

# **IEA: INTERNATIONAL STUDIES, IMPACT AND TRANSITION**

*Hans Wagemaker*  
IEA Executive Director

The year of IEA's 45th anniversary seems an appropriate time to reflect on what IEA, as an organization, has accomplished. Such reflection also seems appropriate at IEA's first research conference, which has as its focus the secondary analysis of data generated by the IEA studies.

My brief, when I was asked to give this keynote address, was to reflect on the impact of the research that has been conducted under the auspices of IEA on education (broadly considered) since its foundation. The question of impact raises, of course, the issue of how one might judge impact, and what evidence can be used and is available to judge it. In effect, the question that needs to be answered is how effective has IEA been as an organization?

As a research organization focused on education it is reasonable to expect that the work of IEA should contribute to our understanding of teaching and learning, to the educational policy debate within countries and internationally, and, ideally, to research practice itself. In this address, I therefore would like to consider these impact-related questions by taking into account some of the broader historical changes and other imperatives that have occurred over the last 45 years, and the influence that these have had on the work of the IEA.

## **HISTORICAL DEVELOPMENT**

As most of you know, IEA was founded in 1958. Although its first meetings were held under the auspices of UNESCO, its roots were firmly tied to academic institutions through its first scholars, such as Benjamin Bloom, Arnold Anderson, Robert Thorndike, and Bill Wall. In its early years, the work of the IEA was organized primarily by these leading academics, who contributed their time and resources on a voluntary basis and whose motivation to a large extent was guided by a desire to understand and identify those factors that might have meaningful and consistent influences on educational outcomes. The international focus was also, for them, a context from which the naturally occurring variation among countries in terms of practice and policy would provide a source of insight for policy reform and improvement. They argued that evidence from across a wide range of educational systems would be of sufficient variability to permit the revelation of important relationships that would otherwise escape detection. Foshay, Thorndike, Hoyt, Pidgeon, and Walker (1962), the authors of one of the first publications to arise from the work of IEA, eloquently expressed this focus in making the case for international comparisons: "If custom and law define what is educationally allowable within a nation, the educational systems beyond one's national boundaries suggest what is educationally possible" (p. 2).

While much of what international studies like those carried out by IEA do is to describe "what is" in terms of how education is practiced in a country (the within-country perspective), the power of such studies is most fully realized when the international context they provide is considered (the between-country perspective). Given the differences in the ways in which education is organized and practiced across cultures and societies, a comparative perspective not only enables an understanding of its many forms but also serves to expand a nation's horizon as to what might be possible.

Identifying models or practices of education from countries around the world as a means of reflecting on one's own practice and experience was—and arguably still is—a key function of international comparative studies and the work of IEA. IEA, more so than any other organization, has brought an international perspective to the work of educational policy analysis and research. The work of Foshay et al. (1962), for example, can be seen as one of the early attempts to address, and perhaps silence, data-free polemics on the relative merits or otherwise of one education system as opposed to another.

While the early interests of those who worked on IEA studies were largely driven by more academic concerns, such as describing models of practice or understanding the relationship(s) among variables that might be related to educational performance, the concerns of policymakers eventually became a more significant factor in shaping the work of IEA. Writing in the early 1970s, Postlethwaite (1974) noted: “At all levels in an educational system, from the teacher in the classroom, through the administrator to the policymaker, decisions have continually to be made most of the time on the basis of very little factual information” (p7) He identified what was to be a central concern of policymakers, namely, that educational policy is formulated and implemented at all levels of the education system, even where system-level constraints, such as a centralized curriculum, restrict what schools and teachers might do. Discretion at the school and classroom level always remains. The question as to how and on what basis policymakers, administrators, and teachers make decisions in the educational arena was to become the concern of comparative studies of education in general and the work of IEA in particular.

Until the early to mid 1980s, the practice of large-scale assessment, internationally, remained rather ad hoc and was characterized by uncertainty as to regularity of assessments. It was, however, during this period that most of the developed countries of the world initiated or experienced significant reforms in education and the wider public sector (The World Bank, 1999). Similarly, in many low- to middle-income countries, educational reform as a means of enhancing social and economic well-being received increasing attention. It was also during this period that the work of IEA can be seen as having an impact on the international debate related to reform.

