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NETWORK A MEETING RECORD

Network A Plenary Meeting
October 23-25, 2000, Bremen, Germany

Participants

Wendy Whitham, Australia
Friedrich Plank, Austria
Christiane Blondin, Belgium (Fr.)
Luc Van de Poele, Belgium (Fl.)
Jerry Mussio, Canada
Jana Straková, Czech Republic
Pirjo Linnakylä, Finland
Jochen Schweitzer, Germany
Benedek Péter Tóta, Hungary
Peter Vari, Hungary
Gerry Shiel, Ireland
Chiara Croce, Italy
Kooghyang Ro, Korea
Fernando Cordova, Mexico
Jules Peschar, Netherlands
Arnold Spee, Netherlands
Lynne Whitney, New Zealand
Jan Pater Strømsheim, Norway
Eva Schøyen, Norway
Glória Ramalho, Portugal
Guillermo Gil, Spain
Anders Auer, Sweden
Erich Ramseier, Switzerland
Lorna Bertrand, United Kingdom
Eugene Owen, United States
Andreas Schleicher, OECD Secretariat
Jay Moskowitz, OECD Secretariat
Maria Stephens, OECD Secretariat

Additional Participants in Problem Solving

Frederico Neves Condé, Brazil
Birgitte Bovin, Denmark
Helga Hinke, Germany
Thierry Rocher, France
Carl Ó Dálaigh, Ireland
Ho-Jin Hwang, Korean Delegation to OECD
Brian Semple, United Kingdom
Ray Adams, ACER

Presenters and Observers

Dianne Pennock, Canada
Ritva Jakku-Sihvonen, Finland
Jarkko Hautamäki, Finland
Patrik Scheinin, Finland
Ryo Watanabe, Japan
Sevki Karaca, Turkey
John Dossey, United States
Edys Quellmalz, United States
Rich Tobin, United States

Regrets

Jørn Pederson-Skovsgaard, Denmark
Jean-Paul Reeff, Luxembourg
Stella Vosniadou, Greece

Summary of Major Outcomes

- The Network decided to modify Indicator F2 to focus on the story of increased variation, exploring change at different points (e.g., percentiles) in the distribution and adding text to help explain the increases and preempt questions about technical legitimacy. The Network also decided to add an indicator on gender differences in mathematics and science in 8th grade in 1999, including all OECD countries that participated in the 1999 study.

- The Network agreed to recommend to the BPC that teacher questionnaires only be utilized as a national option. This and other provisions of the recommendation are explained in full on pages 7 and 8 of this record.
- The Network A Secretariat agreed to draft a “Towards an Analysis Plan for 2003” paper—unifying the three conceptual papers already prepared on the topic—which will be circulated and discussed at a meeting of the Planning Committee to be scheduled sometime in January.

Welcome and Introduction

Eugene Owen opened the Network A meeting and welcomed new members Jerry Mussio from Canada, Benedek Péter Tóta from Hungary, Eva Schøyen from Norway, and Lorna Bertrand from the UK. He also welcomed Ryo Watanabe from Japan and Sevki Karaka from Turkey, who were observing the meeting, and Rich Tobin from AIR and Edys Quellmalz from SRI, International, who would be making presentations later in the meeting. Jochen Schweitzer then offered an official welcome on behalf of the Ministry of Education and Cultural Affairs of Bremen. After reviewing the agenda for the meeting and approving the minutes from Wellington, the Network turned to the first agenda item: updates from the OECD.

Updates from the OECD

Andreas Schleicher provided updates on the status and progress of various OECD activities.

- Andreas noted that, once again, *Education at a Glance (EAG)* was released to the public with wide success. He also reminded Network members that a Highlights publication also was published to accompany *EAG 2000*.
- **Network B**'s main activity is developing a module on adult participation in continuing education and training (CET). The module is intended to supplement existing national surveys and to consist of a set of standardized questions focusing on, among other things: the role of CET in education and workforce development efforts; level and intensity of CET participation; providers; and incentives and barriers.
- **Network C**'s main activity is the survey of upper secondary schools, for which a contractor was recently selected for implementation. The survey focuses on the organization of instruction, human resources, availability and use of information technology (ICT), and transition to further education and labor markets (e.g., what schools provide to facilitate this transition and what the common pathways are).
- The **World Education Indicators (WEI) Project** now has 20 participating countries, and two-thirds of the data collected through the project will be included in *EAG*. Andreas noted that the project is following a path similar to that of the INES Project, as countries are beginning to become interested in a school survey and in PISA.

