Science Education: Workshop on Evaluation of Inquiry-Based Science Education Programmes (Stockholm, 21-23 September 2005)

Programme of the works

Wednesday, September 21st

8:30 - 9:00 WELCOMING REMARKS

Gunnar Ôquist, Sweden, Permanent Secretary, Royal Swedish Academy of Sciences
Yves Quéré, France, IAP Co-Chair, Académie des Sciences, Délégations aux Relations Internationales
Jorge Allende, Chile, Coordinator, IAP Science Education Program, Facultad de Medicina, Universidad de Chile

9:00-9:30 KEYNOTE ADDRESS

Bruce Alberts, USA, President Emeritus, National Academy of Sciences, University of California, San Francisco, Department of Biochemistry and Biophysics

9:30-10:10 HOW CHILDREN LEARN

Hideaki Koizumi, Japan, Corporate Chief Scientist and Corporate Director, Hitachi, Ltd.; Director, Brain-Science & Education Programs, Japan Science and Technology Agency

10:10-10:30 DISCUSSANTS

Yu Wei, China, Professor, Director of Research Center for Learning Science, Ministry of Education
Per-Olof Wickman, Sweden, Professor in Science Education, Dept. of Curriculum Studies and Communication, Stockholm Institute of Education

10:30-10:45 BREAK

10:45-11:15 INTERDEPENDENCY OF PROCESS AND CONTENT FOR EFFECTIVE LEARNING:

Wynne Harlen, U.K., Professor in Education, University of Bristol

11:15- 11:30 A CLASSROOM ENGAGED IN INQUIRY-BASED SCIENCE EDUCATION - VISIONS AND OBSERVATIONS

Jean Moon, USA, Senior Program Officer, Director, Board on Science Education, The National Research Council

11:30 - 12:30 WORKING DISCUSSION IN 6 GROUPS, CHALLENGES IN EVALUATION PROCESSES

Chairpersons: Glenn Hultman, Sweden, Head of Graduate School in Pedagogic Practices, Department of Educational Science, Link_ping University
Britt Lindahl, Sweden, Kristianstad University, Department of Mathematics and Science
Jan Schultz, Sweden, Associate Professor in Pedagogic Practices,Department of Educational Science (IUV), Linköping University
Per-Olof Wickman, Sweden, Professor in Science Education, Dept. of Curriculum Studies and Communication, Stockholm Institute of Education
David Klahr, USA, Carnegie Mellon University, Department of Psychology
Elly Sabiiti, Uganda, Department of Crop Science, Makerere University Faculty of Agriculture

12:30-13:30 LUNCH

13:30-14:00 REPORTS FROM WORKING DISCUSSION GROUPS

14:00-15:00 ARRIVING AT A MATRIX OF CHARACTERISTICS AND EVALUATION MODES

Wynne Harlen, U.K., Professor in Education, University of Bristol
Jean Moon, U.S.A., Senior Program Officer, Director, Board on Science Education, The National Research Council

Question(s) to be addressed: What challenges are inherent in the evaluation process?

15:00-15:30 RECESS

15:30-16:30 PANEL I: PREPARING FOR EVALUATION ACTIVITIES

Question(s) to be addressed: How have different countries implemented Inquiry-Based Science Education (IBSE) Programs? What is the range of experience? What research exists concerning evaluation and the different signposts of progress when implementing IBSE projects? What is the continuum of inquiry-based science education?

Chair, Ton Ellermeijer, Netherlands, Director AMSTEL Institute, Faculty of Science, University of Amsterdam
Guillermo Fernandez de la Garza, Mexico, Executive Director, FUNDACION INNOVEC
Rosa Devés, Chile, Professor, ICBM ? Facultad de Medicina, Universidad de Chile
Pierre Léna, France, French Academy of Sciences
Per-Olof Wickman, Sweden, Professor in Science Education, Dept. of Curriculum Studies and Communication, Stockholm Institute of Education

16:30 CLOSING REMARKS

Jorge Allende, Chile, Coordinator, IAP Science Education Program, Facultad de Medicina, Universidad de Chile

