

# PISA Under Examination

## Changing Knowledge, Changing Tests, and Changing Schools

Miguel A. Pereyra, Hans-Georg Kotthoff  
and Robert Cowen (Eds.)



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## **PISA Under Examination**



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**Edited by**

**Miguel A. Pereyra**

**Hans-Georg Kotthoff**

**Robert Cowen**



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Photo cover: The *Gran Telescopio CANARIAS*, one of the largest telescopes in the world located in one of the top astronomical sites in the Northern Hemisphere: the *Observatorio del Roque de los Muchachos* (Observatory of the Boys' Rock) in the island of La Palma in the Canaries.

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This book is dedicated to Germán González (1940-2011), a great schoolteacher who deeply cared for the cultural improvement of his island of La Palma and its people and could not see this book printed unfortunately

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## PREFACE AND ACKNOWLEDGMENTS

The *Comparative Education Society in Europe* (CESE) today is the oldest European scientific society in the field of academic education in our continent. Since its creation in London in 1961, CESE has traditionally promoted a space for scientific dialogue amongst scholars, specialists and young researchers from the field of education and other disciplines.

Throughout its history, CESE has organized twenty-four conferences and two specialized symposia. At present CESE is continuing this tradition and from time to time seeks to organize between the biannual conferences an international symposium with the title “CESE in-between”. Our main goal is to invite leading scholars and experts both within and outside Europe to engage in independent and intellectually balanced conversations about urgent and contemporary educational *problématiques*.

From the 23<sup>rd</sup> to 26<sup>th</sup> of November 2009, with the important sponsorship of the *Cabildo Insular of La Palma* (Board of Towns of the Island of La Palma), the *Consejería de Educación, Universidades, Cultura y Deportes* (Regional Ministry of Education, Universities, Culture & Sports) of the Government of the Canaries, the Spanish *Ministerio de Ciencia e Innovación* (Ministry of Science & Innovation), and *Rayas* (Museum and Archive of History of Education of La Palma), CESE organized an international symposium entitled *PISA under Examination: Changing Knowledge, Changing Tests, and Changing Schools*. The subject of PISA was chosen because of its widespread interest to academics and policy-makers and working educationists as well as parents and local communities. Across Europe, there is exceptionally strong interest in this topic on both practical and theoretical levels.

For four days, seventeen leading scholars presented their contributions in the symposium, and 105 delegates from Spain, Europe and America (mainly from Latin America) met in the *Teatro Chico* (Small Theatre), a historical place built, on the remains of a 16<sup>th</sup> century church, by the liberal freemason bourgeoisie of La Palma in the 19<sup>th</sup> century. It was indeed a memorable event, as memorable as this island of the Canaries, designated by UNESCO as one of the “biosphere reserves” of the world – a place where the hybridising of European and Latin American cultures is unique.

I would like sincerely to thank those whose generous participation made it possible for the international symposium on *PISA under Examination* to be organized by CESE in La Palma, as well as the economic support granted by the *Cabildo de La Palma*, the *Consejería de Educación, Universidades, Cultura y Deportes* of the Government of the Canary Islands, and the Spanish Ministry of Science & Innovation. My colleagues and friends on the Executive Committee of CESE and in particular the Immediate Past President of CESE, Bob Cowen, were very stimulating and supportive all through the process of organising this international symposium. Without the participation of the distinguished keynote speakers we invited, this event would not exist; and, in fact, in most cases all our

## PREFACE AND ANCKNOWLEDGEMENTS

invitations to come to La Palma for presenting and discussing ideas about PISA and its most relevant *problématiques* were accepted. The support of the President of the *Cabildo de La Palma*, Ms Guadalupe González Taño, was from the beginning essential, and my dear old friend Germán González, director of *Rayas* (Archive and Museum of History of Education of La Palma), also contributed decisively to the full accomplishment of the event. Unfortunately Germán has been unable to see this book printed since he very regrettably passed away last March.

Elías Bienes and Javier Jerónimo from *Nuevo Rumbo-Historia Viva* were in charge of the organization of the symposium in La Palma, and the inspiration and qualities of their organization helped us to be both creative and efficient. My colleagues from the University of Granada Antonio Luzón and Mónica Torres, who were the secretaries of this international symposium, performed their work wonderfully well, and wrote a solid report on PISA which was included in the booklet of the symposium, printed by Gustavo Gómez and creatively designed by María Torres (retrievable at <http://www.cese-europe.org/conferences/45-i-cese-in-between-las-palmas-2009/324-pisa-booklet>). Antonio's help was very important in the heavy and time-consuming process of preparing the 'camera-ready' manuscript of this book. Rocío Lorente prepared efficiently the Index Name of this book.

To all of them I want to express my most sincere acknowledgment.

*Miguel A. Pereyra*

*President of CESE and coordinator of the international symposium*

*PISA under Examination*

MIGUEL A. PEREYRA, HANS-GEORG KOTTHOFF  
AND ROBERT COWEN

## PISA UNDER EXAMINATION

*Changing Knowledge, Changing Tests, and Changing Schools*

### AN INTRODUCTION TO THE COMPARATIVE PUZZLE

PISA or the Programme for International Student Assessment of OECD (Organisation for Economic Co-operation and Development) is one of the most famous educational events of the last decades. Thousands of students from sixty-two different countries (the OECD countries plus country partners which signed a contract with this institution) have been recently involved in its tests for the 2009 PISA (the fourth report of this kind was presented in December 2010) (see Fig. 1).

**A map of PISA countries and economies**



Source: OECD–The PISA website: <http://www.pisa-oecd.org>

Overall, PISA has been a remarkable phenomenon. Rarely has educational information translated so fast into the word 'disaster' – and domestic political crisis. Rarely has educational information translated so fast into the word 'stardom' –, and sudden international attention being given to countries which hitherto were

un-noted and uncelebrated. PISA was not merely been an educational event. It was also a media circus. It involved the public rehearsal of reasons for failure or success; and even, in some cases, public and political and academic explanations about why 'failure' was not really that, and why 'success' was not really that either.

At the centre of all these indications, we find the growing influence of international agencies on education and schooling which has decisively contributed to a marketisation of the field of education in the context of an increasingly multilevel and fragmented arena for educational governance (Jones, 2007a and 2007b; Henry et al., 2001; Martens, Rusconi & Leuze, 2007; Mundy, 2007, and Moutsios, 2009). In recent years, their influence has not been limited to a particular geographical area or specific area of education and schooling, but has become a generalized phenomenon giving rise to an increasing internationalization of education. In fact, the "cognitive horizon" of these international agencies, such as the OECD, reaches beyond traditional borders and national and regional identities of its member countries, as shown by the universally applicable models to inform 'best practices' to achieve more efficient education and schooling. In this context, the "cognitive horizon" assumes a linear administrative chain of steering of our educational systems, which runs from the political level via the political body of school owner without considering any model able to explain the complexity of the relation of the different levels of the educational system; on the contrary, what is mainly considered is the instructional setting organised within each school to individual learning (see Landgeldt, 2007, p. 236). An additional distinctive feature of this "cognitive horizon" is its goal of generating policy-based *regulatory competition* on objective criteria, scientifically researched with more or less sophistication and presented in an easily accessible manner (through the use of tools useful for trying to solve various problems and issues, as PISA seems to do precisely up to the point of becoming at the present a kind of 'soft power' in education, as recently stated by Bieber & Martens, 2011). (See also on PISA, and the OECD, Rizvi & Lingard, 2009; Knodel et al., 2010, and Knill & Tosun, 2011, on the dynamics of these policy mechanisms.)

International agencies are becoming, therefore, independent agents in the field of education, rather than simply providing advice for their Member States which had originally been their responsibility, and their influence is today very notorious across the different fields of policy by generating a standardization by harmonization of educational systems, increasingly clear in Europeanisation educational processes (Lawn, 2011). Actually they are generating "soft mechanisms" for the formulation, the regulation and the transnational coordination and convergence of policies, buttressed by the diffusion of persuasive discursive practices which promote isomorphic policy emulation processes subject to rapid institutional imitation in today's globalizing world (Meyer & Rowan, 1983 and DiMaggio, 1983).