Tuijnman and Postlethwaite (1994), in their *Monitoring the Standards of Education*, note that while the history of large-scale assessment dates back to the early 1960s, a significant development toward a more systematic focus on national monitoring began with the release of reports like *A Nation at Risk: The Imperative for Educational Reform*, the release of the results of IEA's Second International Science Study [ditto], and later, again in the United States, the report from the Conference of the Governors of the 50 states in Charlottesville, Virginia, which sought to frame national goals for education with a strong emphasis on quality.

This period of reform was, in part, attributable to the almost universal that the performance of a country's educational system is a key element in establishing its competitive advantage in an increasingly global economy. Education was conceived of as being implicated in a country's economic, social, and personal development and was/is considered one of the main means whereby inequities—social and economic—can be reduced. Perhaps the most dramatic expression of this is contained in the report from the United States, *A Nation at Risk*, in which the authors point to the threat of economic decline as supplanting the past threat of aggressor nations (United States National Commission on Excellence in Education, 1983. Education or, more specifically, the decline in educational standards was cited as the cause of economic decline in the face of intensified global competition. The Commission wrote: “If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. As it stands, we have allowed this to happen ourselves ... we have, in effect, been committing an act of unthinking, unilateral educational disarmament” (p. 5).

Although a model ascribing economic decline to a decline in educational standards is simplistic and likely to be of limited value in addressing or understanding educational and economic policy concerns, the debate engendered by it draws attention to real concerns about educational performance, not only in the United States but also in many OECD countries. It was the concern for excellence—together with concerns related to equity and efficiency—that gave rise to a greater intensity of focus on education and evidence-based educational policy development.

As education received increased priority in the public policy arena in many countries, it also faced the reality that, as with many other areas of public spending, of real limits to the funding available for educational development. The funding that was available was accompanied by increasing demands for accountability and a better understanding of the relationship between educational expenditure and educational outcomes.

The fullest and perhaps most extreme expression of these concerns is evident in publications like *Reinventing Government* (Osborne & Gaebler, 1993), in which the authors argue for an educational marketplace shaped by the twin imperatives of efficiency and effectiveness. Implicit in their argument is the notion that increased provision and improved instructional quality produce greater numbers of better-prepared students, an outcome that, in turn, results in a more internationally competitive and better-prepared workforce. The role that comparative studies like TIMSS and PIRLS, in particular, can play in such an argument is to direct the focus more narrowly on to assessment of quality in mathematics, science and reading and presumably, therefore, on the production of more productive and high-quality scientists, mathematicians, and engineers in particular and workforce in general.

What is reflected in these kinds of concerns is a shift in focus from managing issues related to the expansion of educational systems in terms of student numbers, to one of managing issues of quality and excellence. In the case of those countries in what might be described as a less advanced stage of educational development, this has meant not surrendering to the imperatives of educational expansion at the expense of considerations of quality. The shift in emphasis from issues of quantity to a greater concern for quality is reflected in the work of IEA.<sup>1</sup>

As we look across the four decades that span the work of IEA, we can observe a progression in terms of complexity. Studies in the 1950s designed to describe one cohort and to compare countries with respect to that cohort gave way to studies designed to address issues of greater complexity. By the early 1980s, changes in design to include multiple cohorts (as with SIMS, for example) allowed for the description of differences among cohorts and, more importantly perhaps, exploration of apparent gains in achievement within and among countries (SIMS with its longitudinal component again provides the pertinent example).

The demand in the early 1990s for regularity of assessments as a means of contributing to knowledge of the quality of outcomes saw the development of TIMSS and the subsequent decision by IEA to make this, together with PIRLS, the core of its work in student assessment. The advent of the TIMSS and later PIRLS assessments has allowed researchers and policymakers to study trends within countries (through study of repeated cross-sections) and, of course, to examine trends among countries.

---

<sup>1</sup> Although policy concerns are significant in shaping the nature of international studies, it should be noted that the studies themselves, because of their organizational structure around expert groups, are informed by the contributions of many influential researchers and educators from around the world. These inputs are also critical in shaping the nature of the international research program.

Table 1 illustrates the way in which IEA’s projects address changing demands from policymakers and the information interests of researchers.