Then, there was a brief period for Q&A, during which time Eugene congratulated the OECD on the Highlights publication and several members asked questions about the links between various activities (e.g., SITES and OECD technology projects, Network C Survey and PISA) and how to

establish mechanisms for better communication about the different projects and their relationships to one another.

EAG Indicators

Eugene then distributed the draft indicators for EAG 2001 and explained that, because the data are embargoed until their public release early in December, he was not able to disseminate the indicators prior to the meeting. After a period for members to read and review the indicators, Maria Stephens gave an overview of this year's chapter. First, she called members' attention to the priorities set in Wellington and noted that indicators from the IEA Civic Education Study could not be prepared because comparative data from the study are not yet available to countries. She then briefly reviewed the findings of the two indicators presented—trends in student achievement in mathematics and science in the 8th grade and trends in distribution of student achievement in mathematics and science in the 8th grade. She also noted that this year's indicators:

- Reflected the trend for fewer, more focused indicators;
- Reflected the limited TIMSS-R data available; and
- Were drafted to be internally consistent and consistent with previous editions of *EAG*.

Maria then turned the floor back to Eugene for comments.

The Network had a lively and interesting conversation about the indicators, focusing mainly on the finding that variation among students had increased for all countries in both mathematics and science between 1995 and 1999. Many members weighed in on the issue, raising the question “is this really change?” and supporting this as the central and most interesting finding of the chapter. Eugene shared that, based on exploration of the U.S. data and data checks, this appeared to be change and was likely caused by a movement at the top of the distribution. Members discussed and suggested several different ways to deal with these data to improve the indicator and highlight the finding, deciding in the end upon:

- Re-organizing the indicator to exhibit the full distribution (e.g., interquartile range and percentiles) in both years to explore the possibility of movement at the top end;
- To add text to pre-empt questions about the technical validity of the finding;
- Consider preparing a chart that would simultaneously compare the overall change in mean from 1995 to 1999 and the change in variation (or otherwise linking Indicators F1 and F2 together); and
- Consider adding text (where appropriate) about possible explanations for the change, without drawing causal links to changes in particular countries.

Pirjo Linnakylä also shared that she was disappointed that countries participating in TIMSS-R only were not included in the indicators and that there was no indicator on gender differences.

Thus, it was later suggested that an indicator on gender differences in 1999 be added to the chapter, which members supported.

Other decisions taken were to include information on the countries participating in TIMSS and TIMSS-R in the introduction and to include the standard errors for the information in Indicator F2 (as it is in F1).

Update from the INES General Assembly

Andreas then provided an update from the INES General Assembly meeting in Tokyo in September. (This item was moved up in the agenda, in order to inform subsequent conversations.) Overall, he noted that there was good turnout (especially of senior personnel) at the General Assembly and that PISA, and outcomes in general, dominated the agenda and was the central priority. Among other things, Andreas described the key discussion points and areas for future development. With regard to the former, he mentioned the interest in: capturing outcomes more broadly; getting a better estimation of the economic and social returns of knowledge and skills; understanding the educational, economic, and social factors that contribute to enhanced returns; guiding analytic work with cross-cutting themes (e.g., lifelong learning or equity); establishing a conceptual basis for prioritizing indicators and analyzing the relationship between inputs and outputs; maintaining technical quality and comparability; and preparing country profiles. With regard to areas where additional progress is needed, he mentioned returns to lifelong learning, social outcomes, and better measures of human and social capital and their interrelationship with other factors. [For additional information, refer to the forthcoming OECD report on the General Assembly.]

Presentation on Learning-to-Learn Assessment

Ritva Jakku-Sihvonen introduced her colleagues from Helsinki University to present on the Learning-to-Learn assessment being developed in Finland. She noted that, although there was some interest in the project by the European Union, it was mainly a Finnish activity at this point.

Jarkko Hautamäki and Patrik Sheinin then took the floor to describe Finnish efforts over the past several years to develop an assessment of students' learning-to-learn aptitude. Jarkko described the genesis and components behind the study, and Patrik described the results and the treatment of data. [This summary will concentrate mostly on the former; for additional information, please see the handouts that were distributed during the presentation.]

Drawing on several quotes from literature, as well as research, Jarkko summarized several important facets of the nature of learning: that there are burdens that come with learning and the learner must be able to tolerate the difficulties of learning and cope with the obstacles; that the learner must learn to trust his own powers of thought and reason; and that learning, even beyond strict disciplinary learning, cannot be separated from formal schooling. Jarkko noted that, while the acquisition of this aptitude is not an intentional part of schooling, he believes it is something that is acquired in school simultaneously with disciplinary subjects. Thus, the Finnish undertook to develop measures of students' aptitudes in the general learning process, the so-called learning-to-learn aptitude, which are not tapped by traditional assessments of curricular domains.

