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International Conference

Improving education

Evidence from secondary analysis
of international studies

Programme
Abstracts and speakers

Skolverket
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Vetenskapsrådet

PROGRAMME

Day 1 - Monday 30 November

PLENARY SESSION

09.30 - 10.30 Chair: **Elisabet Nihlfors**, Swedish Research Council

Introduction

- Message from Maroš Šefčovič, Commissioner European Commission - Directorate General for Education and Culture
- Bertil Östberg, Swedish Education State Secretary
- Per Thulberg, Director General Skolverket

Coffee/Tea

11.00 - 13.00 **Key note speech:**

- Jaap Scheerens (University of Twente, the Netherlands): Fuzzy expectations and unmet aspirations: the case of the background questionnaires in large scale international assessment studies
- Seamus Hegarty (International Association for the Evaluation of Educational Achievement - IEA): International Assessment Studies: a tool for improving education
- Bernard Hugonnier (OECD): The Programme for International Assessment of Adults Competencies (PIAAC)

Lunch

PARALLEL SESSION 1

14.30 - 17.30 **WORKSHOP 1.**

THE IMPACT OF TEACHERS AND TEACHING ON STUDENTS' ACHIEVEMENTS

Chair: **Steve Leman** (Department for Children, Schools and Families, United Kingdom)

Speakers:

- Jaap Scheerens (University of Twente, the Netherlands): Professional development of teachers and Educational Effectiveness; results from a secondary analysis of the TALIS 2009 data base
- Eva Myrberg (University of Gothenburg, Sweden): The effect of formal teacher education on reading achievement of 3rd grade students in public and independent schools in Sweden
- Daniele Checchi (University of Milan, Italy): Does school tracking affect equality of opportunity? New international evidence

WORKSHOP 2.

THE ROLE OF MOTIVATION/ATTITUDES/PEER EFFECTS TO LEARNING AND IMPACT ON SCHOOL ACHIEVEMENT

Chair: **Jan-Eric Gustafsson** (University of Gothenburg, Sweden)

Speakers:

- Mary Ainley (University of Melbourne, Australia): Motivation and engagement according to PISA: Unlocking ability in achievement settings
- Eirini Tatsi (University of Frankfurt, Germany) : Migrants at School: Educational Inequality and Social Interaction in the UK and Germany
- Paola Borrione (Institute for Economic and Social Research - IRES, Italy): Interests, attitudes, motivations and science's learning: some evidences from OECD-PISA 2006 data

WORKSHOP 3.

HOW OUT OF SCHOOL FACTORS INFLUENCE STUDENT ACHIEVEMENTS

Chair: **Lorna Bertrand** (Department for Children, Schools and Families, United Kingdom)

Speakers:

- Gary Marks (University of Melbourne, Australia): What Aspects of Schooling are Important? School Effects on Tertiary Entrance Performance in Australia
- Thierry Rocher (Ministry of Education, France): The role of students' occupational expectations in achievement disparities. Lessons from PISA data
- Kajsa Yang-Hansen (University of Gothenburg, Sweden): Ten-year Trend in SES Effects on Reading Achievement at School and Individual Levels: A Cross-Country Comparison

WORKSHOP 4.

ICT – THE EFFECT ON EDUCATION

Chair: **Christina Szekely** (Skolverket, Sweden)

Speakers:

- Willem Pelgrum (University of Twente, The Netherlands): Indicators of ICT in primary and secondary education in the EU
- Francesc Pedro (OECD): Technology use and educational performance in Pisa 2006
- Friedrich Scheuermann (Institute for Future Studies, Austria): The role of ICT for the promotion of 21st century skills, creativity and the role of ICT

Day 2 - Tuesday 1st December

PARALLEL SESSION 2

09.00 - 12.00

WORKSHOP 5.

EDUCATIONAL GAPS BETWEEN IMMIGRANT AND NATIVE STUDENTS IN EUROPE

Chair: **Bernard Hugonnier**, OECD

Speakers:

- Mark Levels (Radboud University, Nijmegen, The Netherlands): Immigrant Children's Educational Achievement in Western Countries: Origin, Destination, and Community Effects
- Sylke Viola Schnepf (University of Southampton, United Kingdom): Educational Inequalities Among Immigrant Children in Industrialised Countries

WORKSHOP 6.

SCHOOL AND EDUCATION SYSTEM EFFECTS ON STUDENT ACHIEVEMENTS

Chair: **Seamus Hegarty** (International Association for the Evaluation of Educational Achievement (IEA))

Speakers:

- Ralf Maslowski (University of Groningen, The Netherlands): The Effect of Educational Decentralization on Student Achievement
- Nathalie Mons (University of Grenoble, France): Models of comprehensive schooling and student academic achievement
- Maciej Jakubowski (OECD): Early tracking and achievement growth

WORKSHOP 7.

SCHOOL RESOURCES, SCHOOL COMPOSITION, SCHOOL MANAGEMENT, SCHOOL LEADERSHIP

Chair: **Annamaria Fichera** (Ministry of Education, Italy)

Speakers:

- Daniele Vidoni (Invalsi, Italy): To teach or to organize? This is the question. An analysis of the relationship between school principals' time allocation strategies and student achievement
- Trevor Collier (University of Dayton, US): Institutional Arrangements in Education Systems and Student Achievement: A Cross-National Analysis
- Kenneth Wong (Brown University, US): Inquiry in Science Classrooms: A Cross National Examination of Inquiry and Its Relationship to Student Performance in Science

WORKSHOP 8.

SURVEY STRUCTURES AND COUNTRY COMPARISONS

Chair: **Claude Sauvageot** (Ministry of Education, France)

Speakers:

- Graham Ruddock (NFER, UK): Does Differential Item Familiarity Account for Differences in Performance between TIMSS and PISA? – the Case of Mathematics and Science in England
- Marit Kjærnsli (University of Oslo, Norway): Science Performance: The Nordic Countries from an International Perspective
- Liz Twist (NFER, UK): An uncomfortable dilemma – performance on international surveys and national assessments: the case of PIRLS 2001 and 2006 in England

Lunch

PLENARY SESSION

13.30 - 15.00

Introduction:

- Marinus Rouw (Ministry of Education, Culture and Science, the Netherlands): Research impact on policy: the need for brokerage

Round table discussions

Chair: **Anders Hingel** (European Commission, Directorate General Education and Culture)

Discussants: The Chairs of the parallel sessions

Themes:

- outcome of education
- impact on society
- international cooperation and future role of international surveys
- links to labour market, in view of current crisis

15.00 - 15.30

Conclusion

Coffee/Tea

ABSTRACTS

Day 1 - Monday 30 November

PLENARY SESSION

KEY NOTE SPEECH

Jaap Scheerens (University of Twente, the Netherlands): *Fuzzy expectations and unmet aspirations: the case of the background questionnaires in large scale international assessment studies.*

Ideally the context questionnaires would convincingly shed light on questions like: why is it that country A has higher achievement results than the rest of the countries, or country B etc. So far this has not been realized. We have many anecdotes on the superior performance of Finland in PISA, but no convincing data based corroboration. There are those who claim that studies like PISA and TIMSS are yield studies, not designed to shed light on “causal” attributions. There is a lot of truth in this statement, but it is too easy a way out, because if context questionnaires cannot explain anything about achievement differences between countries, why do we go to so much trouble to administer them? How could we improve this situation? Three directions for answers will be explored, with an emphasis on the third one:

- a nuanced view on what background variables can and cannot “explain”
- methodological improvements in the design
- strengthening the conceptual and evidence based underpinning of questionnaire content

On this last approach one would need an understanding of multi-level malleability and ecology of educational systems and make good use of the relevant educational research literature. This will be illustrated by referring to the conceptual framework for the PISA 2009 context questionnaires, and by comparing the results of recent meta-analyses on educational effectiveness to results of secondary analyses of PISA, TIMSS and TALIS. The discussion will result in a list of key factors at national system, school and classroom level that deserve further focus in future studies.