*Table 1: Types of Analyses possible with different Study Designs*

Description of One Country	Comparisons of Countries
Describe one cohort	Compare countries with respect to a single cohort (pilot study)
Describe differences between or among cohorts (is this difference a gain) (CIVICS)	Compare gains (SIMS, TIMSS)
Study a trend is repeated—cross-sections (TIMSS)	Compare trends (TIMSS, PIRLS, SITES?)

What is apparent as we look back over the last 45 years is that as interest in global competitiveness and local accountability has increased so, too, has interest in international comparisons of educational performance. What then has been the significance of these new imperatives on the activities of IEA and what has been their impact?

While judging the impact of any piece of research is not always a simple task—and often results in a rather pessimistic conclusion as to its efficacy (Burkhardt & Shoenfeld, 2003)—there is considerable evidence that much of the work of IEA has made, and is continuing to make, a significant impact in the key areas of policy, research, teaching, and curriculum. However, a note of caution: looking for simple relationships between research findings and particular policy outcomes can lead to misunderstandings about the nature of the research–policy linkage. Major policy initiatives or reforms are more likely to be the outcome of a wide variety of inputs and influences, while research is more likely to provide a heuristic for policy intervention or development. For this reason, we have to cast the net wide when looking for evidence of impact.

## PUBLIC VISIBILITY

The work of IEA, perhaps more than any other organization, has brought into sharp relief educational outcomes. The extent to which information resulting from IEA studies has entered the public discourse and is *visible* in the public domain may be one way of assessing impact. This public visibility is arguably a key factor in shaping the public policy debate. While IEA has, in recent years, taken considerable pains to ensure that the results of the research it has conducted are widely disseminated, we might not have anticipated the extent to which this has been achieved.

Over the last 10 years, coordinated media releases have ensured that data release has been maximized. The outcomes of the major IEA studies, including TIMSS, PIRLS, Civic Education, and SITES, have all captured media attention not only in the international media such as Associated Press, CNN, and USA Today, but also in many—if not most—of the major newspapers of participating countries. Internet, too, has provided for a significant increase in the visibility of and accessibility to information resulting from IEA projects and, for that matter, study data. For example, a search on TIMSS reveals some 113,000 citations and no less than 30 educational systems with web sites reporting on their participation in the project. Other web sites reporting on TIMSS include NCTM, the Max Planck

Institute, the Mathematics Project Journal, the Washington Post, PBS, and the National Science Foundation.

For each of the major projects other than TIMSS that IEA has sponsored in recent years, PIPLS (with 7,990 citations), Civic Education (with some 6,000 citations), and SITES (more than 50,000 citations), data are reported on country web sites or reported in other public media web sites, including school boards associations or teacher professional organizations. This level of visibility has ensured wide use of the work of IEA.

It is also important to note that dissemination of findings is not restricted to the countries of the OECD. Elley (2002), in reporting on the extent to which results for the 1995 TIMSS study were publicized in low- and middle-income countries, notes that although public release of information was politically difficult in some of these countries, most, if not all, produced national reports that were released and, in some cases, were the focus of intense public scrutiny, for example, through repeated television interviews. Further evidence of the extent of the visibility of the work of IEA is apparent in that, in the United States, the Chairman of the United States Federal Reserve, Alan Greenspan (2004), in his testimony before the Committee on Education and the Workforce, of the United States House of Representatives, appealed to data from TIMSS to express his concern about educationally low performing sectors of the United States population and assumed consequent detrimental impact on the United States economy.

### **Impact on Policy**

Evidence that the work of IEA has entered public discourse and the public policy debate is but a first step in arguing the case for a significant impact. It is also possible to appeal to other sources that argue more strongly for evidence of the impact of IEA's work on educational policy.