He described the main challenge in developing this work, which was to determine what the criteria are for identifying successful learning-to-learn. The framework behind the work defines learning-to-learn as an aptitude to solve new tasks (taking this further, Jarkko noted that this aptitude is what allows people to make good use of chance encounters in adult life). It is made up of two components: competencies and beliefs. Thus, a comprehensive and lengthy testing system has been developed, which has been administered to 6th- and 9th-grade students (with plans for administration to high school and vocational school students) and which consists of many individual tests, including (but not limited to): tests of higher cognitive abilities, reading comprehension and skills, cultural knowledge, reasoning, and other social and emotional components like motivational orientation, self-esteem, and control and agency beliefs.

Updates on DeSeCo and Other Projects

To close the first day of the meeting, the Network turned to brief updates on DeSeCo and other projects.

DeSeCo

Erich Ramseier provided a brief overview of the DeSeCo project. Erich noted that the main activity for 2000 was the finalization of the synthesis of expert papers from the first international symposium, which was included as part of the INES General Assembly Compendium. He also described on-going activities, such as the country contribution process, the solicitation of additional papers, and a second international symposium. With regard to country contributions—which are being requested in order to link the work of DeSeCo to national experiences in defining and selecting competencies—countries have the option of either preparing a written report or convening a workshop/round-table discussion. With regard to the additional papers, the project managers are preparing terms of reference for several papers from other perspectives, on the relationship of DeSeCo and the Civics Study, and on long-term strategic perspectives for the work. Finally, the second symposium has been postponed until March 2002 and will most likely be held in Switzerland. [For more detailed information, see the hand-out, “DeSeCo Update for Network A Meeting – October 2000.”]

ALL Study

Eugene told members that the Adult Literacy and Lifeskills (ALL) Study was progressing and that 15 (widely ranging) countries have expressed interest in participating in the study. The study will include assessments of prose literacy, document literacy, and an expanded scale for numeracy, as well as problem solving and questionnaires on ICT use and teamwork. In responding to several questions from members, Eugene noted that the organizers (Statistics Canada) are looking into the possibility of a lower-cost option (e.g., administration of selected parts of the study) for countries’ participation and that members should look to their Labor or Employment ministries for other sources of support. Andreas noted that a letter had been sent to OECD countries about their participation and that the organizers were willing to conduct informational seminars for countries interested in participation.

TIMSS-R

Eugene reminded members that the initial results from the Third International Mathematics and Science Study-Repeat (TIMSS-R) would be released to the public on December 5, 2000 and would include information on trends in 8th-grade mathematics and science achievement. He also noted that the National Science Foundation in the United States is funding the International Study Center at Boston College to re-develop the framework for 2003, such that it can be updated while safeguarding the trend line.

PIRLS

Finally, Eugene provided information about the Progress in Reading Literacy Study (PIRLS). The instrument, which is considered to be very good, is in the process of being finalized and data collection is due to occur in Spring of 2001.

Overview of PISA Progress and Report from Planning Committee

Overview of PISA Progress

To kick-off the meeting on Tuesday, Andreas gave a brief report on the status of PISA. In particular, he noted that:

- Data collection is virtually completed, having achieved the highest technical quality of any study thus far.
- According to most countries, quality monitoring seems to be working well but is considered resource-intensive.
- A proposal regarding proficiency scales is available and will be reviewed by the Board of Participating Countries (BPC) later in the week.
- A variety of activities are underway, including an inter-country reliability study, establishment of constructs from the background questionnaires, calculation of sampling weights, and development of reporting plans.
- Marc LaChance will present information on the development of a longitudinal option for PISA at the BPC meeting.
- An ACER-led consortium has been selected to implement the second cycle of PISA.

Report from the Planning Committee

Rich Tobin then reported to the Network on the outcomes of the Planning Committee meeting, which took place in July in Paris, and on possibilities for moving forward with issues related to the analysis of PISA data in 2000, 2003, and beyond.

He began by noting the importance of the context questionnaires in providing the policy relevance for the achievement data and the concerns that many countries had raised with the quality of the current questionnaires and the process for developing them and the framework. He

then summarized the recommendations of the Planning Committee to Network A, which were to be involved in the preparation and development of the thematic reports; to pay increased attention to the use of information technology with regard to assessment; and to seek professional guidance in the dissemination of the results.

