achievement of learning outcomes.
  - Optimizing the research design of AHELO to best meet the needs of universities.

March 12
Workshops on merit of learning outcomes… AHELO, etc.

March 13
Symposium where participating countries gave presentations and informal meeting

- Overview: many countries requested to receive greater data access to FS evaluation and analysis during an informal workshop. More data will be supplied with mapping between MCQ clusters and responses. However, it is unclear when data will be supplied to countries.
- Columbia already administers a HEI standardized test for students so AHELO FS was supplementary
- Canada and Australia have plans for greater bilateral info exchanges
- Student response rate varied greatly by country along with student incentives
- Many countries were very committed to FS (Egypt, during revolution), Slovakia: committed 1.5M Euro to FS (OECD and incentives to faculty/students)

AHELO Feasibility Study Symposium
March 13, 2013
OECD Conference Centre, Paris
Plenary 5 Main lessons, 16:15-17:30

Main Lessons: The Japanese Experience

Satoko Fukahori
National Institute for Educational Policy Research

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A research driven collaboration among engineering and HE research experts.
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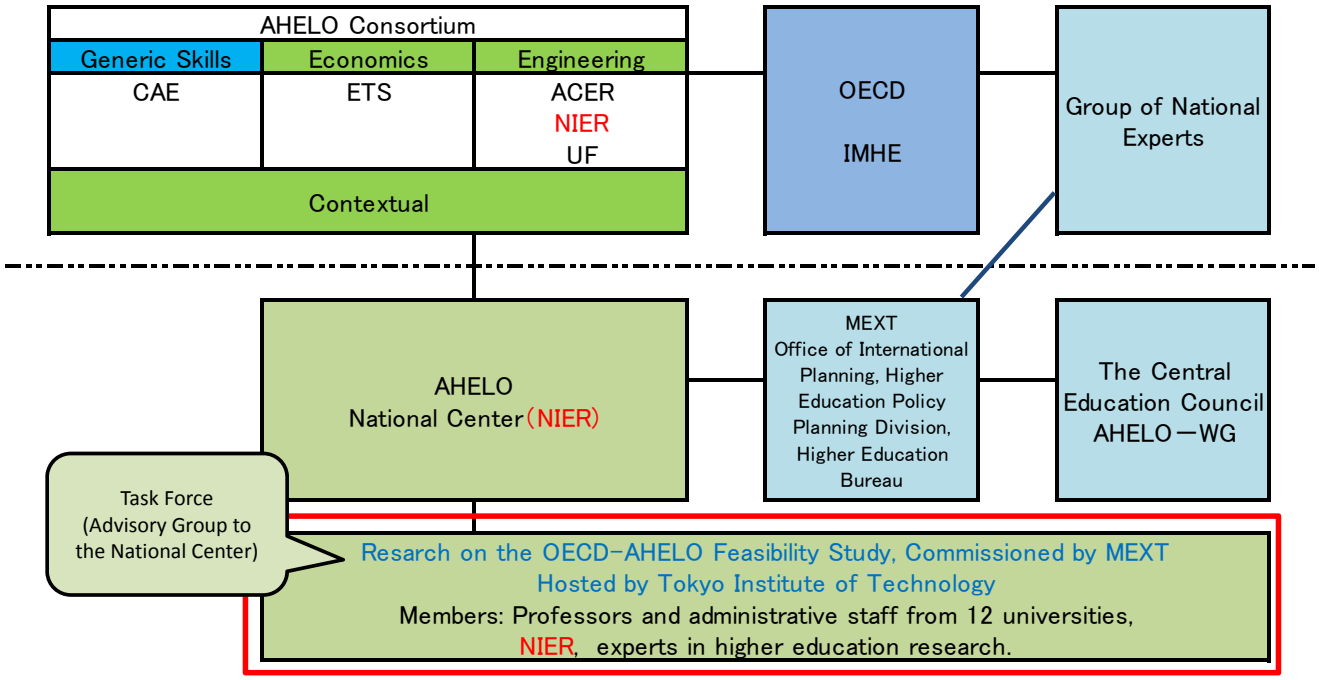

A Research Project

1) Through this research driven collaboration, the Japanese AHELO team came to share the sense of urgency to embrace learning outcomes based quality assurance schemes, and the idea that AHELO would provide important implications for educational improvement.

2) The research activity helped sustain the engagement of the higher education community during the prolonged planning period between 2009 and 2011.