Following these patterns, the OECD as one of the leading international organizations has been ending to reach greater recognition lately. Since the last past decades of last century, and in particular since the 90s, has consolidated a steady 'comparative turn' in its education policy by introducing a framework of *governance by comparison* which emphasizing the interplay between the interplay between the

actors (the OECD governing body and its member states) and resulting policy (Martens, 2007, p. 54).

In this context the first comparative puzzle which attaches to PISA is: why all the fuss? What are the politics and sociology and anthropology of the international testing movement as if 'educational results' were a sporting event?

The second comparative puzzle which attaches to PISA is: in what sense is it 'comparative education'? At what point do numbers become or represent or stand for cultures, and what needs to be explained about the cultures/numbers symbiosis? What kind of comparative education does PISA signify? A comparative education of measured outcomes? Outcomes of what and from what, in the broader social and historical context?

The third comparative puzzle which attaches to PISA is: in what sense is it good 'big sociology'? What is – sociologically, in the workings of schooling systems – being tested?

The fourth comparative puzzle which attaches to PISA is: in what ways is this good empirical work? Which technical criteria does this kind of 'comparative work on an international scale have to satisfy and in what senses may we (technically) believe in the numbers?

The fifth comparative puzzle, noting the style and extent to which we 'believe' in those numbers, is whether, by whom, and with what consequences may we deduce policy action from such research? Is this the 'robust and relevant research' of which politicians dream? Can we move from these research results to policy action quickly, cautiously, or not at all?

All these questions and others were approached during the debates of our international symposium and accordingly they are addressed in the contributions of this book. We have organised the content of the book on the pattern we followed in the symposium.

In the first part of this book entitled "The comparative challenges of the OECD PISA programme, the authors contextualize and situate the OECD PISA programme within the broader social and historical context of the development of international comparative student assessment. PISA is viewed and analysed from a variety of angles and disciplines, including historical, political, administrative, economic, educational, cultural, governance and comparative perspectives. However, while the authors in this first part analyse the same phenomenon from a wide range of very different analytical and theoretical perspectives, they all share one common assumption: they regard PISA as a form of international and transnational governance and as a disciplinary technology, which aims to govern education in the 21<sup>st</sup> century.

In his contribution **Ulf Lundgren**, who was himself professionally involved in the development of the PISA programme, provides the reader with a detailed and intimate history of the formulation of the PISA programme. The main focus of his historical analysis is on the development of international assessment as a device for political governing. Thus, Lundgren analyses the economic and political context which formed the background for international assessment in general and PISA in particular. Lundgren traces the genesis of educational assessment back to the 19<sup>th</sup> century and identifies the early decades of the 20<sup>th</sup> century as a first milestone in the



development of educational assessment, when the idea of educational evaluation as a base for educational reforms was established and educational assessment was increasingly linked to social positions and salaries. According to Lundgren, the 1950s and 1960s mark a further milestone in the development of international assessment because it became comparative. International comparative assessment seemed to be particularly useful in a political Cold War climate that had an interest for the comparison of competitive education systems. The establishment of important agencies for comparative educational assessment such as the IEA, which followed quickly after the Sputnik shock in 1957, had a major impact on the further development of international assessment in that it drew the politicians' attention to the possibility of governing education by goals and results, i.e. measured outcomes. According to Lundgren, it became obvious in the 1980s that earlier planning models in education had failed and that new ways of political governing of the education system had to be developed, which required new and more specific goals: "To govern education by expressing goals to be achieved and evaluating the achievements demanded new conditions for governing. To be a steering device, goals have to be clear" (p. 23). Against this background the PISA programme was launched in the 1990s. It became particularly successful because it coincided with global changes in the 1990s which led to a global knowledge society in which education has become an international commodity. According to Lundgren's analysis, it is this particular *Zeitgeist*, which is characterised by the competition between new emerging knowledge societies that is not only restricted to natural but also to intellectual resources, which explains the PISA effect to a large degree.

In the second paper **Thomas Popkewitz** aims to analyse and to understand the system of reason through which OECD's PISA technologies and classifications are made intelligible. In order to do this Popkewitz examines firstly historically how "the numbers of PISA can be seen as 'facts' and as a way of 'telling the truth' about society, schooling, and children" (p. 33). Following Popkewitz's argument, PISA's narratives are built on the premise that numbers tell the 'truth' about national schooling systems and children. However, numbers as categories of equivalence are not merely numbers. Measurements provide constant performance indicators in a continual process of locating one's self in the world that are analogous to global positioning systems: "PISA globally positions the child and nation through a style of thought that differentiates and divides through creating categories of equivalence among countries" (p. 36). In the second part of his paper Popkewitz turns to the principles of school subjects and investigates how disciplinary knowledge is translated into school subjects. He argues that the "practical knowledge" measured by PISA has very little to do with the disciplinary knowledge. The translation of disciplinary knowledge into school subjects is rather an attempt to govern conduct through the insertion of particular rules and standards or even moral qualities about modes of living. PISA's assessment of students' knowledge and skills, then, can not only be seen as measurements about what "practical" knowledge children know. PISA also has strong normative function in that it tells us, who the child is and who or what it should be in future, i.e. a 'self-motivated lifelong learner' who is to live in the 'knowledge society'.

**Clara Morgan** analyses the construction of the PISA programme from a multi-disciplinary perspective which draws on political economy and international relations as well as sociology. Seen from a political economic perspective, Morgan situates the construction of PISA in the broader political rationality of neo-liberalism. As the role of education in the 1980s and 1990s was increasingly viewed in neo-liberal, i.e. instrumental terms (e.g. to reduce unemployment rates etc.), the OECD educational activities became increasingly concerned with the development of a competitive and highly skilled labour force: “Under neoliberalism, OECD education policy focused on implementing accountability and performance measures, improving educational quality and monitoring of educational systems” (p. 49). The formulation of PISA fitted into this context, in that it defined measurable outcomes which are required for competitive accountability. Analysing PISA from the international relations perspective, Morgan comes to the conclusion that there has been a strong American influence on the formulation of the PISA programme and, more generally, on the governance of international organisations, including the OECD. Finally, Morgan draws on theories from sociology and from Michel Foucault’s conceptualization of the ‘power bloc formation’ to understand how PISA ‘works’ and how it is used to exercise power. From this analytical perspective PISA reflects a ‘power bloc formation’ that works because it “serves the needs”, as Morgan puts it, “of politicians, policymakers and international and regional organisations as an accountability engine for governing education in the 21<sup>st</sup> century” (p. 56).

In the final paper of the first part **Antonio Bolívar** takes a very different perspective on the PISA public discourse by analysing the PISA results from the perspective of the “losers”. These are, according to Bolívar, the Ibero-American countries, who feel discontented and dissatisfied with their PISA results, which do not correspond to the desires and expectations of their societies. On the basis of several empirical studies on the PISA media discourse in Spain and Latin America, Bolívar argues that the PISA reports have been presented with a certain degree of sensationalism, with a lack of rational analysis and simplifications or even manipulations of the data. In summary, Bolívar argues, “each of the PISA reports has been received from a political and ideological duality, serving the educational policy that interested each ideological group, and producing ideological manipulations of the results” (p. 62). Bolívar’s own analysis of the performance of the Ibero-American countries in PISA 2006 in the second part of the paper reveals that the Ibero-American average score in science (426) is far from the OECD average (500) and that this performance is even overestimated because those youths who do not take PISA tests often do not attend schools and would thus lower the scores even further. On the whole, Latin America obtains lower results than the countries in Europe and Asia and the Latin American countries present more unequal distribution. Obviously, the educational reforms that were taken in the last few decades have not had a decisive effect on the quality of teaching in the classroom. According to Bolívar, one reason for this is that rather than extracting lessons from the results and ‘rationalizing’ educational policies, the data have been

instrumentalized and used to justify the changes already made or to provide support for educational policies already in place.