Seamus Hegarty (International Association for the Evaluation of Educational Achievement - IEA): *International Assessment Studies: a tool for improving education.*

International assessment studies have grown in scale and sophistication since their initiation by the International Association for the Evaluation of Educational Achievement (IEA) some 50 years ago. IEA and OECD now conduct global studies on a regular basis, and these are increasingly seen as an integral part of the student assessment landscape in participating countries. There are other regional studies as well, particularly in Latin America and southern Africa. While these studies gain most attention from the league tables they produce, their primary purpose is to deepen understanding of education systems and strengthen the evidence that policy makers and practitioners can draw on in ensuring that children and young people receive the best possible education. This presentation will outline how the studies can be used in practice and give examples of their use from a number of different countries. Besides their function in stimulating public debate, this will cover curriculum reform, teacher education, teacher guidance, monitoring, resource allocation and research direction.

Bernard Hugonnier (OECD):

The OECD Programme for International Assessment of Adults Competencies (PIAAC) which was launched 5 years ago will produce its first results in 2013. In the presentation, the following will be covered:

- The antecedents and background of the programme;
- Aims and methodology;
- Participating countries and timeline;

The main outcomes of the programme in terms of skills surveyed; background information; and impact on labour and education policies.

PARALLEL SESSION 1

WORKSHOP 1.

THE IMPACT OF TEACHERS AND TEACHING ON STUDENTS' ACHIEVEMENTS

Jaap Scheerens (University of Twente, the Netherlands): Professional development of teachers and Educational Effectiveness; results from a secondary analysis of the TALIS 2009 data base.

The presentation is based on a recently developed thematic report on the professional development of teachers, based on a secondary analysis of the TALIS, 2009, data base.

TALIS is the new OECD Teaching and Learning International Survey. It is the first international survey to focus on the learning environment and the working conditions of teachers in schools. It looks at issues affecting teachers and their performance, seen through the eyes of school principals and the teachers themselves. It aims to fill important information gaps in the international comparisons of education systems.

The survey was conducted with the support of the European Commission, and covers 23 participating countries: Australia, Austria, Belgium (Flemish Community), Brazil, Bulgaria, Denmark, Estonia, Hungary, Iceland, Ireland, Italy, Korea, Lithuania, Malaysia, Malta, Mexico, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain and Turkey.

In each country, around 200 schools were randomly selected, and in each school one questionnaire was filled in by the school principal and another by 20 randomly selected teachers.

In 2005, Education Council requested the Commission to co-operate with the OECD to satisfy EU data needs on the professional development of teachers, within the TALIS survey which was in preparation by the OECD. Hence, the European Commission and the OECD have co-operated closely on the survey.

The thematic report on teachers' professional development is the response to this request. It sees professional development of teachers as instrumental in furthering the quality of student outcomes and to ensure that education and training remains responsive to developments in society at large.

The presentation addresses:

- the conceptualization of teachers' professional development in the context of educational effectiveness;
- main outcomes of the study
- possible directions of professional development of teachers, based on the study's outcomes.

Eva Myrberg (University of Gothenburg, Sweden): The effect of formal teacher education on reading achievement of 3rd grade students in public and independent schools in Sweden.

The study investigates the influence of teacher competence on third-grade students' reading achievement in public and independent schools in Sweden. The data comes from the Swedish participation in PIRLS 2001 and comprises some 10 000 students. Regression analysis was employed to explore the relative effects of indicators of teacher quality. No significant effects of teacher experience, age, sex, in-service training or co-operation could be established. However, teacher certification for teaching in the early grades had a strong effect on students' mean reading test score in both independent schools and public schools. Students in independent schools achieved better on the reading test than did students in public schools but when parents' education was kept under control the effect on students' achievement of school type disappeared. While students in independent schools had better-educated parents, students in public schools had better-educated teachers. Though school type had got no influence of itself it was a mediating factor for parents' education as well as for teachers' education. These effects, however, worked in opposite directions. Keywords: teacher competence; teacher education; reading achievement; independent schools.

Daniele Checchi (University of Milan, Italy): Does school tracking affect equality of opportunity? New international evidence.

This paper investigates whether the interaction between family background and secondary school tracking affects human capital accumulation. A widely shared opinion holds the view that more tracking reinforces the role of parental privilege, and thereby reduces equality of opportunities. This may occur due to several reasons, including peer effects (more talented students are gathered together), teachers sorting (better teachers prefer to teach to best students), differences in curricula (academic oriented schools – like the German gymnasium, the French lycée, the British grammar school or the Italian liceo – teach abilities that increase the probability to enter colleges) and/or differences in resources endowment. Compared to the current literature, which focuses on early outcomes, such as test scores at 13 and 15 year old, we look at later outcomes, including literacy, dropout rates, college enrolment, employability and earnings. While we do confirm the common view that school tracking reinforces family background impact when looking at educational attainment and labour market outcomes, we do not confirm the same results when studying its impact on literacy and on the job training. Overall school tracking has a two-sided effect in our sample of countries. On the one side, and consistently with the previous literature, tracking has a detrimental impact on educational attainment, because it prevents some

individuals from further progressing to the tertiary level of education (diversion effect). On the other side, the curricula offered in vocational schools seem more effective in promoting further training and adult competences (specialisation effect), thereby reducing the impact of parental background on these two outcomes. Thus reducing the extent of student tracking, either by raising the age of first selection or by reducing the number of tracks available, may reveal appropriate for increasing intergenerational mobility in educational attainment, but may increase social exclusion for people from disadvantaged backgrounds.

WORKSHOP 2.

THE ROLE OF MOTIVATION/ATTITUDES/ PEER EFFECTS TO LEARNING AND IMPACT ON SCHOOL ACHIEVEMENT

Mary Ainley (University of Melbourne, Australia):
Motivation and engagement according to PISA:
Unlocking ability in achievement settings.

International surveys of student achievement provide an opportunity to investigate a range of perspectives on the role of motivation in learning. All of the PISA surveys have included indicators of student motivation ranging from measures of participation and a sense of belonging at school to self-report indicators of interest and attitudes within learning domains. Secondary analyses can explore and test hypotheses derived from models of motivation and engagement that have been developed within more restricted settings. In this presentation we explore how a range of PISA measures can be used to identify different patterns of relations between motivation, engagement and achievement variables. In particular, we examine how different relations between motivation and achievement might operate in students from different cultural backgrounds. Attention will be given to data from PISA 2006 which is used to examine the structure of the complex of variables including, enjoyment, value, and knowledge as they are related to interest in science and are predictive of students' expectations concerning their future participation in science-related activities. The implications of these findings for improving students' learning will be explored.