Earlier I mentioned that the release of data from SISS and subsequently SIMS were influential in shaping the policy debate at least in some of the countries that participated in the studies. It is also evident from the essays provided for *The Impact of TIMSS on the Teaching and Learning of Mathematics and Science* by David Robitaille and his colleagues (2000) that the impact of TIMSS was far reaching following the release of the 1995 TIMSS data. In countries as different as Iceland, Kuwait, New Zealand, Norway, Romania, and South Africa, TIMSS served as a catalyst for curricular review and change. In Iceland, the information collected during the TIMSS study resulted in a recommendation for increased teaching hours for mathematics and science instruction at the elementary level. In New Zealand, the TIMSS results precipitated the establishment of a taskforce with a focus on science and mathematics education. The taskforce was charged with addressing several issues, including the low expectations of success for New Zealand students held by many teachers and parents, under-achievement among Maori and Pacific Island students, and teachers' lack of confidence in their ability to teach some aspects of the mathematics and science curricula. In Israel, the headline 'Down in Rankings, Israel Seeks Changes in Education' as reported in *Education Week*, and an associated report of the reforms being implemented in that country largely as a result of what it learned from TIMSS further attests to IEA's impact on educational policy. Further analysis of TIMSS data collected in a manner that would allow identification of common misconceptions about mathematics and science is also likely to lead to instructional and curricular refinements in many countries.

A publication like *The Impact of TIMSS* that is dedicated to impact provides fairly clear evidence of impact. One could argue, however, that other IEA studies that do not have the benefit of dedicated publications have also contributed in a significant way to influencing educational policy debate.

Findings from Module One of SITES, for example, drew the attention of policymakers to at least three major issues. The first was that in those countries that participated the earlier challenge of providing schools with sufficient numbers of computers had generally been met but a critical gap still existed—that of teachers familiar with and able to use technology for instructional purposes. The second issue was that, with few exceptions, the promise or expectation that computers would transform the curriculum and pedagogy had not been realized. The third issue related centered on the difficulties schools were beginning to have in managing access to the Internet and protecting children from inappropriate materials. The availability of information about the changes that had taken place in terms of the penetration of computers into classrooms also helped change the discourse from questions about, for example, whether or not to invest in computers, to questions about how to facilitate their integration into curriculum and instruction. This study was, I believe, important in showing that while technology has the capacity to shape the teaching learning environment, it exposed the turmoil as schools and teachers sought to integrate technology into the classroom.

Civic Education has also played and continues to play an important role in the educational policy debate.<sup>2</sup> Conducted at a time of significant change in Central and Eastern Europe, this project addressed concerns related to the processes of civic education. For example, how do countries manage the process of preparing students for citizenship and membership of participatory democracies? This study revealed important differences across and within countries in terms of knowledge about and understanding what is meant by democracy but also of student attitudes towards nation, government, immigrants, and women's political rights. As countries, particularly emergent democracies, struggle to manage the process of developing a sense of nationhood while at the same time allowing for the expression of cultural and ethnic identity, particularly among minority groups, the information from this project will surely continue to contribute to the policy formation process.

### **Impact on Research**

One of the more obvious ways in which the impact of IEA studies on research can be judged would be to examine research publications related to or using the data that IEA has gathered. Of the primary publications of the organization, approximately 11 of study findings were produced up to 1980 but since that time 94 key publications have been produced. The relatively modest output for the period 1956–1980 roughly corresponds to the number of studies undertaken during this time.

A focus only on those publications arising directly from studies in the form of project reports or study summaries seriously underestimates, however, impact along this dimension. Degenhart's *Annotated Bibliography of IEA Publications* (1990), for example, lists approximately 800 publications based on the work of IEA. Unfortunately, no such summary exists for the period 1990 to the present, although some project-specific publications do provide further insights into the impact on research.

For example, Robitaille et al. (2000) in their *Impact of TIMSS on the Teaching and Learning of Mathematics and Science* identify research, particularly research related to educational policy and mathematics and science learning, as an area in which TIMSS has had a particular impact. For some of the participating countries—Macedonia, for example—TIMSS was the first assessment of student achievement undertaken at a national level. Furthermore, all countries were seen to benefit in some way from the training in large-scale student assessment that was associated with participation in the study. Some direct outcomes of the TIMSS training activities included capacity building within many countries, some of which established dedicated research institutes that used the skills and knowledge developed through the TIMSS experience to enhance their national capacity for assessment and

---

<sup>2</sup> The Civic Education Study continues to stimulate discussion at the OECD about the inclusion of a study in this area as part of INES activities.

policy development. Also, as evidenced by Robitaille, Beaton and Plomp (2002), TIMSS data have spawned a large number of investigations, both national and international, directed at key policy issues as well as at developing understanding of mathematics and science learning in a more fundamental way.