The second part of this volume, which is devoted to the theme of 'PISA and School Knowledge', takes the PISA discourse closer to schools and schooling. The contributors analyse and discuss the impact of PISA on school knowledge and the school curriculum in particular. Thus, their analyses focus on questions like what kind of knowledge is tested through PISA, how the achievement in PISA is related to knowledge acquired at schools and in which respect PISA challenges and shapes definitions of school knowledge and definitions of competencies.

**David Berliner** focuses in his paper on PISA's potential to distort national educational systems in general and school curricula in particular. He starts off by analysing the interpretive context for the publication of the PISA 2006 scores, which were greeted in the USA with negativism, exaggerated fears about the allegedly poor performance of the US American schools and chauvinism. Berliner's own analysis of the PISA 2006 scores reveals first of all that the US American schools and pupils are far better than depicted in the media. However, the PISA results also reveal that there is a huge problem with inequality and inequity in the US American school system. According to Berliner's analyses, this problem is not primarily caused by the school system, but rather by a number of out-of-school factors such as gross domestic product per capita and the huge inequality in wealth within the nation. In this respect PISA scores do not merely represent schools and schooling, but, according to Berliner, "schools and society *in interaction*" (p. 83). Thus, the PISA scores are a powerful indicator of the USA's uneven income distribution and housing segregation and of the effects of social class on school achievement. In the final part of his paper Berliner looks at the consequences that could arise, if PISA tests became high-stakes tests. On the basis of numerous empirical studies in the USA and the UK, which analysed the effects of high stakes testing, Berliner shows that high stakes assessment systems can corrupt teachers as well as the indicator, has a narrowing influence on the school curriculum, (e.g. more time for maths and reading in the curriculum, marginalisation of art and music etc.) and has a standardizing influence on the teaching methods. If PISA became a high-stakes assessment system, it would probably result in an international standardization of school curricula and a narrowing of the skill set that pupils and students possess, which is, according to Berliner, exactly the opposite of what is needed in the 21<sup>st</sup> century.

In the second contribution of this part **David Scott** takes a closer look at the forms of knowledge that are tested in PISA from a critical realist perspective. After his initial and fundamental differentiation between two forms of knowledge, i.e. knowledge (a), that represents knowledge sets, skills and dispositional states of a person, and knowledge (b), which represents knowledge sets, skills and dispositional states which allow this person to do well in tests, Scott unmasks false beliefs or assumptions about the characteristic features of these two forms of knowledge and about the problematic relationship between knowledge and its assessment (i.e. marker error, cultural bias effect, epistemic differences etc.). According to Scott's analysis, the relationship between knowledge and its assessment is further

complicated or even aggravated by various ‘examination technologies’ such as whether an incentive is attached to the taking of the test, the students’ motivation to take the test and the test format (i.e. multiple choice or free-ranging essay formats), which might favour some groups in comparison with others. International comparative student assessments (like PISA) face the additional difficulty of trying to construct curriculum-free tests underpinning the idea of a universal form of knowledge. PISA tests are therefore, according to Scott’s analysis, not related to national school curricula and they are consequently not a measure of what the student have been taught or what they have learnt in any formal sense, which means that the test are likely to favour some countries at the expense of others. According to Scott, the notion of a universal form of knowledge makes a number of reductionist assumptions and does not account properly for cultural differences which might affect test performance in several ways. By doing this PISA also operates as a standardizing device (i.e. it creates a norm) by stressing certain forms of performative knowledge which are becoming the norm. The final criticism is directed at the way PISA results are published in comparative national tables thereby putting emphasis on position rather than score. According to Scott, such league tables do not provide countries with very useful information for the improvement of their education system, but rather contribute to the nation’s (negative) self image.

In the final paper by **Donatella Palomba** and **Anselmo R. Paolone** the theme of PISA’s relation to school knowledge is analysed from a very specific angle. In their case study, Palomba & Paolone focus on the question of teachers’ attitudes towards long-term students’ exchanges at secondary schools. The case studies were conducted in several Italian secondary schools which are involved in year-long individual student exchange programmes. The research consisted of qualitative fieldwork based on participant observation, semi-structured interview, recorded ‘open discussions’ and the study of available school documents (e.g. school profile, etc.). In two schools the teachers drew in some ways on PISA tests in order to assess the acquired competencies of their returning students. These two schools, which are reported in this paper, approached PISA in two completely different ways and integrated aspects of PISA in their own culture, translating and transforming these elements, according to their local tradition, previous experiences and actual needs. The results of the two case studies show that the “familiarity with PISA makes the teachers less mistrustful towards what returnees have studied and learned abroad”. In their discussion of these findings the authors stress that PISA’s concentration on competences (rather than knowledge) which are spread internationally, school experiences in Italy and elsewhere are getting more similar. As result Italian teachers tend to think what returnees have learned abroad is not inconsistent with what is being taught at home. So while the intercultural experience of the students, i.e. their feeling of ‘otherness’ is probably reduced, the acceptance of the Italian teachers of their pupils’ competencies acquired abroad is stronger, because the competencies are deemed to be universal. Within the “intercultural exchanges”, these effects can be seen as facilitating an international dialogue, but also as a cultural homologation.

The third part of this volume entitled “The assessment of PISA, School Effectiveness and the Socio-cultural Dimension” focuses on the assessment of PISA and the question if and in which ways we can deduce policy action from this kind of research for educational policy, school improvement and school efficiency. The authors analyse the assessment of PISA on different levels and from different disciplines, including, in the last paper, the economics of education perspective. While most papers discuss the possible consequences of the PISA results on the systems level, one paper focuses on the student’s perspective by asking how individual socio-economically disadvantaged students react to PISA tests and engage in the process of testing.

In the first paper **Katharina Maag Merki** examines the effects of external achievement tests on teaching quality. Since changes in the teaching quality which are the result of the participation in international comparative achievement studies cannot be investigated in the framework of the PISA studies, Maag Merki analyses to what extent external state-wide exit examinations have an effect on the teaching quality in maths and English in the final year of upper secondary education in the German *Gymnasium*. Following the below average performance of the German education system in earlier PISA studies (2000, 2003, 2006), all 16 states introduced state-wide *Abitur* exit examinations unless they had not already instituted them earlier (e.g. Bavaria, Baden-Württemberg). In her longitudinal empirical study Maag Merki focuses on two German states: Bremen which introduced state-wide *Abitur* exit examinations in some advanced-level courses (e.g. English and Maths) in 2008 and the German state of Hesse, in which state-wide exit examinations have been introduced in all subjects in 2007. Comparing the teaching quality before and after the introduction of state-wide exit examinations led, according to Maag Merki, to the following results: “the introduction of state-wide *Abitur* exit examination in advanced English and maths courses in Bremen was accompanied by an improvement in instructional quality in those courses” (p. 131). These positive effects on instructional quality remain stable over time and can be found again in 2009. In contrast to Anglo-American empirical findings on the question of the impact of external achievements tests on the teaching quality, negative consequences could not be observed at this early stage. The main reason for this difference could be, according to Maag Merki, that the German *Abitur* exit examinations must be characterized – in international comparison – as low-stakes assessment, which “allow teachers more room to employ functional approaches that can be tailored to students’ needs” (p. 132).

The second paper by **Gerry MacRuairc** moves from the macro-level analysis to the students’ perspective on PISA testing. While the high level of correlation between educational attainment and the socio-economic background of the students is empirically well established, Mac Ruairc wants to analyse in his study how individual socio-economically disadvantaged students react to tests and engage in the process of testing. In order to do that, “it is”, according to Mac Ruairc, “important to take on board the perspectives of individual students themselves” (p. 135). By examining the views of students on PISA testing in one case study the author provides an insight into how the PISA assessment (2009) was experienced

by a group of working-class girls in a disadvantaged inner city school in a large urban area in the Republic of Ireland. The study comprised a visit to the school on the day following the administration of the 2009 PISA test and included focus group interviews with three groups of students and the principal. The thematic analysis of the interviews and the focus groups transcripts revealed three themes: (1) the intensity of the testing process was too high and most students, especially those with special educational needs, felt overstretched by the amount and the content and difficulty of the reading test items. (2) children who simply ticked the boxes to complete the test in time have implications for the validity of some of the responses to test items (3) students complained about too many personal questions and a lack of anonymity in the student questionnaire, which was to collect data in relation to a number of background variables including family and home circumstances. In his conclusion Mac Ruairc highlights the need for a more proactive approach to student support and a more nuanced model of assessment in future PISA tests to take account of social class difference.