Eirini Tatsi (University of Frankfurt, Germany):
Migrants at School: Educational Inequality and Social Interaction in the UK and Germany.

We test potential social costs of educational inequality by analysing the influence of spatial and social segregation on educational achievements. In particular, based on recent PISA data sets from the UK and Germany, we investigate whether good neighbourhoods with a relatively high stock of social capital lead to larger 'social multipliers' than neighbourhoods with low social capital. Estimated

'social multipliers' are higher for the German early tracking schooling system than for comprehensive schools in the UK. After aggregating data and employing the Oaxaca-Blinder decomposition, the results suggest that the educational gap between natives and migrants is mainly due to the 'endowment effect' provided by the socioeconomic background of parents and cultural capital at home. Some adverse 'integration effects' do exist for female migrants in Germany who lose ground on other groups.

Paola Borrione (Institute for Economic and Social Research-IRES, Italy):
Interests, attitudes, motivations and science's learning: some evidences from OECD-PISA 2006 data.

The aim of this work is to verify whether the contexts (schools and families) characterized by a good scientific culture and the awareness of the importance of science for life and the job enable students to obtain better performances in PISA science tests.

WORKSHOP 3.

HOW OUT OF SCHOOL FACTORS INFLUENCE STUDENT ACHIEVEMENTS

Gary Marks (University of Melbourne, Australia):
What Aspects of Schooling are Important? School Effects on Tertiary Entrance Performance in Australia.

A large number of school factors have been proposed as adding value to student performance and in some cases understood as characteristics of effective schools. However, there is little consensus in the literature on which school factors are important. The purpose of this paper is to identify school effects on student performance for tertiary entrance in Australia, taking into account a range of appropriate and well-measured student-level predictors using longitudinal data based on the 2003 PISA study. It finds that aspects of schooling such as positive attitudes to school and disciplinary climate affect student performance at the student level, but not generally at the school level. The socioeconomic context of schools has no effect on student performance when taking into account schools' academic context. Apart from academic context, teacher shortage and academic press were the only school factors that had positive, statistically significant and non-trivial impacts on student performance. School material and educational resources, and teacher or student morale and behavior had no substantial effects. The policy implications are that school-based policies are unlikely to improve performance or promote equity but, instead, policies should focus on students who are falling behind which are found across the school system, not limited to a small proportion of schools with particular characteristics or environments.

Thierry Rocher (Ministry of Education, France): The role of students' occupational expectations in achievement disparities. Lessons from PISA data.

The students' occupational expectations give relevant information by many aspects. Basically, the attractiveness or the disaffection of certain domains may be assessed, especially concerning the scientific careers. From the equity point of view, the expectations – as individual anticipations – are playing a role in the creation of social or gender inequalities. The variation in achievement may therefore be partly explained by differences of ambition. Another area of research to investigate relates to the field of personality with the analysis of vocational interests in their relationships with performance. These various facets are explored using the PISA survey data, which allow to identify permanent features, to reveal intercultural differences and to find possible tendencies.

Kajsa Yang-Hansen (University of Gothenburg, Sweden): Ten-year Trend in SES Effects on Reading Achievement at School and Individual Levels: A Cross-Country Comparison.

A global trend towards decentralization and deregulation of schooling was observed during the 1990s. The increasing degree of school autonomy and number of independent schools, and the policy of school choice have changed the characteristics of the educational system in many countries. Evaluation studies of the effects of these recent school reforms, especially the school choice, have indicated that the between-school differences in academic achievement, SES, and ethnicity composition have increased in many countries. This presentation, which is based on a published cross-country comparison study, examined the changes in effect of socioeconomic status (SES) on reading achievement at individual and school levels between 1991 and 2001. Based on existing research two hypotheses regarding changes between 1991 and 2001 were tested: (1) The between-school differences of reading achievement variations were expected to increase and (2) the strength of the relationship between school-level SES and school reading achievement were also expected to increase. These hypotheses were tested using data from the 9 countries that participated in both the IEA Reading Literacy Study 1991 and the Trend Study in the Progress in International Reading Literacy Study (PIRLS) 2001. Results only partially agreed with the previous findings that school segregation increased with respect to academic achievement and SES. A great disparity in the pattern of observed changes in the two afore-mentioned aspects, imply that country-specific practices in the educational systems are important factors behind the changes. The degree of decentralization and variation in detailed educational practices in different educational systems should thus be brought into the picture.

WORKSHOP 4.

ICT – THE EFFECT ON EDUCATION

Willem Pelgrum (University of Twente, The Netherlands): Indicators of ICT in primary and secondary education in the EU.

This presentation concerns the outcomes of the study 'Indicators of ICT in primary and secondary education' (IIPSE), which was funded by the European Commission, and which showed that throughout the EU there is a need for international comparative indicators regarding ICT in education. This study was focused on the 27 EU Member States, the 3 candidate countries and the countries from the European Economic Area. The main issues that were addressed in this study concerned the characteristics of educational monitoring, policy concerns regarding the introduction and use of ICT in education, indicator needs and availability of international comparative data, and recommendations and potential actions by the European Commission.

Francesc Pedro (OECD): Technology use and educational performance in Pisa 2006.

This report presents the main findings and policy implications of the analysis of the relationships between technology use and educational performance in science as measured in PISA 2006.

This work has been carried out under the umbrella of CERI's New Millennium Learners project which among its objectives includes the investigation of the impact of technology use on educational performance.

The work presented here updates the findings of a previous report (Are students ready for a technology rich world, 2005), while including some important novelties intended to go deeper into the determinants of technology use, both in frequency and in purpose, and into their impact on educational performance. While this new study confirms previous findings, it also presents evidence supporting that a) there is a stronger correlation between educational performance and frequency of computer use at home than at school, and b) that only if the student has the right skills and background, an increase in the frequency of computer use can lead to better performance. The study includes a number of policy recommendations focused on the growing importance of 21st Century competencies and the pending agenda for schools in this domain.

Friedrich Scheuermann (Institute for Future Studies, Austria): The role of ICT for the promotion of 21st century skills, creativity and the role of ICT.

Information and communication technologies (ICT) are considered to play a key role on improving effectiveness in education. The need for political measures had been recognized quite early and during recent years investments were being made in many countries in order to ensure access to computer and internet technologies in the classroom. The integration of information and communication

technologies (ICT) in education is affecting the educational systems in multiple ways. Likewise ICT use in education influences the private life of all educational actors in the sense that these are engaged in innovative practices which require new methodologies, techniques and attitudes. Most studies carried out, however, do not provide clear information about the real effects and impact of ICT on the learner and learning. Traditional instruments become increasingly inappropriate for the measurements of effects. They provide a snapshot of a given situation in a very specific educational context with an emphasis to cognitive skills as basis for assessment whereas (educational) processes as well as various types of other skills (such as affective skills) can hardly be assessed. Other, smaller scaled research studies on ICT effects are typically focused on selected components of education but for drawing broader socio-economic conclusions such analysis cannot be done in isolation and different levels of effect measurement have to be taken into account. Furthermore, ICT can serve as an important enabler to connect formal, non-formal and informal ways of learning. A major tenet of the policies that supported the introduction of ICT in education was that they can become catalysts for change and it is worth to reflect about both – to what extent the promotion of the so-called 21st century skills can contribute to a more effective use of ICT in education as well as to what extent ICT can provide important instruments to trigger new approaches needed in education. This presentation will focus on on-going activities at an international level and explore the role of ICT for teaching, learning and assessment.