Rich then gave an overview of the current questionnaires and reminded members of the tension between time limits, maintaining a trend, and taking opportunities to improve the questionnaires. He also offered some pros and cons on having a teacher questionnaire to solicit information on instructional practices, which is a key area of interest for policy makers in many countries, and drew members' attention to the three preliminary analysis plans for 2003 provided in the briefing book. Finally, he offered several topics for the Network's discussion, including:

- What information is essential, and what is desirable, to collect in 2003?
- How can it best be obtained?
- What guidance can be offered in terms of a policy framework?

The Network then had a lengthy and stimulating discussion, mainly on the reluctant proposal of the consortium to include an international option for a teacher questionnaire. Most members spoke out on this issue, and most of those who did were concerned about the prospects of a teacher questionnaire in PISA 2003. For instance, Jana Straková was against the teacher questionnaire and noted that giving it optional status might detract from the development of the other questionnaires. Guillermo Gil also was against the teacher questionnaire because of the potential lack of reliability of the data. Other members (such as Friedrich Plank, Jules Peschar and Lorna Bertrand) reiterated that the use of a teacher questionnaire was not compelling in the absence of a link to achievement data (which is not possible) and might be perceived as overly burdensome by teachers.

Jochen Schweitzer supported having a teacher questionnaire as an international option, among other reasons, to maintain the support and engagement of teachers and schools. He was concerned that their marked absence in the study would lead to a decreased perception of PISA in Germany. Erich Ramseier also was supportive of teacher questionnaires as a first attempt to get at the classroom level and look for the explanations of outcomes that so many representatives requested at the General Assembly. Fernando Cordova noted that he would like to see the teacher questionnaire as a national option, at least.

During this discussion, Luc Van de Poele suggested that the Network look to research that shows that learning practice, rather than instructional practice, explains more about achievement—a study of which also would be more feasible under the PISA study design. Many members were very intrigued by this suggestion. Chiara Croce suggested that there might be a role for teachers in completing the school questionnaire, but agreed that it would be impossible to implement a teacher questionnaire well under the current design.

Andreas urged that participating countries be consistent in their requests of the contractor— noting that if they opted not to have a teacher questionnaire, they would have to reconsider their interest in instructional practices. He was concerned about “setting impossible tasks” for the

contractor. Eugene urged that the addition of a teacher questionnaire in a useful way would actually require a change in the study design of PISA, of which he was extremely wary. For Lynne Whitney, the conversation led her to the suggestion (or the reminder) that the Network needs to think strategically about long-term incorporation of some type of information on classroom interactions, which are perceived as so critical.

After this discussion, the Network decided to make the following recommendation to the BPC:

Network A recommends that PISA 2003 maintains the current program design. In implementing this design, countries will be required to complete student and school questionnaires. Teacher questionnaires should not be an international option. Countries interested in a teacher questionnaire could exercise it as a national option. Network A recommends that PISA 2003 should not require information about teachers or teaching that can only be obtained by surveys of individual teachers. Network A will explore the possibility of including teachers in the completion of school-level questionnaires. In addition, Network A intends to develop a long-term strategy to further the collection of data about teaching and learning practices, within the INES framework.

The Network then attempted a brief conversation about the three preliminary analysis plans. However, because many members were having difficulty specifying their interests in absence of a framework (although the task is partly to establish a framework), Eugene suggested that the Network A Secretariat prepare a paper that would take the Network “toward an analysis plan and framework for 2003,” which would be circulated and discussed first by planning committee members at a meeting in January and then by the Network at their next meeting. The Network agreed.

ICT Activities

To give a presentation about experiences in the assessment of ICT, Eugene introduced Edys Quellmalz from SRI, International in California. Edys first described the SITES Module 2, which is a qualitative study of innovative pedagogical practices using technology in 30 countries. In particular, the conceptual framework and research questions direct researchers to look for changes in teacher roles in terms of curriculum, content, and assessment and sustainability and transferability of initiatives, as well as impacts and contributing factors. The study consists of a series of case studies in each country, the preparation of country reports, review of country reports by a “critical friend,” and the preparation of an overall project report. The project is about to go in to the “critical friend” period and a final report is expected in June 2002.

Edys then described the three ways that technology and assessment could be related:

- Assessing student learning *of* technology (e.g., can a student use a word processing program?);
- Assessing student learning *with* technology (e.g., what happens when technology and another learning task are integrated?); and

- Assessing student learning *by* technology (i.e., when technology affords the assessment of a skill that otherwise could not be captured).