**Marie Duru-Bellat** analyses in her contribution the ability of PISA data in assessing the quality of education systems. The author starts off by discussing the question why PISA data are so appealing for policy-makers despite their limitations. In her analysis Duru-Bellat points out that PISA data are so attractive because, rather than assessing conformity to academic knowledge, PISA gives a concrete picture of 15-year-old students' performance in subjects or exercises that are supposed to be relevant for daily life ("life skills"). In addition to this, PISA data, even if they are imperfect and questionable, are very helpful in highlighting differences in educational outcome across countries. According to Duru-Bellat, the misuses and limitations of PISA become obvious, when PISA data are used for benchmarking and when countries are ranked as result of cross-comparative comparisons: "The core problem with benchmarking is that benchmarks are set using the most readily available data" (p. 154). Since PISA data are readily available, they are used as if there were no other relevant indicators of educational quality of an education system (e.g. equity), which is of course highly questionable. However, indicators are isolated pieces of information, which according to Duru-Bellat, are not sufficient for assessing a whole 'system'. For the comprehensive assessment of a whole education system, evaluation is far more useful than indicators, because evaluation requires "the combination of indicators and most of all, the more qualitative interpretation of their meaning" (p. 155). In her conclusion Duru-Bellat points out that her criticism, which is focused on the misuse of PISA data for benchmarking processes, should not lead us "to renounce processes that evaluate education systems based on their output" (p. 157). The student output is and remains an important factor in assessing the quality of education systems. However, according to Duru-Bellat, it needs to be supplemented by additional data: "it is important not to limit oneself to measurement of student achievement but rather to include measurements of system characteristics such as coverage, financing (public/private) and tracking (early/comprehensive tracking, types of student groups etc.)" (p. 156).

**Javier Salinas** and **Daniel Santín** analyse the PISA reports and results from the economics of education perspective. In their paper the authors present an overview of the problems related to the assessment of efficiency in education and describe how the PISA data have been used for carrying out these studies. The possibility of obtaining educational data every three years for many countries allows economists of education to keep studying the technological relationship between educational inputs and outputs. The aim of a major part of the research done with PISA is to measure the productivity of educational resources and to establish the efficiency level of the schools responsible for producing education. The paper discusses the main educational concepts that have been used in empirical studies to measure productivity using the data coming from PISA and summarizes the main results obtained thus far: e.g. that a greater decision-making autonomy at the school-level tends to be associated with higher levels of efficiency or that, holding resources constant, PISA scores could be boosted by an average of 5% for OECD countries etc. In their conclusion, the authors stress that the PISA reports constitute a very valuable source of information for the analyses of educational efficiency and that they provide very useful information for evaluating educational policy. Finally, the authors provide some concrete advice on what additional information should be included in future PISA reports in order to improve the quality of the empirical analyses that could be conducted using PISA data (establishing a longitudinal database etc.).

The fourth part of this volume entitled “PISA and the Immigrant Student Question” focuses on the potential of PISA for the analysis and understanding of one specific aspect, which is of major importance for most education systems: in many countries immigrant students lag behind their peers from native families in terms of achievement and school success. The relatively poor performance of immigrant students in PISA tests has been one of the most controversial issues in the intense debate about the PISA results. In this part of the volume two papers are presented which both draw on PISA data, but arrive at very different explanations with regard to the reasons for this performance gap between native and immigrant students.

**Aileen Edele** and **Petra Stanat** assess PISA’s potential for analyses of immigrant students’ educational success by referring to the German case. The authors start by claiming that large-scale assessment studies, such as PISA, “have advanced our understanding of immigrant students’ educational disadvantage considerably” (p. 175) and they prove their point by contrasting what was known about the immigrants students’ educational disadvantage in the German school system before and after PISA. According to the authors, the PISA study established a more comprehensive indicator of immigration background by recording students’ and parents’ countries of birth, which proved that immigration into Germany was much higher than earlier German studies (e.g. *Microcensus*), which had defined immigrants strictly on grounds of their citizenship rather than their migration history, had shown. On the basis of the PISA data, Edele and Stanat are able to identify determinants of immigrant students’ disadvantages in German schools on different levels. On the national/societal level immigration and integration policies as well as differences in the approaches to support second language acquisition seem to play a crucial role. On the school level and with regard to the composition

of the student body, “there is”, according to the authors, “little evidence for the assumption that high proportions of immigrant students, [students not speaking the language of instruction at home, or immigrant students speaking a particular language at home] affect student achievement above and beyond the effects of social composition and average prior achievement of the student body” (p. 185). With regard to the individual level, the language spoken at home is the strongest single predictor of immigrants’ students reading achievement. In addition, immigrant students showed higher levels of instrumental motivation than native students and their achievement disadvantages do not seem to be due to a lack of motivation or aspirations. In conclusion, Edele and Stanat indicate that studies like PISA are powerful tools for identifying strength and weaknesses of school systems and possible targets for intervention. However, they do not suggest concrete measures of how to remedy the identified problem. Especially for measures at the teaching and learning level PISA does not tell us how to improve the achievement of immigrant students. This requires different types of studies like randomized field trials for which Edele and Stanat also provide an illustrative example (e.g. the *Jacobs Summer Camp Project*) in their paper.

In the second paper of this part **Julio Carabaña** discusses why the results of immigrant students depend so much on their country of origin and so little on their country of destination. According to Carabaña, the PISA study opens up new possibilities of carrying out research about immigrant students using a design of the type ‘one origin-various destinations’. When the country of emigration has participated in PISA, a comparison of emigrants with non-emigrants becomes feasible for several countries. On the basis of his analysis of the scores extracted from PISA 2003 and 2006, Carabaña maintains that “with some exceptions, emigrants reproduce the PISA scores of their aboriginal counterparts wherever they go” (p. 202). According to Carabaña, the striking similarities between aboriginal and immigrant students become still stronger, if we account for the special composition of emigrants, which are usually not a random sample from their country population. This leads, in Carabaña’s words, to the following indication: “emigration hardly affects students’ PISA scores, which remain at the level of the country of origin and do not come closer to the level of the destination country” (p. 203). To explain this phenomenon, the author tests various explanations from macro level characteristics of the countries of destination and of origin to personal characteristics and cultural factors. In conclusion, the author arrives at the cognitive ability hypothesis as being the strongest determinant of scholastic achievement. According to Carabaña, the hypothesis of national differences in cognitive or learning ability greatly alleviates the schools in the host countries, because they are “free of the suspicion of depressing the results of immigrant students, or of being unable to help them to develop their full potential” (p. 207).

We have titled the last part of this book “Extreme Visions of PISA: Germany and Finland”, and it provides two papers which look at the PISA debate and results from two very different angles. The papers provide two ‘extreme visions’ of PISA: the first one is written from the Finnish perspective, which is ‘extreme’ because it is written from the perspective of the ‘PISA winners’. The second paper presents



another ‘extreme’ case because it focuses on the German PISA debate, which is characterized by terms like ‘PISA shock’ and by feelings of self-doubt. Both papers try to provide explanations for the specific performance of the two education systems: Simola and Rinne try to explain the ‘Finnish miracle’, while Tröhler tries to explain the ‘German double discontentment’ with PISA.