Day 2 - Tuesday 1st December

PARALLEL SESSION 2

WORKSHOP 5.

EDUCATIONAL GAPS BETWEEN IMMIGRANT AND NATIVE STUDENTS IN EUROPE.

Mark Levels (Radboud University, Nijmegen, The Netherlands): *Immigrant Children's Educational Achievement in Western Countries: Origin, Destination, and Community Effects.*

My presented paper explores the extent to which macro-level characteristics of destination countries, origin countries, and immigrant communities help explain differences in immigrant children's educational achievement. Using data from the 2003 PISA survey, we analyze the mathematical performance of 7,403 pupils from 35 different origin countries in 13 Western countries of destination. While compositional differences offer some explanatory power, they cannot fully explain cross-national and cross-group variance. Contextual attributes of host countries, origin countries, and communities are also meaningful. In this regard, strict immigration laws explain immigrant children's better educational performance in traditional immigrant-receiving countries. Results further suggest that origin countries' level of economic development can negatively affect immigrant children's educational performance, and that immigrant children from more politically stable countries perform better at school. Also, socioeconomic differences between immigrant communities and a native population, and relative community size, both shape immigrant children's scholastic achievement. Finally, I will discuss some preliminary findings about the effect of educational systems.

Sylke Viola Schnepf (University of Southampton, United Kingdom): *Educational Inequalities Among Immigrant Children in Industrialised Countries.*

Literature examining immigrants' educational disadvantage across countries focuses generally on average differences in educational outcomes between immigrants and natives disguising thereby that immigrants are a highly heterogeneous group. The aim of this paper is to examine educational inequalities among immigrants in eight high immigration countries: Australia, Canada, Germany, New Zealand, Sweden, Switzerland, UK and USA. Results are presented separately for immigrants of different age cohorts, varying time of immigrants' residence in the host country and subject examined (math and reading) highlighting thereby the different patterns found by immigrant group and achievement measure.

WORKSHOP 6. SCHOOL AND EDUCATION SYSTEM EFFECTS ON STUDENT ACHIEVEMENTS.

Ralf Maslowski (University of Groningen, The Netherlands): *The Effect of Educational Decentralization on Student Achievement.*

Over the past two decades, a large number of countries have been engaged in the decentralization of decision-making to regional and local governments as well as schools. Although the motives and incentives for school autonomy are often diverse, it is commonly believed that decentralization will enhance the quality of schooling. Studies on differences between public and private schools suggest that more discretion on educational budgets and personnel management is related to student achievement. Evaluation studies on school-based management and similar reforms, as well as longitudinal studies on small samples of schools reveal hardly any effect of decentralization on student outcomes. Moreover, no compelling support for an effect of decentralization measures on achievement is provided by recent international comparative studies. In the presentation, a review will be presented of empirical findings regarding the effect of educational decentralization on student achievement. Subsequently, possible explanations for the tense relationship between decentralization and achievement will be explored.

Nathalie Mons (University of Grenoble II, France): *Models of comprehensive schooling and student academic achievement.*

Since the beginning of the 90's, the comprehensive school model has been a controversial topic in many OECD countries. Apart from the persistent attacks from the defenders of traditional education, it is today also vilified by its previous defenders. Traditionally denounced as responsible for bringing down the academic results of the talented pupils, the comprehensive school is also accused of breaking one of its main promises: the democratisation of education. As a consequence, the last two decades were marked, in the OECD countries, by major mutations of the comprehensive school system, which, even if they take on different forms, present a common denominator: the increasing differentiation of school pathways in compulsory schooling.

These changes raise the question whether several models of comprehensive school have emerged across OECD countries, and the capacity of the traditional binary typology (comprehensive school model vs. tracking system) to explain the current situation. Could not several models have developed distinguished by varying combinations of tools for managing student academic heterogeneity (ability-grouping practices, repetition, individualization of teaching)?

The construction of a new dataset on the structures of educational systems and these tools for managing student heterogeneity, covering the whole of the

OECD, brought to light three models of comprehensive school: the model of "à la carte integration" characteristic of English-speaking countries, that of "homogeneous integration" developed primarily by Latin European countries and "individualized integration" emblematic of Scandinavian and Asian countries. Beyond this description, our research also shows, thanks to a quantitative analysis based on the results of the international PISA survey, that the three models of comprehensive school are associated to student achievement results that were different in terms of both effectiveness and inequality. We also demonstrate that the three models are associated with lower levels of global and social inequalities at school compared to the tracking system.

Maciej Jakubowski (OECD): *Early tracking and achievement growth.*

The paper analyzes how separating students into distinct educational programmes affects their achievement growth. It compares achievement in primary schools in tracking and non-tracking countries and then checks whether the difference remains of similar magnitude in secondary schools. The difference-in-differences methodology is applied to scores in reading, mathematics, and science, as measured by PISA for 15-year-olds and by TIMSS or PIRLS for 4th graders. The paper adjusts for discrepancies between these surveys, mainly in the distribution of important student characteristics, to make them more comparable. Distributional effects of tracking are assessed using quantile regression method and by comparing achievement growth of students with low-educated parents. Results verify that average achievement growth is lower in tracking countries; however, findings related to educational inequalities are ambiguous. While students from low-educated families experience similar achievement growth in tracking and non-tracking countries, quantile regression evidence suggests that poorly performing students have lower achievement growth in tracking countries. Additional results suggest that Eastern European countries, which in most cases are tracking countries, have generally lower achievement growth. Negative impact of tracking in Western European countries is less obvious.

WORKSHOP 7. SCHOOL RESOURCES, SCHOOL COMPOSITION, SCHOOL MANAGEMENT, SCHOOL LEADERSHIP

Daniele Vidoni (Invalsi, Italy): *To teach or to organize? This is the question. An analysis of the relationship between school principals' time allocation strategies and student achievement*

Does school leadership style make a measurable difference in promoting school quality?

By analyzing TIMSS 2003 data, the study considers how principals actually allocate their time and efforts and provides some new evidence on the relationship between these behaviours and student results.

First, the study investigates the elements of schooling and student background that affect student learning, verifying whether the principals' focus on educational tasks has any visible effect on student learning. Second, in a contingency approach, the effectiveness of school principals lies with their ability to adapt to the context and positively modify the factors that affect student achievement. Thus, the paper analyses whether principals' time allocation strategies can significantly moderate the effects of the previously identified factors on student achievement. Third, it tries to identify and explain the existence of commonalities across countries with respect to the effectiveness of principals' time allocation strategies.

The key result of the study is that principal specialization is correlated to a higher impact of school climate and a lower impact of family SES on student achievement. The replication of the analysis on a country-by-country level confirms the existence of the afore-mentioned effect. The last part of the study takes a step forward by contextualizing them within the legal and operational frameworks of the analyzed educational systems, and it identifies a relationship between the leadership style and institutional architecture of the school system under investigation.