Thursday, September 22nd

8:30-8:45 SUMMARY OF PREVIOUS DAY?S EVENTS & EXPECTATIONS FOR TODAY

Jorge Allende, Chile, Coordinator, IAP Science Education Program, Facultad de Medicina, Universidad de Chile

8:45-9:45 DISCUSSION IN 6 GROUPS: STAGES THAT DIFFERENTIATE PROGRESS IN THE DEVELOPMENT OF INQUIRY BASED SCIENCE EDUCATION

Chairpersons: Sally Goetz Shuler, USA, Executive Director The National Science Resources Center
S. Anders Hedberg, USA, Director, Bristol-Myers Squibb Foundation, Inc.
Yu Wei, China, Professor, Director of Research Center for Learning Science, Ministry of Education
Yves Quéré, France, IAP Co-Chair, Académie des Sciences, Délégations aux Relations Internationales
Jean Moon, USA, Senior Program Officer, Director, Board on Science Education, The National Research Council
Kerstin Reimstad, Sweden, Project Manager, The City of Linkoping, The Royal Swedish Academy of Sciences

9:45-10:15 PLENARY DISCUSSION - ANALYSIS OF CURRENT & FUTURE PROJECTIONS OF INTERNATIONAL TESTS - THE RELEVANCE OF SCIENCE EDUCATION PROJECT (ROSE)

Magnus Oscarsson, Sweden, Mid Sweden University Institution for Technology

10:15-10:45 RECESS/POSTER PRESENTATIONS

10:45-11:15 ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD) /PROGRAM FOR INTERNATIONAL STUDENT ASSESSMENT (PISA)

John Cresswell, Australia, OECD Directorate for Education

11:15-11:45 TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY (TIMSS)

Senta Raizen, USA, National Center for Improving Science Education

11:45-12:15 CRITICAL ANALYSIS OF EXISTING TEST METHODS AND CONTENT

Discussion led by: Senta Raizen, USA, National Center for Improving Science Education
Magnus Oscarsson, Sweden, Mid Sweden University Institution for Technology
John Creswell, Australia, OECD Directorate for Education

12:30-13:30 LUNCH

13:30-14:30 PANEL II: DISCUSSION ON ELEMENTS OF EVALUATION PROTOCOLS

Question(s) to be addressed: What should be the essential components and requirements of protocols designed to evaluate IBSE programs?

Chair, Yves Quéré, France, IAP Co-Chair, Académie des Sciences, Délégations aux Relations Internationales
Patricia Rowell, Canada, Professor Emeritus
Mark Hackling, Australia, Professor, School of Education Edith Cowan University
Bruno Troisseille, France, Adjoint au chef du bureau de l'évaluation des élèves et des étudiants Ministère de l'éducation nationale
Richard Shavelson, USA, Stanford University, School of Education
Diane Grayson, South Africa, Andromeda Science Education

14:30-15:30 DISCUSSION IN 6 GROUPS: ESSENTIAL ELEMENTS OF EVALUATION PROTOCOLS

Chairpersons : Pasquale Nardone, Belgium, Université Libre de Bruxelles Physique Generale et Laboratoire de Didactique
Jan Schoultz, Sweden, Linkoping University, Assoc. Professor Pedagogic Practices, Dept. of Educational Science
Jayashree Ramadas, India, Homi Bhabha Centre for Science Education, Tata Institute of Fundamental Research
Petra Skiebe, Germany, Freie Universitat, Institut fur Biologie-Neurobilogies
Joseph Malo, Kenya, President Kenya National Academy of Sciences
Norma Sbarbati Nudelman, Argentina, Representante de la Academia, Facultad de Ciencias Exactas, Universidad de Buenos Aires

15:30-16:00 RECESS/POSTER PRESENTATIONS

16:00-16:30 REPORTS FROM GROUP DISCUSSIONS

16:30 CLOSING REMARKS

Yves Quéré, France, IAP Co-Chair, Académie des Sciences, Délégations aux Relations Internationales