**Hannu Simola** and **Risto Rinne** start off by suggesting three concepts which they consider to be promising theoretical concepts for comparative education. These are: (1) bringing the theoretical concepts of path dependency, convergence and contingency together, (2) tracing the history of the *problématique* and (3) analysing national and local interpretations and translations as hybrids. In their following analysis of the ‘Finnish PISA miracle’ the authors focus exclusively on the concept of contingency to see whether the concept can facilitate a broader understanding on the national phenomenon of ‘Finnish PISA success’. As a first step Simola & Rinne identify three national ‘truths’ that are widely accepted in Finland even though there is, according to the authors, not too much empirical research evidence behind them: the Finns share a high belief in schooling, teaching is a very highly regarded profession in Finland and the Finnish comprehensive school enjoys rather high trust on the part of both parents, authorities and politicians. In their analysis the authors illustrate that the genesis of these three national ‘beliefs’ is rather the result of coincidence and conjunction, than the result of rational and purposeful educational planning by educational politicians. In their conclusion, Simola and Rinne claim on the basis of their presented case that conceptualisations such as contingency must be taken seriously when pursuing an understanding of national education policies and politics. The alternative approach, i.e. operating only through functionalist and system models, emphasising mainly the transnational or national trends or focusing solely on rational decisions and choices “does not give theoretically adequate instruments for comparative research” (p. 227).

In the second paper **Daniel Tröhler** analysis the emergence of the lively or even fierce public and academic discussion on PISA in Germany, which he explains as a clash of two very different cultural self-understandings. To begin with, Tröhler clarifies the relationship between three fundamental concepts which lie at the heart of the debate in Germany: competence, *Bildung* and knowledge. According to Tröhler’s analysis, the attempt by some German PISA experts to mate competence and *Bildung* has caused major irritation and raised scepticism in Germany. At the background of this conflict lies, according to the author, a ‘clash of cultures’ between American pragmatism on the one hand and the German concept of *Bildung* on the other. *Bildung* resists being operationalized, is meta-useful and is, finally, unmeasurable. In his historical analysis Tröhler points out that the roots of the present PISA ideology lie in late 1950s, when the Cold War was ‘educationalized’ in the USA. The 1950s and 1960s was also the time when the human capital theory was developed and increased emphasis was put on maths, science and foreign languages, when cognitive psychology became the main reference discipline for education and when the technical systems perspective became the dominant perspective in education. Comparing these ideological roots of the PISA experts with the German ideology of *Bildung* explains, according to

Tröhler, to a high degree “the harsh rejection in Germany of the merging of the concepts of competence and *Bildung*” (p. 238). This conflict between competence and *Bildung* is even made worse, because PISA’s focus is not directed at what students learn at school on the basis of their (national) curricula and textbooks. Instead PISA aims to test “young people’s ability to use their knowledge and skills in order to meet real-life challenges” (p. 233), which brings it even closer to the non-empirical German ideology of *Bildung*. Against this background Tröhler interprets the German PISA dispute as a double discontent. On the one hand PISA is calling into question the traditional German concept of *Bildung* by focusing on the outer world (‘to meet real-life challenges’) rather than focusing on the development of the inner world (*Persönlichkeit*). On the other hand the PISA results also irritate the PISA experts who had to realize how little their educational project of the harmonious “One World” of free, globally interacting and economically secure citizens had been realized. This is particularly true for Germany, where poor national unity and coherence was greatest, indicated by the vast differences between the PISA results of the immigrant and native students.

We conclude our volume by including three texts as Annexes. Annex I is a research report by Antonio Luzón and Mónica Torres which reviews and analyzes the scientific literature about PISA as well as the public use of it as a important subject which was given widespread coverage by newspapers.

The analysis of the scientific literature on PISA was verified through the publications found in the so-called *Web of Science* (WoS) of Thomson Scientific (better known by its former name of ISI or Institute for Scientific Information), and the database *Scopus* from Elsevier. In addition they included a search in *Google Scholar*, a fourth generation search engine increasingly used in scientific research. Following Luzón and Torres’ study, it appears clear that the coverage of PISA issue was within a very wide subject area within the field of social sciences mainly referred to as ‘Education’; although PISA is addressed by other areas such as economics, sociology, psychology, mathematics education, history and even philosophy, which offers a multidimensional aspect of its reception by the scientific literature. The German sources and the German reality of PISA had a very visible impact. However other publications on PISA tests are also very visible, such as those associated with the “g” factor of intelligence, or with learning techniques in the classroom, and the implications and consequences of PISA in specific learning contexts or for specific social divides, such as immigration.

Annex II gathers the abstracts of the posters exhibited during the holding of the international symposium *PISA under Examination* in La Palma. Before the exhibition, there was – in the symposium – an exposition of the content of each poster by each author. Finally, Annex III reproduces the text of a summary in Spanish of the symposium by Jesús Romero, Antonio Luzón y Mónica Torres. This appeared in the very important educational newspaper of Spain: *Escuela*.

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## **SECTION I**

### **THE COMPARATIVE CHALLENGES OF THE OECD PISA PROGRAMME**



ULF P. LUNDGREN

## PISA AS A POLITICAL INSTRUMENT

### *One History Behind the Formulating of the PISA Programme*

In the early nineties Ivan Illich reminded us that it was time to celebrate the 500 year anniversary of the creation of the educational sector and hence schooling as a system of ideas for power and control over knowledge (Illich, 1981). What he referred to was the first idea to establish a state control system over written texts and thereby mastering the degree of literacy. This distinguish idea was presented at the Spanish court the 18<sup>th</sup> of August 1492. The month of August that very year is often remembered as the time when Queen Isabel of Spain gave up after all the nagging of Columbus and allowed him to sail to India. But Illich tells another story. The 18<sup>th</sup> of August the Queen was courted by what we today would call a linguist. His name was Elio Antonio de Nebrija. De Nebrija had published a grammar for the Castilian language. At that time in Europe a grammar was a regulation of how a language should be used, not a description of how a language was used. De Nebrija had discovered that the spoken Latin had changed to some gibberish and no longer a well formed and common language. In twenty year he had tried to reconstruct the classical Latin in Spain but all in vain. Instead, it struck him, that it would be better to write a grammar for the popular language; for Castilian. It was this grammar he presented his queen. But, his idea was more sophisticated than just a set of language rules. The very rational behind introducing a grammar was a new danger. A risk that was discernable as a consequence of the new technical innovation, namely the printing techniques. Due to this invention people learnt to read and that in its turn resulted in all kind of leaflets and pamphlets that were spread around. And many of these texts presented ideas that were threatening to the power and the queen. Ideas were published that questioned what should not be questioned. And furthermore, people were reading in silence. This was also a new invention. Earlier, when there were few texts to read, reading were done loudly (cf. Saenger, 1997). Silent reading is of course more difficult to control and interfere with. The reading had to be controlled, was de Nebrija's clear message. The Queen and thus the state should organise education and teach people to read. If such an education was to be effective and the outcome to be controlled, it was necessary to construct an artificial language. This artificial language had to be constructed on central decided rules and organised on levels following the hierarchical structure of the state apparatus. In that way the reading could be controlled and the empire saved from the contamination of subversive ideas.

This idea of a radical turn from a people's everyday language to one by a grammar dictated language, taught in special institutions is a dramatic shift. It was according to Illich the invention of the public educational sphere. It is also the forming of the politics of education and the forming of devices for the control of the outcome of learning. Queen Isabel rejected the proposal of de Nebrija. She did not see any grand idea behind this proposal of a marriage between the Empire and the Language. She held to the idea that the language belonged to the private sphere of her subjects. Such doubts and inhibitions have been exceptional among coming rulers.

The idea of this article is to present some reflections on the development of international assessment as a device for political governing. I will do that by pointing on the economic and political context in which international assessments have existed. This is the background for presenting how the PISA programme was formed. I will not go into details, mainly focus on the idea behind the construction of the tests. Finally I will deliver some reflections of why PISA has taken a central in the politics of education during the last decade.

#### THE DEVELOPMENT OF EDUCATIONAL TESTING AS MEANS FOR POLITICAL GOVERNING

Educational measurement techniques were developed in the nineteenth century. The revised code in England from 1862 is an example of an assessment and inspection system in which financial support to schools were linked to outcomes (cf. Musgrave, 1970; Lundahl & Waldow, 2009). This system of "payment by results" had also the ambition to govern the educational system.

The development of educational tests was early parallel to the progress of measurements of psychological faculties as intelligence with forerunners like Galton with his book *Inquires into human faculty* (1883), McKeen Catell's work *Mental tests* (1890) and of course Thorndike's classical book *Introduction to the theory of mental measurement* (1902).