Trevor Collier (University of Dayton, United States of America): Institutional Arrangements in Education Systems and Student Achievement: A Cross-National Analysis

Given the lack of evidence supporting the view that variation in observable educational inputs affect student achievement, many policymakers and researchers have tried to unearth the salient determinants of student learning. To that end, several recent studies have made use of international data on student achievement to assess the role played by institutional arrangements within the educational system. We revisit this literature using the 1999 TIMSS data—covering over 100,000 students from 22 countries—to analyze the association between different institutional arrangements and the distributions of science and math test scores. The results yield a number of interesting conclusions, as well as highlight the gains to analyzing student achievement within a distributional framework.

Kenneth Wong (Brown University, United States of America): Inquiry in Science Classrooms: A Cross National Examination of Inquiry and Its Relationship to Student Performance in Science

Inquiry-based approaches in science teaching and learning have been influential in shaping how children learn science across the globe. However, the evidence as to whether such inquiry-based approaches

actually relate to student achievement in the sciences remains relatively limited. In our analysis, we used data from eight countries participating in a large-scale international science assessment, the Program for International Student Assessment (PISA) 2006, to examine the relationship between achievement and four inquiry based practices for 15 year-olds.

Our estimates indicate that students reporting more frequent use of independent investigations in their lessons tend to perform lower in science, as measured by their PISA 2006 science scores. This relationship holds for all eight countries. For particular students in the United States, for example, performance can be a third of a standard deviation lower as they report higher frequencies of selecting and conducting their own investigations. In addition, for select countries, girls' science achievement is disproportionately impacted by such practices. There are, however, practices that do positively influence achievement—for all eight countries, students who reported higher frequency with which science lessons emphasize applications and models do tend to have higher achievement. We also investigated whether school-level governance and accountability factors influenced how frequently inquiry-based approaches were used within each country setting. Overall, our correlational evidence suggests that schools which have a higher percentage of government funding tended to favour students conducting independent investigations during lessons.

We believe that our findings support the notion that student learning in the sciences should be supported by lessons emphasizing relevance and applications to the real world; moreover, learning science through investigations should be directed and scaffolded versus purely discovery-based.

WORKSHOP 8. SURVEY STRUCTURES AND COUNTRY COMPARISONS

Graham Ruddock (NFER, United Kingdom): Does Differential Item Familiarity Account for Differences in Performance between TIMSS and PISA? – the Case of Mathematics and Science in England.

Countries vary as to whether the same picture of performance in that country is given by TIMSS and PISA. For mathematics and science the items used in TIMSS 1999 and 2003 were compared with those used in PISA 2000 and 2003. Expert groups made ratings of the familiarity to pupils in England of the concept or skill being assessed by each item, of the context in which the item is embedded, of the familiarity of the item format and an overall rating of the appropriateness of the item for the English pupils. The methodology used is described, the main findings outlined and general conclusions discussed. Two main findings were that TIMSS mathematics

items were rated as more familiar than PISA ones, but no such difference was found in science. A central difference between TIMSS and PISA was the greater reading demand in PISA.

Marit Kjærnsli (University of Oslo, Norway): *Science Performance: The Nordic Countries from an International Perspective.*

In this presentation we will discuss some central findings regarding scientific literacy in PISA 2006. The focus is partly on comparison between the Nordic countries, and partly on a comparison with the OECD average. In PISA it is of particular interest to establish scales that provide valid and reliable trend measures between PISA data collection every three years. From a methodological point of view, there are challenges related to such trend measures, but nevertheless such measures are focused on here. Various aspects of scientific literacy, as they are defined in the PISA framework, will be described. In addition to comparing scale scores between countries, gender differences (within and between countries) will also be presented. There will also be a focus on the gender differences concerning the student's choice of science-related careers.

By carefully investigating similarities based on relative strengths and weaknesses concerning students' scores on individual items, the presentation will also focus on the following questions: How similar are the Nordic countries?

Liz Twist (NFER, United Kingdom): *An uncomfortable dilemma – performance on international surveys and national assessments: the case of PIRLS 2001 and 2006 in England.*

Increasing participation in international surveys and the growth of large scale national assessments raises the possibility of contradictory pictures of attainment over time. This paper looks at the outcomes of the Progress in International Reading Literacy Study (PIRLS) 2001 and 2006, and in particular the patterns of achievement in some of the highest achieving countries in 2001 and their apparent fall in performance in 2006.

PLENARY SESSION

Marinus Rouw (Ministry of Education, Culture and Science, the Netherlands): *Research impact on policy: the need for brokerage.*

Starting point of the presentation is the so called knowledge paradox. A lot of knowledge is produced, but it is not used in either education policy or education practice. This also goes for the outcomes of secondary analysis of international studies.

An important cause of the knowledge paradox is, as has often been observed, the existence of a gap between scientific research and policy. How can this gap be bridged? What do we know about effective relations between knowledge and policy?

One of the elements in an effective relationship between knowledge and policy is brokerage. The Dutch Knowledge Chamber on Education, Culture and Science is one of the brokerage instruments by which the Ministry is attempting to attune the demand and supply of knowledge, in order to strengthen the scientific knowledge base of our policies.

In the presentation I will elaborate on the design of the Knowledge Chamber, on the consultations which take place in the Knowledge Chamber and on experiences with it until now.

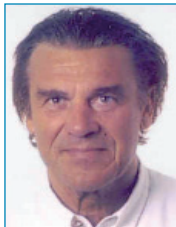
SPEAKERS



Elisabet Nihlfors

Swedish Research Council

PhD Secretary General, Educational Sciences at the Swedish Research Council. Researcher at Uppsala University



Jaap Scheerens

University of Twente, the Netherlands

Jaap Scheerens has led the Department of Educational Organization and Management since 1987. He was also the scientific director of the Faculty of Education's research Institute OCTO, from 1989 until 1998, and the scientific director of the ICO national research school from 1992 until 2003. He has been a project leader of numerous international research projects funded by the European Union, and a consultant for international organizations like OECD, UNESCO and the World Bank. He is currently a member of the Social Science Council of the Royal Academy of Sciences, and member of scientific advisory boards of programs and research institutes in Germany, Italy and Brazil. Within the context of OECD's INES project, he has played a leading role in the development of school and teacher surveys for primary and lower and upper secondary education. He has also played an important role in the development of the School and Teacher Survey for the World Education Indicator Project, which is a joint initiative of UNESCO, OECD and the World Bank. In 2004/2005 he was responsible for the thematic report "School Factors related to Quality and Equity", based on PISA 2000 data, which was published by OECD in 2005. He has been the chairman of INES Network C, from 1999 until 2008. He is currently the chairman of the Questionnaire Expert Group for PISA 2009 and has just finished a thematic report based on the TALIS study, which is focused on professional development of teachers. Jaap Scheerens has led the Department of Educational Organization and Management since 1987. He was also the scientific director of the Faculty of Education's research Institute OCTO, from 1989 until 1998, and the scientific director of the ICO national research school from 1992 until 2003. He has been a project leader of numerous international research projects funded by the European Union, and a consultant for international organizations like OECD, UNESCO and the World Bank. He is currently a member of the Social Science Council of the Royal Academy of Sciences, and member of scientific advisory boards of programs and research institutes in Germany, Italy and Brazil. Within the context of OECD's INES project, he has played a leading role in the development of school and teacher surveys for primary and lower and upper secondary education. He has also played an important role in the development of the School and Teacher Survey for the World Education Indicator Project, which is a joint initiative of UNESCO, OECD and the World Bank. In 2004/2005 he was responsible for the thematic report "School Factors related to Quality and Equity", based on PISA 2000 data, which was published by OECD in 2005. He has been the chairman of INES Network C, from 1999 until 2008. He is currently the chairman of the Questionnaire Expert Group for PISA 2009 and has just finished a thematic report based on the TALIS study, which is focused on professional development of teachers.