Across the various projects she has worked on, Edys noted that assessment tasks usually share certain features: they are interdisciplinary, project-based performance tasks, delivered over 2 to 4 periods, and are modular. She described the World Bank World Links project, which aims at using the Internet to develop tasks for students to assess their ability to search for an use information, and a similar project, which directs students to critique two cities using two descriptive Internet web-sites. These activities help determine if students can develop research queries, navigate the web, judge the credibility of sources, and use technology and information in formulating arguments.

She noted a few technical considerations when considering the Internet as part of an assessment tasks. She cautioned members to weigh the value of the real-time authenticity of testing on-line versus the possible technical failures compared to the reliability of a secure site. She also advised about the special considerations for storing and using information gained in a live assessment. In responding to a question about “what is ICT?” Edys suggested that perhaps it was a collective of its three parts – Information (reasoning with information), Communicating (reading and writing about the reasoning), and Technology (using a tool, whatever it might be, in that reasoning).

Network A Closing and Next Meeting

In conclusion, Eugene reviewed the major decisions taken at the meeting (a summary of which can be found at the beginning of this document). It was decided that the next Network A meeting will be held in Brussels, Belgium on March 15-16, 2001, immediately following the BPC meeting in Paris on March 12-14, 2001.

He also reminded members of the next day’s (October 25) joint meeting on the development of a framework for problem solving for PISA 2003 (the minutes for which are attached below).

Eugene thanked Jochen and his colleagues for the superb hospitality and warm welcome in Germany; Jarkko Hautamäki, Patrik Scheinin, Rich Tobin, Edys Quellmalz, and John Dossey for their presentations; and the members for their hard work and participation, as always. The meeting was adjourned.

Report from Joint Meeting on Problem Solving

On Wednesday, October 25, Eugene welcomed John Dossey, the Chair of the Problem Solving Expert Group, to present the draft assessment framework to the Network and BPC members. John opened his presentation by briefly reviewing the past activities that led to the establishment of the present expert group, including the work of Ann Borthwick. He also named the other members of the group: Beno Csapo (University of Szeged, Hungary); Ton de Jong (University of Twente); Eckhard Klieme (Max Planck Institute for Human Development in Berlin); Stella Vosniadou (University of Athens); and from the Network A Secretariat, Maria Stephens.

He then described some of the issues that the group struggled with or considered before settling upon the proposed framework. For instance, key issues or questions included should problems and problem solving in PISA:

- Be goal-directed or open-ended;
- Be school-based or real-life situations;
- Focus on strategies or on solutions;
- Draw upon literacy domains or be cross-curricular;
- Be stand alone or in theme blocks.

Using some of the examples developed by the expert group, John demonstrated how each of these questions was decided and described the proposed framework, which focuses on soliciting information on students’ strategies in applying critical reasoning in a variety of closed and open situations, which are non-routine, real-life, and based in (but extending) two or more curricular areas.

		Goal-directed	Open-ended
Critical Reasoning			
Inductive	Deductive		

Additionally, John described the five complex problem contexts, which the expert group advised that the assessment be focused around, including: (1) decision making; (2) trouble shooting; (3) system design (e.g., constraint-based reasoning); and (4) system analysis (e.g., combinatorial reasoning).

Addressing the specific question of “why analytic reasoning?” John responded that analytic reasoning:

- Crosses domains and disciplines;
- Plays a major role in both academic and real-life situations;
- Often is missed in assessments of traditional domains;
- Is at the heart of the problem solving process; and
- Is required to solve routine and non-routine real world problems involving social, political, economic, ethical, and personal problems.

To close the presentation, John described the recommended features and structure of the assessment (which are fully described in the draft framework) and opened the floor to questions.

Members seemed very pleased with the presentation and the progress that had been made, and many members asked questions or sought clarifications. These questions mainly focused around

whether or not the expert group felt that enough problems could be generated that would be applicable in cross cultural settings and that did not function differently for males and females. Several members also asked about the heavy emphasis on analytic reasoning and seemed more comfortable with the “five complex problem solving contexts” as the key organizing feature rather than the components of reasoning. To the latter, John agreed that that was the direction the expert group had been heading when it last met. To the former, he responded that, although he was confident and the consortium item developers seemed comfortable with the design, many of the definitive answers only would come after the field trial. Finally, there were a few questions about how results might be reported and the necessity of open-ended items.