With the development of the progressive movements in Europe and in the US in the late nineteenth and the early twentieth centuries the idea of evaluations as a base for educational reforms was established. In the beginning of the last century education became of decisive importance both for society and the individual. New governance and not the least the establishment of democracies demanded education. It was by education the future could be formed. For the individual education opened up the doors to a new life. A step from the given to choice.

Education was more and more linked to salaries and a position on the labour market. In this modern world it was important to have information about possible alternatives in order to make the best choice. The concept of evaluation became hence a part of modernity. Educational assessments became the main theme in educational evaluation. Or to talk with Ernest House (1980, p 16):

Modern evaluation is a direct descendant of modernism. Modernisation was liberation from tradition, a shift from the unquestioned reality given by tradition to a social context in which everything could be questioned and changed. It was a shift from 'givenness' to 'choice'.

In this modern education evaluation played a central role. Assessment techniques were developed in relation curriculum content (Tyler, 1950; cf. Kilpatrick & Johansson, 1994).

In the early decades of the last century we can see the first international cooperation for development of assessments being formed. One example is the International Examinations Inquiry (IEI), which was formed in the thirties (Lawn, 2008) aiming at an international cooperation in and for test development. This is an early attempt to build an international network around assessment.

#### INTERNATIONAL ASSESSMENTS FOR COMPARATIVE RESEARCH

The idea of international comparative assessments came twenty years later. The 4<sup>th</sup> of October 1957 the first satellite - Sputnik - was launched. The same year the 3<sup>rd</sup> of November Sputnik 2 was sent out in space carrying a dog – Laika. The Cold War and the competition in space escalated. The 12<sup>th</sup> of April 1961 Alexejevitj Gagarin was the first man in space. A month later president Kennedy promised that United States within a decade will land a man on the moon. The space race turned the search light on the outcomes of education, especially then the outcomes in mathematics and science. The year after the first Sputnik was launched the International Association for the Evaluation of Educational Achievement (IEA) was founded. My colleague Torsten Husén was one of the founders and acted during many years as chairman. The idea was to build a network of researcher that developed tests designed to be used in comparative studies. IEA was in its beginning a research endeavour, but with time educational administrations were involved.

I am not arguing that there is a simple causality, that the Cold War produced the interest for comparative international testing. The interplay is more complicated. But the international comparisons of results were easy to place on the political agenda in a time where strong voices were heard for competitive educational systems. The political interests interacted with the research interests.

In the fifties studies of economic growth and investments in education showed that investments in education were related to the growth in GNP (cf. Schultz, 1961), which in its turn strengthened the effort to find new roads for improving education and make it more effective. The Human Capital Theory was established. Two consequences are here discernable. One tendency was the focussing on cognitive processes for creating curriculum guidelines and didactic principles. A second tendency was to form an effective teaching technology. The Woods Hole conference at the end of the fifties became the starting point to a period of curriculum development in which the work of Piaget was give an important influence (Bruner, 1960).

It is interesting to note that researchers as Vygotskij had a similar position in Soviet Union as a basis for research of relevance for curriculum development (Jarosjevskij, 1974; Jarosjevskij & Lundgren, 1979).

These curriculum reforms emanating from the US had an impact in most industrialised nations. The work of IEA strengthens of course the internationalisation of curriculum development. The results of international assessment draw the political



view to how to govern goals and content in relation to measurable outcomes. Within education the idea of governing by goals and result was central for reforms long before the New Public Management was coined. Education and teaching always is a process formed by goals, content and results. In periods of change this is more evident than in periods of stability (Lundgren, 1988 and 2003).

When governing of education focus on measured outcomes the validity content of the items will be of specific interest. The Dutch mathematician Hans Freudenthal pointed out in the mid seventies that the content validity of the test in mathematics was problematic (Freudenthal, 1975) The Construction of the items was adjusted to the Bloom taxonomy (Bloom, 1956) and not the content.

How does a national expert value a test which does not belong to any objective of his national instructional system for this or that population or for this or that grade, that is, which is not covered by any subject matter of the national programme? (Freudenthal, 1975, p. 164).

Furthermore there were obvious translation problems. Similar critical questions around content validity in assessment were raised by Urban Dahllöf (1971). Hence, the possibility to compare outcome from different educational settings and curricula was questioned. This criticism had later an impact in the discussion around the construction of tests in the PISA programme.

In the seventies the industrial world faced changed economical conditions. The oil crisis in 1973 and 1979 and the increasing international competition strengthened the pressure on the efficiency and the productivity of educational systems. The economist Schultz word from the early sixties – “Truly, the most distinctive feature of our economic system is the growth in human capital” (Schultz, 1961, p. 17) – become still more evident in the seventies. With a change in economic growth the space for reforms was limited and new reforms had to be financed by increased efficiency. International assessments became now more important in national policies and were broadened in scope and in participating countries. Bloom expressed the ambition of international testing as base for school improvement in the following way:

The IEA surveys provide baseline data for each country against which future changes in education may be appraised. The IEA instruments and the increased sophistication about evaluation in each of the countries provide methods and procedures for the systematic evaluation of the effectiveness of new approaches to education (Bloom, 1974, p. 416).

But the seventies was also a period of criticisms against quantitative methods. The Cambridge Manifesto of 1972 illustrates very well this criticism.<sup>1</sup> In this manifesto it was pointed out that too little research had been directed towards teaching processes and too much attention had been given student behaviours. The reason for this was a research climate that reinforced precision in measuring and concoctions of school problems and research questions. New models and methods were the solution to this state of affairs.

In the seventies the educational systems were under attack for failing in efficiency and productivity and the educational research was under attack for being too much devoted to statistics and psychometric.

## A CHANGED PRODUCTION AND A CHANGED ECONOMY

When we entered the eighties another profound change took place. The dilemmas to governing large-scale welfare institutions were striking. There had been a continuous professionalization within welfare institutions, that is, more educated and professionally devoted personnel which became difficult to politically govern. The magnitude of reforms gave little of space for change and with less economic growth these conditions were accentuated. The political landscape in many countries changed with new parties entering the scene— like the green - following other political ideas than the traditional ones and not that easy to place within the right – left continuum (Granheim, Kogan & Lundgren, 1990).

The globalisation and the governability problems called for new solutions. Two main alternatives were on the agenda. One was to decentralise, the other to create more competition by opening up for choice of schools and opportunities to establish private schools. In many countries the arguments for decentralisation were renewed. It could be characterised as a frozen ideology, now melted, and in the first instance realised by local development work, school improvement projects and school based evaluation and in a change of the role of school leaders. It is here the New Public Management is entering as a “solution” (cf. Nyttell, 2006). Education became the arena for consultants with ambitions to increase efficiency and restructure management.

Decentralisation was one discernible solution. However, from a broad international standpoint the picture is not that clear. In the US, as well as in the UK, changes in educational policy can be understood as a change towards centralisation. In the US, the development of standards can be interpreted as federal governing of the national outcomes. In the UK, centralisation was discernible in the development of curricula, accountability, the choice of school and the development of inspection and control. These changes aimed creating visible outcomes reinforcing competition and facilitating the choice of schools.

These moves towards decentralisation were not limited to education alone (Weiler, 1988 and 1990). There was, irrespective of changes in direction of policy-making towards or from the centre, some basic alterations in the relationship between the state and general education, and also in the relationship between civil society and general education. These changes were discerned in the 80s and became central in the 90s, both in public debate and in how governance was performed.

## THE KNOWLEDGE SOCIETY

One important change concerned the relationship between national policy and the control of the national economy. Production had transformed Capital and was now moving from being located in tools and machinery to be in human competencies. The power of the capital was moved to the owner of knowledge. (Schön, 2000, p. 521; my translation).

To move enterprises in which the main substance is human competence is easier than moving tools and machinery. To finance reforms by increasing taxes, which partly could be done during the period of expansion, was limited in a more global

economy. With an increasing dependence on the international economy, the possibilities to manage the national economy and the incentives for growth changed in nature. These changes accentuated one of the basic problems of the modern state, to have a profound basis for its legitimacy. A change in legitimisation in a situation of diminished economic control became, in some instances, the impetus for moving state reforms from cost-taking initiatives to a symbolic reconstruction of existing institutions.