Seamus Hegarty

International Association for the Evaluation of Educational Achievement (IEA)

Seamus Hegarty is Chair of the International Association for the Evaluation of Educational Achievement (IEA) and visiting professor at four universities. He served as Director of the National Foundation for Educational Research in the UK for twelve years until his retirement in 2005. He has served as adviser and expert for UNESCO, OECD, the Council of Europe and the European Commission for many years. He has evaluated and advised on research for universities and national authorities in many countries. He is a founder member and Past President of the Consortium of Institutions for Development and Research in Education in Europe (CIDREE). He chairs the Education for All group within the UNESCO UK National Commission. He serves on the National Council for Special Education in Ireland where he chairs the Research and Communication working group. He has written or co-authored more than 20 books and numerous papers. He is founder editor of the European Journal of Special Needs Education, now in its 24th year.



Bernard Hugonnier

OECD

Bernard Hugonnier is since 2002 the Deputy Director for Education at the Organisation for Economic Cooperation and Development (OECD) where he began his career in 1978. He has previously occupied several positions across a range of OECD departments dealing with international investment, liberalisation of capital movements and services, multinational enterprises and regional development. He also served as Head of the Management and Restructuration Service, Director of the publications programme and Deputy Director for Public Affairs and Communication. Mr. Hugonnier holds a Master degree in economics (University of Pittsburgh) and a PHD in economics (Paris University of Paris). He is a lecturer in economics at University Paris-Sorbonne.



Steve Leman

Department for Children, Schools and Families, United Kingdom

Steve Leman's began his career as a teacher in primary schools. He had responsibility for English as a Second Language across the curriculum. He then moved into research on learning and skills. For Government Departments in England, he has evaluated a number of policies. These include apprenticeship programmes, access to Higher Education, and vocational qualifications. He modelled the public expenditure costs for literacy and numeracy programmes. He conducted public consultations and conducted a number of strategic policy reviews. His current role involves advising ministers on international benchmarking. He represents the UK in work to develop international indicators and supporting data. He also manages research to gather England and UK data to contribute to international studies.



Eva Myrberg

University of Gothenburg, Sweden

Eva Myrberg is a senior lecturer at the University of Gothenburg, Department of Education. She has studied effects of students' social background and teacher competence on student achievement. She is currently studying changes in recruitment patterns to teacher education over time.



Daniele Checchi

University of Milan, Italy

After obtaining a degree in Economic and Social Disciplines (M.A. equivalent) at Bocconi University, Milan (1982), and a Master degree in Economics at London School of Economics (1985), he obtained a PhD in Economics awarded by University of Siena, Italy (1987) (supervisor prof.R.M.Goodwin).

He has taught at the University of Brescia, Milano-Bicocca and currently at the University of Milan. He has been visiting professor at the universities of York, Boston College, Leicester, Louvain, Autonomia Barcelona, Maastricht, Pontificia Universidad Catolica (Buenos Aires) and Lima. He also spent study stays at the universities of Pompeu Fabra (Barcelona), Cepremap (Paris), York, Amsterdam, London School of Economics, WIDER (United Nations University – Helsinki), Amherst Massachussets, Berkeley, Oxford, IZA(Bonn), Stockholm, University College Dublin.

Research fellow of IZA (Bonn) since 2003 and research associate of CEPR (London) since 2005.

Consultant for Italian Ministry of Public Education (White paper on Italian school – 2007), Ministry of Treasure (2007), the INVALSI-Italian Institute for the Assessment of the Educational System (2004 and 2008), ISFOL-Italian Institute for the Analysis of workers' training (2003-4) and CNEL-National Council for the Economy and Labour (2004). Consultant for the European Commission – Directorate-General for Education and Culture on the project "Making best use of resources" (service contract n.2004-4414).



Jan-Eric Gustafsson

University of Gothenburg, Sweden

Jan-Eric Gustafsson is professor of education at the Department of Education, University of Gothenburg. His research is focused upon outcomes of education at individual and system levels, and on determinants of these outcomes. He also has an in interest in quantitative methodology with a focus on measurement, latent variables models, and multivariate analysis.



Mary Ainley

University of Melbourne, Australia

Dr Ainley is a faculty member of the Department of Psychology in the School of Behavioural Science at the University of Melbourne. She is an active contributor to scholarship concerned with the theory of motivation and has made a major contribution to the methodology of research on student motivation by developing computer-based methods to obtain measures of engagement at the time students are working on a task. The development of this methodology has been important because it enables the investigation of underlying motivational processes in real-time. Over the past ten years she has been an active contributor to journals and participant in symposia where she is recognised as a researcher who has created a new method for on the study of motivation.



Eirini Tatsi

University of Frankfurt, Germany

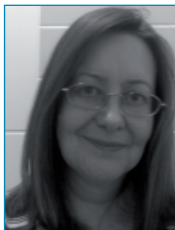
Eirini Tatsi is Teaching/Research Assistant and Doctoral student at the Chair of Econometrics at the University of Frankfurt since February 2008. She completed the M.Sc. in Quantitative Economics at Frankfurt University in November 2008. Her research interests are mainly the identification of social interaction parameters and microeconomic applications in the economics of education and crime.



Paola Borrione

Institute for Economic and Social Research-IRES, Italy

Paola Borrione is graduated in Communication Sciences (University of Turin, 2000) and has achieved a Ph.D in "Literature and communication. The languages of literature and the arts in the multimedia culture" (University of Siena, 2004). Currently she is researcher at IRES Piemonte (<http://www.ires.piemonte.it/>) in the area "Society and Culture" and professor of Cultural Economy at the University of Turin. Her interests are: education, well-being and social development, economy of media and cultural economy.



Lorna Bertrand

Department for Children, Schools and Families, United Kingdom

Lorna Bertrand is International Evidence Manager at the Department for Children, Schools and Families in London. She has worked in the field of international comparisons of education systems and outcomes for 10 years and is the current Chair of the OECD PISA Strategic Development Group.



Gary Marks

University of Melbourne, Australia

Dr Marks is a Principal Research Fellow at ACER. He has worked extensively on the Longitudinal Surveys of Australian Youth (LSAY) project. From this project he has authored a large number of reports on educational outcomes (early school leaving, achievement in literacy and numeracy, and educational participation) and labour market outcomes (unemployment, earnings, labour market dynamics, pathways to full-time work). His most recent report was on university course completion (LSAY Research Report No 51) released in 2007. Dr Marks has also been involved in the OECD Programme for International Student Assessment (PISA) project and has about ten articles in Australian and international academic journals on different aspects of student achievement mainly in the cross-national context. The journals include Ethnic and Racial Studies, Educational Research and Evaluation, the Journal of Comparative Family Studies, Educational Research, International Sociology, Social Indicators Research and the Oxford Journal of Education. He has also written articles on policy issues on education and the school-to-work transition.