Fieldwork Operations

Activities	Date, Sample
Phase 1: Small-scale Validation of Instruments ■ Pencil and Paper test（60 minutes）(1CRT, 20MCI) ■ Survey about the instrument（60 minutes） 1) Student questionnaire 2) Focus Group (Discussion - faculty and students) ■ Faculty and Institution Survey	May, 2011 10 universities 75 students
Phase 2: Large-scale Administration of Instruments ■ Online test（90 minutes）(1CRT, 25MCI) ■ Contextual Instrument（10 minutes） ■ Faculty and Institutional Survey online	April-May, 2012 12 universities (convenience sample, 8 public & 4 private, varying size, from around the nation) 504students (census)
Scorer Training and Scoring ■ Training: an afternoon and evening ■ Scoring: 2 full days ■ The average reliability score for exact agreement: 89.11%	June, 2012 1 Lead Scorer & 12 Scorers From 7 institutions.

Student Comments

【Multiple Choice Items】

- Relevant to what is taught in the university.
- The items seemed disconnected and superficial. Test items should tap on more complex sets of knowledge and skills.

【Constructive Response Tasks】

- Interesting in how they related to real life problems. Very different from the typical abstract and theoretical items.
- The items prompted me to think about problems and solutions. Very practical and useful.
- I liked thinking about real life problems, investigating causes of failures, proposing solutions, and thinking about my responsibility as an engineer.
- We haven't had opportunities to acquire problem solving skills. To be able to solve CRTs like these, and to be better prepared for our careers, our engineering curriculum should be updated to include more project based activities and group work.

Scoring

1) The scoring exercise proved to be an invaluable opportunity, internationally and nationally, for experts to discuss and reach agreement on what is required as learning outcomes for fourth year engineering students.
2) The AHELO innovative instruments were eye openers for our Scorers. They prompted the professors to reflect critically on how they teach and test their students, and inspired them to use alternative approaches.

Developing and Scoring CRTs is a Complex Task Requiring High Level Expertise

- Preciseness:
  - Clarify what the task is trying to measure.
  - Clearly define the scope and level of learning outcomes students are required to demonstrate.
    - Elaboration of Scoring Rubrics.
- Open-endedness:
  - No matter how precisely the scoring rubric has been elaborated on, there will always be unanticipated student responses.
    - Ongoing efforts by test makers to construct and reconstruct scoring rubrics are necessary.
  - The "Other responses" option is always necessary to account for unanticipated but valid responses.
    - Ongoing efforts by scorers to construct and reconstruct consensus regarding the scope and level of learning outcomes are necessary.
    - Group-work of 6-7 scores proved to be most effective in this process.

Modifications based on Findings from Phase 1

- Clarification of vague descriptions to ensure that students understand exactly what they are being asked.
  - （before）Explain the main design features that contribute to the strength and stability of this dam.
  - （after）Explain the two main design features that contribute to the structural strength and stability of the Hoover dam.
- Modification of the scoring rubric to address different perspectives.
  - Explain why this is a good dam site for hydroelectric power generation. You should discuss at least two aspects.
    - Dam height/ high potential energy.
    - High flow rate of the river (amount of water entering the dam).
    - Lake capacity
    - Minimal social impact.
    - Characteristic of rock (hardness and suitable foundation)
    - Narrow gorge

Main Lessons

- 1) Designing constructive response tasks to “measure” how students can “think” like an engineer requires a thoughtful balance between preciseness and open-endedness.
  - Ongoing efforts to construct and reconstruct scoring rubrics are necessary.
  - Not suitable for high stakes testing.
- 2) The exercise of scoring and modifying scoring rubrics by an international and national team of experts is extremely important to reach consensus on the scope and level of expected learning outcomes.
  - This invaluable experience should be shared with the wider public.
- 3) An international assessment of higher education learning outcomes can become a useful tool for educators to globally benchmark and update their teaching practices.
  - It raises student awareness of their learning, too!

AHELO can become a powerful tool for educational improvement, when instruments and scoring rubrics are made fully available to participating institutions, and when
coupled with workshops that induce discussion about curriculum design and encourage innovation in teaching and learning.

Thank you for your attention.

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Action Item: Further data evaluation and analysis

Comment:

1) It is unclear whether AHELO will be implemented on a large scale or stop after FS completion.
2) Many countries were unhappy with OECD project management of FS such as 3 phases observed (start, 2 year pause and rapid test implementation & evaluation).
3) Students want to know how they did on test but so far unclear

AHELO Publications: www.oecd.org/edu/ahelo
Volume 1, Design and Implementation, 12/2012
Volume 2, AHELO Data analysis and Country Experiences, 3/2013
Volume 3, March 2013 conference proceedings, expected distribution April 2013