As pointed out, the transformation from a labour market structured by industrial production to a labour market structured by service production, circulation of products, reproduction and above all the new information technology, created new demands and reforms. It can be argued that the traditional organisations constructed to handle the economy and the political economy of modern industrialised society was no longer suited to handle a late modern society. They could not mobilise support for action. Accordingly, state institutions such as schools could not attract and build on the interests of the clients or users. Governance had to take other paths. One such way out of the dilemma is to focus on outcomes and accountability making education more transparent.

The trend towards global competition meant that new reforms could not be financed by an increase in taxes. They had to be financed by economic growth. Here we have a dilemma. The development of production – in the knowledge society – demanded more of education. Increasing resources has been the circumstance for the expansion of education, but resources are limited, and in a more global economy, as said earlier, new resources are not that easy to mobilise by increasing taxation. Further expansion had to be financed in new ways and by higher productivity. And this in its turn means to control the outcome of education.

The expectations of increased efficiency and productivity called for concrete well-articulated goals and a steady direction. But what we could discern, in the 70s and 80s, was that the governing subject – the government and administration – became weaker and fragmented. One explanation for this is the splitting up into smaller political party fractions, thereby forcing fragile coalitions. It has been argued that the classical ability of a government to be strong, to be able to reject demands, was lost in the 70s (cf. Crozier, 1977). This, in turn, created an increasing sensitivity to lobbying and power pressure, which led to an overload of demands on decision-makers.

The political authority of a government and its administration is composed of two elements: its effectiveness and public consent. Effectiveness and consent are related, but they can be in conflict. In order to guarantee the consent of the electors, and increasing number of interest groups and associations have been formed. This has created new problems. The more organisations that are formed, the more negotiations are necessary to gain support for one line of action or for a reform. A co-operative negotiating context is formed. This can result in indifference with respect to participation: citizens become de-motivated (Rose, 1980).

These problems seem occur quite frequently in educational administrations at that time with the result that governing documents, like curricula, became abstract to allow for various interpretations. Thus, these forces act contradictory to what was necessary for reforms in a new political context: that is well-articulated goals

and a steady direction. And here we can see the context to the variation in directions of curriculum discussions and suggestions. So once again there is a paradox. Decentralisation calls for more of goal governing and more governing by results, but at the same time goals expressed in curricula become abstract and difficult to assess.

In addition, many of the changes indicated so far were only part of more complex changes in the conditions of political leadership. There are reasons – in this context – to draw attention to the differentiation within the state apparatus itself. To be able to control the move towards politically defined goals, the educational administration organisation must be capable of ranking goals, making priorities and identifying alternative actions that are best adjusted to given economic conditions. Heavy specialisation and division of labour in central governance was relied on as the basis for rational decision-making. This specialisation has as a consequence the splitting up of the organisation itself, with the risk of losing the overall perspective that is necessary for rational decision-making.

It has become more and more evident during the '80s and '90s that earlier planning models could not be used. During the expansion, specialisation of the administration was a practical solution. Faced with the need to take new types of decisions in a different societal context, the existing organisation seemed to be unable to act rationally. With limited resources, various sectors were forced to compete with each other. A consequence of this competition was, in some places, that goals for education were broadened in order to make the educational sector look as important or even more important as other sectors. This broadening of goals was reinforced by the necessity to satisfy various and often different demands. And once again we can see the contradiction between what was produced and what was needed. And again, goals became more abstract when more clearly stated goals were needed.

What many political scientists pointed out (cf. Wildavsky, 1976) in the 70s was that the governing subject – the political leadership – had problems taking the initiative for an active reform policy. We can see examples of a fragmentation of the educational administration, thereby creating problems concerning overall planning and the ability to master complex groups of interrelated problems. We can also see tendencies towards more policy-making carried out by the administration itself.

To meet these problems with decentralisation call for new ways for political governing. The basic characteristics of centralised systems are that they are governed by resources, i.e. the economic system, and thus strongly regulated and framed. The curriculum system is rather detailed curricula and in textbooks as well as in teacher education. Movement towards decentralisation or more market competition weakens governing by economic resources. By that follows a deregulation, or at least a re-regulation. What remains for the centre in a decentralised system is then to strengthen the curriculum system and the evaluation system, i.e. to perform governing by goals and results, if the educational system is to serve the purpose to promote equality and to reproduce a common value-base.

To govern education by expressing goals to be achieved and evaluating the achievements demanded new conditions for governing. To be a steering device,

goals have to be clear. Here a new problem or dilemma arises. If, as was said earlier, one of the problems of governing is that as a result of pressure from various interest groups, and by a fragmented and specialised sector, goals become more broad and abstract, then these processes are contradictory to the demands of steering by goals. One way out of this dilemma is to reorganise the administration and to renew steering documents. One further argument for that has to be added - it is the rapid change of knowledge.

With the new and rapidly changing economy and production, as well as globalisation, and the rather dramatic changes in the volume and structure of knowledge, we have to realise that it is becoming more and more difficult to centrally plan the content of education. More decentralisation means that we have to perform the governing of content in new ways. In moving from central governing towards more local governing, the question of who has the responsibility is sharpened. Thus a movement towards decentralisation focuses the professional ability of teachers and their professional responsibility.

The access to information is rapidly increasing. Schools as institutions were created in a society poor of information. The way curricula and syllabi had been constructed reflects that. In the information dense society, the gravitation point in curricula cannot any more be the organisation and order of content. We are approaching a Copernican turning point, in which curricula must be based on how knowledge is structured, and articulated in basic concepts, theories, models and competencies, which in their turn must be expressed in terms of goals. In performing such a change, curriculum construction and processes for curriculum construction have to be changed. This means new forms of specialisation within the administrative bodies that represent interests other than the ones linked to specific content and thus specific school subjects.

There is one fundamental argument for governing by other type goals and outcomes than before. Resources and rules can govern areas or sectors within which we have a profound knowledge or belief about the relations between goals and methods. If we know that there is a clear relationship between – to take a simple example from traffic policy – speed, conditions of roads and car accidents, we can execute governing by resources and rules. On the other hand, the less general knowledge there is of the relation between goals and methods, the more governing by goals is applicable. The same when the competencies for future working life are hard to predict. However, this, in its turn, demands qualified personal having the skills and knowledge to adjust methods to specific circumstances.

Up to this point I have tried to sketch the main lines in the changes of education during the seventies and the eighties. These changes and this discourse for about education is the background to the OECD project INES which will be discussed more in detail a bit later.

At the end of the eighties, the 9<sup>th</sup> of November 1989, the Berlin Wall fell into pieces. Three years later, January the 1<sup>st</sup> 1992, the Soviet Union ended as did the Cold War. The external threat of the superpower blocs toned down. Competition was no longer about domination over the territory. It turned more over to a competition about economic power and growth, a competition that also must adapt

to environmental changes. In the nineties ICT entered as a technology education and with Internet the asset to information and knowledge radically changed.

The dominating themes in the public discussion during the '90s were the professional role of the teacher, school management and educational leadership. This has to be understood as a consequence of the changes sketched above. To govern by goals requires clear goals. At the same time these goals must give space for interpretation and implementation. The essence of goals is that they are not formed as rules. Goals have to be owned by those who have the responsibility to implement them. Here the essence of goals meets the essence of professionalism in the sense of having a knowledge base to interpret and make goals concrete in relation to teaching and learning processes. And furthermore, it calls for a clear division of responsibility and, hence, accountability.

To summarize, the changes in production and economy created a pressure on handling an expanding welfare society. Movements towards decentralisation and privatisation can be interpreted as two ways of solving the problems discussed. Both these solutions demand changes in curricula and in evaluations. The contradiction I have tried to point at is that the change of the political landscape and in administration operated in a way that goals became more abstract. The change towards what can be described as the “third industrial revolution” called for new abilities and competencies that reinforced the difficulties to articulate goals in such in a precise way.