Thierry Rocher

Ministry of Education, France

Thierry Rocher is a statistician from the French National Institute of Statistics (INSEE), specialised in educational measurement. He is working at the French Ministry of Education since 1997 (DEPP – Direction de l’Evaluation, de la Prospective et de la Performance). He is responsible for the methodological aspects of a number of student assessment programmes, at different steps, from the management of the surveys to the statistical analysis. Mr Rocher has been working on PISA since 2000 and he became a member of the Technical Advisory Group (TAG) in 2005.



Kajsa Yang-Hansen

University of Gothenburg, Sweden

Kajsa Yang Hansen, born in 1969, defended her dissertation *Measuring Socioeconomic Status and its Effects at Individual and Collective Levels: A Cross-Country Comparison* in 2003 at the Department of Education, Gothenburg University. She is now an assistant professor and a member in the research group *Förutsättningar, Utbildning och Resultat* (FUR-group, Prerequisites, Education and Results) at the same affiliation. Yang Hansen’s research lies mainly in the area of educational inequality from a comparative perspective. To study and to explain the variation in academic achievement between individuals, schools, across countries and over time have always been her primary research interests. She has participated in several research projects of secondary analyses of IEA international survey data and has made a series of studies, with focus on cross-country differences in achievement variations and the effect of socioeconomic background. She is also involved in establishing a Centre for Comparative Analysis of Educational Achievement (COMPEAT), whose aim is to support the secondary analysis of international survey data. Her methodological interest lies in analytical techniques for large-scale survey data, such as, the multi-level analysis, Structural Equation Modeling (SEM) and second generation SEM. Currently she is conducting a project on the causes and effects of segregation in Swedish schools, financed by Swedish Research Council’s, committee for educational science (UVK).



Christina Szekely

The Swedish National Agency for Education

Christina Szekely is currently Director of Education at The Swedish National Agency for Education, coordinating the Agency’s work on the commission from the government to support ICT development and use in schools. Christina Szekely has through her work profound knowledge and experience of ICT development in schools and is also engaged in the development of digital learning resources in Sweden. During 2003 – 2008 Christina Szekely worked at the Swedish National Agency for School Improvement. As Project Manager she is responsible for the Agency’s participation in several international networks, such as the European Schoolnet (EUN) and the Edrene Network. Christina Szekely previously worked as teacher and school leader in Täby a municipality outside Stockholm.



Willem Pelgrum

University of Twente, the Netherlands

Educational Assessment and Monitoring (EdAsMo), the Netherlands. Pelgrum’s main experience is large-scale international comparative assessments and ICT. His responsibilities included the National Research Coordinatorship of IEA-studies, the international coordinatorship of the IEA ICT assessments, which were conducted in 1989, 1992, 1999 and 2006. He also performed several studies for the European Commission in the areas of educational monitoring and ICT.



Francesc Pedro

OECD

Francesc Pedro joined the OECD Centre for Educational Research and Innovation (CERI) in Paris (France) in 2005. In his capacity as senior policy analyst, he is the principal administrator of the New Millennium Learners Project. He is also in charge of the reviews of educational R&D in OECD countries and a new project on Systemic Innovation in Education, which includes one strand on vocational education and training and another on digital learning resources.

Francesc (born in Barcelona in 1960) got his MEd degree from the Autonomous University of Barcelona and a PhD in Comparative Education from UNED in Madrid). Later he did a postdoc in Comparative Education at the University of London Institute of Education. Francesc was formerly professor of comparative education and public policy at the Pompeu Fabra University (Barcelona) and academic director of its program for educational quality. Prior to that, he acted as pro-vicechancellor of educational research and innovation at the Open University of Catalonia (Barcelona), the first Internet-based European public university.

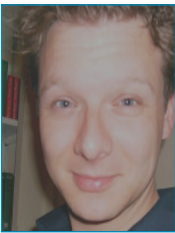
His most recent publication is: The teaching profession at European universities *Fauna academica* (2004).



Friedrich Scheuermann

Institute for Future Studies, Austria

Friedrich Scheuermann, Institute for Future Studies (www.futurestudies.org). Until 2009 he was working for the Joint Research Center of the European Commission at the Centre for Research on Lifelong Learning (Italy): research on assessment methodologies, skills and ICT impact assessment and European educational policy; specialized in the field of online-learning, evaluation research and inclusive education. Studies of information science, psychology and law and informatics in Germany, France and Finland; focus on human-computer interaction and social implications of information technologies. Academic professional career at Saarland University and University of Innsbruck.



Mark Levels

Radboud University, Nijmegen, the Netherlands

Mark Levels is a junior researcher and PhD candidate at the department of Sociology at Radboud University Nijmegen. Levels' dissertation concerns empirical tests of hypotheses concerning the causes of induced abortion. His further research interests include fertility, migration, and education. His research has been published in several books as well as in leading international and Dutch journals, such as *Mens en Maatschappij*, *Migrantenstudies*, *Ethnic and Racial Studies*, *Educational Research Evaluation* and *American Sociological Review*. Levels was junior visiting scholar at Nuffield College in Oxford and visiting student at the European University Institute in Florence. He served as member of the QANU inspection committee to assess the quality of Dutch university-level social scientific study programs. Before pursuing an academic career, Levels served in the Royal Netherlands Army.



Sylke Viola Schnepf

University of Southampton, United Kingdom

Sylke V. Schnepf is a Lecturer in Social Statistics in the School of Social Sciences and a member of the Southampton Statistical Sciences Research Institute, University of Southampton, UK. She is also a research fellow of the HWWI, Hamburg, and of IZA, Bonn. She obtained a PhD in Economics in 2005 (University of Hamburg, Germany). Her research interests cover educational inequalities and their determinants, gender inequalities in well-being and their measures, charitable giving and non-response bias in sample surveys.



Ralf Maslowski

University of Groningen, the Netherlands

Ralf Maslowski (1966) is assistant professor at the Faculty of Behavioural and Social Sciences of the University of Groningen in the Netherlands. He received a Ph.D. in educational sciences from the University of Twente. After more than ten years at the University of Twente he became a staff member of the Education Council in The Hague, prior to his current appointment. His studies focus on the school organization and the effects of educational policies, with a strong interest on the impact of civic and citizenship education on student competencies. He has published several articles in scientific journals and books on school culture, educational decentralization and citizenship education.



Nathalie Mons

University of Grenoble, France

Nathalie Mons is a senior lecturer at the University of Grenoble II (France) and currently a Visiting Fellow at the London Institute of Education (UK). Her main research interest is the analysis of educational policies in an international comparative perspective. In particular, she has been working on educational policy assessment in terms of achievement effectiveness, social inequalities and student attitudes. Her last book (*Les Nouvelles Politiques Educatives*, PUF, 2007) analyses the impact of the dramatic school reform movement which spread in OECD countries during the last three decades and resulted in a policy convergence around the following themes : political decentralization, school autonomy, school choice, the development of national standardized assessments and the increasing individualization of school pathways in compulsory schooling. She is a regular consultant for Eurydice (an European Commission agency) and has been contributing to the PISA 2009 consortium working team.



Maciej Jakubowski

OECD

Maciej Jakubowski joined the PISA team at the OECD in 2008. Formerly assistant professor at the Faculty of Economic Sciences, Warsaw University, and consultant for the World Bank, UNDP, and the Polish government. He conducted research at the University of Pittsburgh, Ludwig Maximilian University in Munich, and the European University Institute in Florence. He authored and co-authored several papers and book chapters in the area of economics of education, labour economics and political economics. His recent interests include international student assessment and policy evaluation methods.