Keeves (1995) in an earlier review of key research findings from IEA studies identified 11 major such findings arising from the work of IEA. While some of these had been previously identified in the research literature, one in particular (opportunity to learn) was deemed to be one of the early contributions of IEA studies, and it continues to be so. The development of the conceptual model Opportunity to Learn, which explores links between policy, practice, and outcome, has helped shape the design of most, if not all, IEA studies. The evolution and development of this model, which was first proposed in the First Mathematics Study (FIMS) has provided powerful insights into the relationship between the ‘intended curriculum’ (as prescribed by policy), the ‘implemented curriculum’ (as reflected in teacher and school practice), and the ‘achieved curriculum’ (as reflected in student outcomes). It has also provided a framework for increasingly complex study designs and provided researchers with the associated ability of exploring more complex issues related to teaching and learning.

An examination of the transformation that has occurred in the design of IEA studies allows us to observe the transition from the early studies where the focus of the research was primarily descriptive, to those investigations where more sophisticated attempts are made at approximating causal explanations. As a further example of this development, the data from TIMSS 2003 to be released later this year represent the first large-scale international study of student achievement offering data from three cycles of assessment. This achievement represents a significant advancement in study design, scaling, data analysis, and, for that matter, reporting.

Another way in which the contribution to research can be assessed is to consider the extent to which the activities of IEA have been implicated in capacity building. For some countries, participation in studies and training opportunities has significantly enhanced their ability to carry out research and assessment activities. Elley (2002) reports that the National Research Coordinators in the low- to middle-income countries learn much from the training experiences and across a range of activities. He also notes the positive impact that participation has on developing a national assessment capacity.

Even in the more economically advanced countries, centers of excellence have developed in those institutions responsible for the execution of IEA projects. While perhaps already in possession of a group of skilled researchers, these institutions generally have been exposed to new techniques and technologies with the evolving sophistication of IEA studies.

IEA as an organization has also benefited. The ongoing cycle of studies has undoubtedly contributed to the establishment of its centers of excellence, such as the study center at Boston College and the Data Processing Center in Hamburg, amongst others. The papers that are being presented at this conference also illustrate how far research activities related to IEA investigations have moved from simple description and analysis.

### **Impact on Teaching and Curriculum**

As suggested earlier, and as Robitaille et al. (2000) note, TIMSS was a story “with legs”. While the study’s immediate impact on teaching was less strongly articulated in some areas than others, several countries (notably Australia, Canada, Spain, Japan, and, in particular, the Philippines) used the TIMSS results to bring the teaching of mathematics and science into sharp focus. In the Philippines,

for example, government resolve was reflected in a program to train 100,000 mathematics and science teachers over a period of five years.

The impact of TIMSS on the curriculum and teaching is also manifest in other ways. The following examples illustrate how widespread and influential this project has been. In Canada (Ontario), instructional materials were developed as an outcome of TIMSS. In England, the results of TIMSS focused attention on lower achieving students and were also the catalyst for a guidance document that stressed the importance of mental calculations and drew attention to the frequency with which calculators were being used in England. In Iran, the TIMSS results led to major changes to the science curriculum and textbooks. In New Zealand, information from TIMSS contributed to the development of resource materials and professional development programs (designed to address the perceived areas of relative weakness) for mathematics and science teachers.

The impact of TIMSS, however, has not been confined to the outcomes of the assessment data. In the United States (and other countries) the TIMSS Video Study revealed significant differences in teaching practice and in the experience of being a teacher of mathematics. In particular, the United States teachers experienced a much greater degree than teachers in other countries what was described as cultural isolation and had fewer opportunities to work closely with other teachers to improve teaching. These findings informed professional development programs and tools.

Like other aspects of TIMSS, the curriculum analysis component of the First TIMSS study has been particularly widespread. The structure and content of the United States approach to curriculum, for example, came under intense scrutiny and debate (see, for example, Schmidt et al., 1999). This scrutiny continues today

The Civic Education Study has also had an impact on curriculum and teaching. Later at this conference a colleague from Australia will argue that this study has been instructive and influential in facilitating and shaping significant developments in civics and Citizenship Education (CCE) in Australia.