This change has changed the conditions for international comparisons by assessments. The German historian Reinhard Koselleck uses the concept “temporalisation” in his research on how concepts change meaning over time (Koselleck 1979, 2003, 2006). International assessment is a concept that has been temporalised. It has moved from the Cold War context to a world threatened by environmental change and conflicts between faiths and a global economy.

## PISA IN CONTEXT

These notes about a emerging “knowledge society” has the intention to give a context to the development of the PISA programme. In 1968 OECD established a specific centre for Educational Research and Innovation – CERI (Papadopoulos, 2006). It is unnecessary to say that 1968 was a year of specific importance in the history of education. CERI became besides the Educational Committee as an important policy institute (Waldow, 2006).

During the seventies and the eighties I participated in several OECD activities including an evaluation of the school system in Norway. In the late eighties I was involved in the “Education Indicators Program” (INES). This very ambitious programme aimed at building a system for education statistics in order to enable comparisons between countries within the OECD. Such a statistical system had of course an impact on national policies. In a global world international indicators delivered support for arguments on competitive strength. The active advocate for an OECD statistic was the United States. The background was of course the

emerging knowledge society and the renewal of human capital theory (OECD, 1998, 2000, 2001).

In July 1991, I became Director General of a new Swedish government Agency – National Agency for Education – aiming at national evaluation and development of the school system in Sweden. The Agency replaced the National Board of Education that was established in 1919. The Director General for the national board of agency for education was also member of the board of CERI. I served for nine years, the last two years I was chairman. As being involved in INES I became a member of the steering group for INES. The INES programme had an impact of the statistics produced within the OECD countries. I mean that on the whole the quality increased substantially. At the same time it was obvious that the data collected also had a steering effect. Even if OECD not has the mandate to change policies they influence them. That steering device was one of several reasons why it was important a General Assembly to get a clear support and a mandate from the member countries. Every second year the General Assembly decided on the development of the programme. The statistics were published annually in Education at a Glance. With time it was obvious that political interest grew not at least demonstrated at the minister meetings.

One problem that followed the project from the beginning was how to report learning outcomes. The only available international data that existed were those collected by the IEA. After negotiations with IEA we got access to the data for the member countries of OECD. They could thus after being reworked be presented in Education at a Glance. However, this was not unproblematic affair. When INES got the data they had been published in other forms and had lost its novelty. The most essential was that when outcome data was published in “Education at a Glance” it had taken so much time that data were from a political point of little or no interest.

The IEA data was not possible to use over time as the test varied between collections. The number of participating countries varied also, which gave the comparative analysis various reference points depending on the various data collections.

The launching of an outcome study carried out by INES came up on several occasions. Tom Alexander, at that time director of CERI, argued for an OECD managed programme. I will not go into the rounds and the negotiations between the IEA and CERI. The decision was taken and a steering group was formed to formulate a specification of the assessment program to be required - PISA Program for International Student Assessment. I became a member of the steering group for PISA and worked with it up to 2000. As chairman for CERI I prepared to present the progress at the General Assembly in Tokyo in August 2000. Due to acute sickness I had to leave before the programme came in operation.

As PISA progressed the European Union started to argue for an own assessment programme. Two parallel test systems would have been too burdensome for the EU countries. We have not reached the end of that story.

The major problem to master was the construction of a test that allowed comparisons over time. Freudenthal's criticism of the content validity of the test in mathematics used by IEA was important. What is also important to point out is the

changes in curriculum discussions in the eighties and nineties in which the concept competence came in focus. These discussions reflected changes in production and economy and not least a change of political governing of education stressing management governing by goals and results as been pointed out earlier.

The discussions we had in the steering group often centred around ongoing changes in educational policies. Walo Hutmacher, member of the steering group – professor in sociology at Geneva University – argued for focussing competencies. These discussions were nourished by the work at Educational Testing Service in the U.S. They developed a test measuring the reading “literacy” in a way that broadened the concept of literacy by covering not only the ability to decode and read but also to comprehend texts.

This “Literacy” concept began to increasingly appear in parallel and in interaction with the concept of competence. OECD/CERI ran a project where the Educational Testing Service designed this test of literacy for the measurement of adults' literacy skills - the International Adult Literacy Study - IALS. Statistics Canada handled the empirical design and data collection. In 1994 The International Adult Literacy Survey (IALS) was carried out including seven countries initiative was conducted. The basic idea was to study “comparable literacy profiles across national, linguistic and cultural boundaries”. It included also a survey on participation in adult education and training. The results pointed at a possible strong relation between literacy and the economic potential of a nation (Jones, Kirsch, Murray & Tuijnman, 1995). IALS was enlarged in two further data collections in 1996 and 1998 (including 16 countries). The IALS study had an impact on what kind of test to be used in PISA. It influenced also the discussion around competencies which resulted in an another OECD project – Definition and Selection of Competencies (DeSeCo) – in which Hutmacher had an active role. Another spin-off was to find indicators on life-long education and life-wide education. I was chairing a working group trying to find indicators with the aim to study relation between various types of formal and informal education and competencies.

Another other argument for tests that measured competencies and were “curriculum free” was to broaden the discussion around the results. Competencies in reading and in mathematics have to be continuously practiced. This means that the environment must offer possibilities to read and to calculate. The outcomes of PISA we hoped could stimulate a debate on learning outcomes not only from an educational perspective but also a broad cultural and social perspective. Rarely has a pious hope been so dashed. One decisive argument was to have results that could be compared over time. The cons with tests that are “curriculum independent” is just that. How to relate the results to the national curriculum?

PISA is now in its fourth data collection. When the first results came they got an impact that was not expected, not even dreamed of.

There is a general problem with any type of comparisons of educational outcomes. They are quickly translated through metaphors taken from sports. Just one will be a winner. That is true for all previous international measurements. With PISA, the results were a shock in as it seems all countries. Even if Finland was the



exception, they had their chock. As one of my Finnish colleagues said – “it was a shock to be the best”.

The way that I have structured this presentation has been to embed for a contextual explanation. It's the “zeitgeist” that explain the PISA effect. During the nineties, the world changed dramatically. A global society grew. New technologies are changing the production. The economy became global and thus intertwined. Two new world economies emerged with the development in China and India and a third is in its beginning in Brazil. In this strongly emerging knowledge society is the competition not longer linked to only natural resources but also to intellectual resources. Education has become an international commodity. In transformations of this kind, there is uncertainty and a concern or even fear for the future. PISA gave school systems a value on an international scale. Every minister of education realised or believed in the necessity to be better than Finland. Political governing of education became the control of outcomes. The consequence is that Curriculum restructuring will be directed towards test performance. PISA is maybe no longer a comparative project. It is a model for the governing of national school development in a global world.

This emerging control regime has been reinforced by the changing world around us. The enemy is not behind a wall, but among us. The terrorist attacks in September 2001 marked changed social control. Control and surveillance in various forms are part of the daily routine. This “zeitgeist” is part of the context where PISA got its political meaning.

#### TO FINISH

The title of my presentation was “PISA as a Political Instrument. One History behind the Formulating of the PISA Program”. What I wanted to emphasize was that the PISA project and the effect of the PISA project cannot be understood from an educational, psychometric or technical basis. It has to be understood as part of a context that has been historically shaped by changing social conditions, both material and ideological.

Measurement is one governing device that is the essence of public education. It is a more sophisticated technique than Elio Antonio de Nebrija the 18th of August 1492 presented Queen Isabel. It was the year when Columbus missed the way to India, but explored an enlarged and literary global world. PISA is an example of what in a global world nationally is perceived as the answer to what is going to be taught, who it is going to be taught and how will the outcomes of teaching be judged and used for control and political governing.

International knowledge assessments are currently one of the symptoms of a verification of the knowledge we do not know if we need to face in a future we cannot foresee.

## NOTES

- <sup>1</sup>. An international conference at Churchill College, Cambridge University, 20<sup>th</sup> of December 1972 at which a specific manifesto was signed claiming for a broader repertoire of methods used within educational evaluation.

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