Annamaria Fichera

Ministry of Education, Italy

I was born in Sicily, have a degree in Physics from the University of Roma, and worked at the IPN (Institut für die Pädagogik der Naturwissenschaften) in Kiel towards my PhD in Didactics of Physics. I taught Physics and Maths in secondary schools. Then I worked for 8 years in the field of Environmental Studies at CNR (National Research Council) and at the Ministry of the Environment, developing a knowledge management system for information, education and training on sustainable development. For 2 years I collaborated with the European Schoolnet in BXL, working on innovative implementation of ICT in education in European schools as a research analyst and, since 2003, I am seconded to the Italian Ministry of Education at the DG for Foreign Affairs in the department managing the National Operational Programmes for schools financed through the ESF and through the ERDF.



Daniele Vidoni

Invalsi, Italy

Daniele Vidoni's work deals with comparative analysis of educational system laws and policies with specific attention to accountability, management models, and incentive systems. His work is published in various Italian and international journals. He holds a Ph.D. in Economics of Education from Boston University (USA). From 2005 to 2008, he worked at the European Commission – Centre for research on Lifelong Learning (CRELL) in the area of school management. Currently, he is economist of education at INVALSI, the Italian National Institute for Educational Evaluation.



Trevor Collier

University of Dayton, United States of America

Dr. Trevor Collier is an Assistant Professor of Economics in the School of Business Administration at the University of Dayton (UD). He received his Ph.D. from Southern Methodist University (SMU) in Dallas, TX, where his fields of emphasis were in Labor Economics and Public Finance. He has taught college courses at SMU, Centre College and UD in Microeconomics, Macroeconomics, Public Finance, and Environmental Economics. Dr. Collier maintains an active research agenda and has presented his research at numerous conferences and universities, including: the American Economic Association Conference and the Society of Labor Economists World Conference. Additionally, his research has been published in top quality, peer-reviewed academic journals such as the *Journal of Econometrics*.



Kenneth Wong

Brown University, United States of America

Kenneth K. Wong, Ph.D., holds the Walter and Leonore Annenberg Chair in Education Policy, directs the graduate program in Urban Education Policy, and chairs the Education Department at Brown University. Professor Wong is a national figure in shaping the research and policy agenda on urban educational reform, equity issues, and governance. He is the recipient of the 2007 Deil Wright Best Paper Award given by the American Political Science Association for his research paper, "Accountability and Innovation: New Directions in Education Policy and Management." Author of over 100 articles and several books, he served as an editor of *Education Evaluation and Policy Analysis*, a leading policy evaluation journal. His recent books include *The Education Mayor: Improving America's Schools* and *Successful Schools and Educational Accountability*. His research has received support from the National Science Foundation, the Institute for Education Sciences, the U.S. Department of Education, and several foundations. Professor Wong has been active in using multidisciplinary research to improve policy and practice. He has advised congressional staff, state legislatures, governors, mayors, and leaders in several large urban school systems regarding the design of accountability frameworks, school-community partnership, and school support strategies.



Claude Sauvageot

Ministry of Education, France

Claude SAUVAGEOT is the Head of Sector for European and International Relation at the Directorate of Evaluation, Forecast and Performance in the Ministry of Education. This sector is in charge of all matters related to the European and International Affairs linked with Statistics, Indicators, Evaluation and Forecast since June 2006. He is also the Chairperson of the Ines Working Party (OCDE) since March 2008, the Vice-Chair of the INES Advisory group (OCDE) since November 2008. Mr. Sauvageot is the French Representative on CERI (Centre for Research and Innovation in Education) since July 2004 and in the Standing Group for Indicators and Benchmarks of the European Commission since June 2006. He is also an Associate Professor in Education Sciences at Paris Descartes University at the Faculty of Letters and Humanities Paris Sorbonne: courses in educational economics to degree and Master level. Mr. Sauvageot was in charge of the organisation of a French Presidency conference on 'International comparison in education: a European model?' (13-14 November 2008 Paris). He is also an author or co-author of many articles about indicators and information systems, international comparisons and vocational education and training.



Graham Ruddock

NFER, United Kingdom

Dr Ruddock is Head of International Assessment Research at NFER and has been deputy head of the Department for Research in Assessment and Measurement since 1988. He directs test development, and other, projects involving mathematics and science and has directed the development of national tests for England in both subjects. In the international field he has been involved with the Trends in International Mathematics and Science Survey (TIMSS) since the late 1990s. He was the international mathematics co-ordinator for the 2007 TIMSS survey and fulfils the same role for the 2011 survey. He was also involved in the monitoring of national standards in mathematics in England, Wales and Northern Ireland.



Marit Kjaernsli

University of Oslo, Norway

Associate professor in science education
Faculty of Education, University of Oslo

Marit Kjaernsli is the National Project Manager (NPM) for PISA 2009 and was also NPM for PISA 2003 and 2006. She has been involved in the international studies for many years and was member of the Norwegian TIMSS 1995 research group. She has also been a school teacher in science some years



Liz Twist

NFER, United Kingdom

Liz Twist is a Principal Research Officer at the National Foundation for Educational Research (NFER) in the UK. She was National Research Coordinator for PIRLS in 2001 (England) and 2006 (England and Scotland), and directs the development of national assessments in English (reading and writing) for 11-year-olds in England. Most of her work is in the assessment of literacy, and she has particular interest in the assessment of students with special educational needs.



Marinus Rouw

Ministry of Education, Culture and Science, the Netherlands

Rien Rouw is senior advisor on knowledge based policy at the Dutch Ministry of Education, Culture and Science. Among other things, he is project manager of an incentives program called 'learning policy' and serves as secretary of the Knowledge Chamber on Education, Culture and Science.

From 2007-2009 he also worked as research fellow at the Netherlands School of Public Administration, where he was working on a project on effective brokerage between science and policy.

From 1996 -2006 he was senior advisor at the National Council for Social Development where he worked and published on subjects as varied as unemployment, the welfare state and civil society, citizenship and medialogic.



Anders Hingel

European Commission, Directorate General for Education and Culture

Anders Joest HINGEL passed a Ph.D. in Economics at the Copenhagen School of Economics and Social Sciences. During the first ten years after having graduated he occupied a post as university teacher at the Roskilde University Centre (DK) and carried out comparative research on technology policy, trade union policies and technological change. During that period he started working for the Commission of the European Communities as a consultant and expert and he also carried out research commissioned by French national authorities.

He has occupied responsibilities within the European Commission first as principle scientific officer within the Directorate General for Science, Technology and Development responsible for preparing the socio-economic research programme and research actions in the field of «Research on Education and Training in Europe». Since 1996, he has as head of Unit in the Directorate General for Education and Culture been responsible for development of educational policies, for analysis and studies on education and lifelong learning, as well as for statistics, indicators and benchmarks following up and monitoring the Lisbon process of the European Union.

He is presently responsible for the Studies and Analysis unit preparing the annual Commission report on progress and performance of education and training systems in Europe based on indicators and benchmarks. He is responsible for the Eurydice information network on education systems in Europe and for comparative research on education and training together with indicator development projects such as the European survey on Language competences and development work on indicators for Learning to Learn competences, active citizenship and creativity



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