SITES, too, has provided insights into the role that technology might play in teaching and curriculum. The first module of the study identified the gap between the provision of technology and teacher readiness in the use of that technology for instructional purposes. In Norway—a country that has invested significantly in the provision of computer technology—this gap has become a particular concern. Although countries are still absorbing the recently released information from Module Two of SITES, that information is also beginning to have an impact. The case study descriptions from SITES of the wide variety of innovative ways that technology is being used around the world to enhance curriculum and instruction are the subject of ongoing discussions in several countries.

Finally, PIRLS, despite the data release being comparatively recent, has also forced an examination of reading instruction in several countries. The data from the parent questionnaire has highlighted the importance of parental involvement in the reading acquisition process and has raised the question as to how parents might better be involved in their children's learning to read.

### **New Counties, New Responsibilities**

The materials reviewed so far have, in my view, provided ample evidence of the impact of the work on IEA on educational policy, curriculum and teaching, and research.

However, most of my comments to this point have focused on the past. It is also important to reflect on the future if IEA, as an organization keen to continue as a leader in international assessment and policy-related comparative education.

Since its inception, IEA has seen considerable growth, not only in its membership but the number of non-member countries that participate in its studies. In the period, 1956 to 1980, three studies were completed including the 12 Country Pilot Survey, The First Mathematics Study, and the Six Subject Survey. Since 1980, IEA has completed 13 projects and currently has four project in various stages of completion.

Participation in IEA studies has also changed. As suggested by its title, 12 countries participated in the first IEA project, and, depending on the subject matter being studied, participation in the Six Subject Survey ranged from eight countries for French as a Foreign Language to 11 countries for Civic Education. Later, the Second Mathematics and Second Science studies attracted 23 and 19 countries respectively.

What is notable is that as the number of countries participating in new studies so too did their diversity in terms of educational, social, and economic development. The 12 Country Pilot Study included Poland and Yugoslavia but was primarily a study of educational systems characteristic of high-income countries. With a few exceptions, this pattern remained in effect until the 1980s. The IEA Reading Study in 1990 was the largest international comparative study of education ever undertaken, with more than 30 participating jurisdictions, and it included countries from South America, the Caribbean, and Africa.

The decision to formally establish a regular cycle of studies in mathematics, science, and, later, reading has meant that participation in these two subjects regularly exceeds 40 jurisdictions. The expansion of participating countries has, of course, resulted in the inclusion of many low- and middle-income countries whose social, political, and economic circumstances distinguish them markedly from their OECD counterparts. Language, culture, and orthographic differences have all had an impact on the way in which IEA has come to work. For IEA, the inclusion of the broader range of countries with distinctive local circumstances has meant the development of new ways of working to ensure that all countries can participate and that studies continue to achieve the highest technical standards.

Diversity also brings, I believe, new responsibilities. While continuing to execute studies that meet the highest technical standard must remain the central focus of the organization, we must also guard against the type of complacency wherein assessment would be the only goal. Our success should not be judged solely on the basis of project completion. Rather, as we assume responsibility for greater numbers of countries with greater cultural and economic diversity, our success should be judged on our capacity and ability to contribute to educational policy reform. For an organization like IEA, the goals must include ensuring that the questions that are addressed in our research and the data that are collected meet the needs of our membership and the larger group of countries that choose to participate in our projects. The pay-off for this expansion surely is large. Those who began the work of IEA spoke of a world educational laboratory, but it is only now that the increased participation of countries from around the world is allowing full realization of this vision. The potential for understanding and exploring the impact of the social context on educational outcomes is far greater today than it was in the early 1960s.

To that end, if we are to increase the impact on research and policy and to raise awareness of the work that we do, we need to carefully examine the various ways in which we can work with participating countries. Training is clearly one area where there is great potential to increase IEA's relevance. To improve the training that is offered, we need to ensure that future training sessions should (and will) focus not only on database use as a technical matter but also on assisting researchers to address more fundamental questions, such as what can (and should be) be answered by data that are collected from IEA studies and how that data can be integrated with other policy relevant information. Future

training must also more fully recognize the range of experience and needs represented by the countries participating in our studies.

While the decision to establish our core business around studies of mathematics, science, and reading has ensured continuity and stability for IEA, we need to continue to work in those other areas of activity where we have an established expertise and also to consider new areas of investigation where IEA can make a contribution. The new project in teacher preparation is one example of where IEA's collective expertise and infrastructure can be used effectively. Undoubtedly, IEA will consider other areas in the future.

In summary, I believe there is considerable evidence that IEA has made a significant contribution to key areas of policy, curriculum, teaching, and research. In addition to the evidence I have cited, we can all report other instances of impact in these areas. I am sure that Dick Wolf in his address will provide an additional perspective on these issues.

I can announce that as a means of encouraging young researchers to work with IEA data, the IEA Standing Committee has elevated the status of the Bruce Chopin Award by offering a sum of 500 euros to go along with the certificate of recognition. It is also hoped that the revised review structure will ensure a broader based competition than has been the case recently and that this hopefully will help secure a base of skilled researchers who can contribute to the future of IEA.

In addition, to facilitate further opportunities for secondary analysis of IEA data, the Standing Committee has agreed that the organization should continue to support research conferences of this type, and plans are underway to secure a venue for the next conference in two years time. We look forward to seeing you at our next conference in 2006 and perhaps revisiting some of these issues then.

## References

- Burkhardt, H., & Shoenfeld, A. H. (2003). Improving educational research: Toward a more useful, more influential, and better-funded enterprise. *Educational Researcher*, 32( 9), December
- Degenhart R. E. (Ed.). (1990). *Thirty years of international research: An annotated bibliography of IEA publications (1960–1990)*. The Hague: International Association for the Evaluation of Educational Achievement.
- Down in rankings, Israel seeks changes in education. (2004, 3 March). *Education Week*. Retrieved from <http://www.edweek.org>
- Elley, W. B. (2002). *Evaluating the impact of TIMSS- R (1999) in low and middle income countries*. Report for the World Bank, Christchurch, New Zealand.
- Foshay, A. W., Thorndike, R. L., Hoytat, F., Pidgeon, D. A., & Walker D. A. (1962). *Educational achievement of thirteen-year-olds*. Hamburg: UNESCO Institute for Education.
- Greenspan, A. (2004). *Address to the Committee on Education and the Workforce, United States House of Representatives March 11, 2004*.
- Keeves, J. P. (1995). *The world of school learning: Selected key findings from 35 years of IEA Research*. The Hague: International Association for the Evaluation of Educational Achievement.

- Osborne, D., & Gaebler, T. (1993). *Reinventing government: How the entrepreneurial spirit is transforming the public sector*. New York: Plume.
- Pelgrum, W. J., & Anderson, R. E. (1999). *ICT and the emerging paradigm for life long learning*. Amsterdam: International Association for the Evaluation of Educational Achievement.
- Postlethwaite, T. N. (1974). Introduction. *Comparative Education Review*, 18(2), June, 157–163.
- Robitaille, D. F., & Beaton A. E. (2002). *Secondary analysis of the TIMSS data*. Dordrecht: Kluwer Academic Publishers.
- Robitaille D. F., Beaton, A.E., & Plomp T. (2000). *The impact of TIMSS on the teaching and learning of mathematics and science*. Vancouver: Pacific Educational Press.
- Schmidt, W. H., McKnight C.C., Cogan, L.S. Jackwerth P.M. Houang R.T., Wiley D.E., Wolfe R.G., Bianchi L.G. Valverde G.A., Raizen S.A. (1999). *Facing the consequences: Using TIMSS for a closer look at United States mathematics and science education*. Hingham, MA: Kluwer Academic Publishers.
- The World Bank. (1999). *Education sector strategy*. Washington D.C.: The International Bank for Reconstruction and Redevelopment World Bank. **Report # 79**.
- Torney-Purta, J., Lehmann, R., Oswald, H., & Schulz, W. (2001). *Citizenship and education in twenty-eight countries: Civic knowledge and engagement at age fourteen*. Amsterdam: International Association for the Evaluation of Educational Achievement.
- Tuijnman, A. C., & Postlethwaite, N. T (1994). *Monitoring the standards of education*. Oxford: Pergamon.