1. PRESENTATION OF IEA

The International Association for the Evaluation of Educational Achievement (IEA) undertakes the most complex comprehensive multi-national activity in educational survey research ever attempted. In 1994, 55 countries and/or educational systems from Europe, Asia, Africa, and the Americas were members of IEA.

The basic idea of the founders of IEA was that the world could be conceived as a huge educational laboratory where different national practices could lend themselves to comparisons that would yield new insights into the determinants of educational outcomes, serving as a basis for the improvement of the quality of education.

Preparing valid and reliable instruments to assess achievement and measure attitudes of students who speak different languages and who come from diverse cultures, selecting student samples that represent national characteristics of the student population as a whole, analysing masses of data-complex and costly operations for cross-national as well as national studies is carried out. And, while findings are interesting to a variety of groups and especially for the comparative and international educator, the real significance of the IEA undertaking is in its potential to assist in educational policy-making.

In fact, to undertake a self-improvement audit of an educational system requires a review of practices in other countries, providing a checklist of ideas and possible actions to help understand strengths and overcome weaknesses. This type of research, when applied to achievement outcomes, leads to international standards. These standards in turn, lead to raised expectations on the part of students, parents, teachers, and governments, to better see how national aims can be satisfied using world class standards.

1.1. HISTORY

The relations between UNESCO and IEA date back to the 1950s.

During the 1950s, a small group of researchers met on a fairly regular basis at conferences held at the UNESCO Institute for Education (UIE), Hamburg, Germany, founded in 1952. These meetings were organised by Dr. W.D. Wall of the UNESCO Secretariat, Paris, France, who worked with Lionel Elvin (Assistant Director-General, UNESCO). These conferences provided a platform where educational researchers, mainly from Europe and North America, could exchange experience in evaluation and measurement. Seminars were held on examination problems, school failure and evaluation. On these occasions, people who later played an important role in IEA gathered in Hamburg: A. Anderson, W. Foshay, B.S. Bloom, T. Husén, G. Mialaret, F. Hotyat, D.A. Pidgeon, M. Smilansky, R.L. Thorndike, G. de Landsheere...
The descriptive comparative education orientation

At the time, the Institute’s main focus of attention was comparative education. The modern founders of the discipline met in Hamburg on special occasions: C.A. Anderson, N. Hans, Ph. Idenburg, J. Lauwerijs, I. Kandel, F. Schneider, F. Hilker, R. Díez-Hochleitner, G. Bereday, B. Holmes. Leo Fernig; they mentioned repeatedly the interest of UNESCO in the domain.

Pedro Rosselló – who worked with UNESCO and who was one of the great figures of the IBE in Geneva, Switzerland – had rediscovered Marc-Antoine Jullien de Paris, the founder of comparative education in 1817, and who was the advocate of quantitative indicators of education. (The term “indicator” was not used at the time. Rosselló often referred to the Stock Exchange data that show the ups and downs of the economy). Rosselló also insisted that comparative education should not remain essentially descriptive. In 1963, an important conference brought most of the world leading experts of the discipline to the Institute. Many of them met again in 1964 in London and founded the “Comparative Education Society in Europe” (CESE).

The following publications of UIE reflect this activity:


The empirical comparative education orientation

In the group brought together by W.D. Wall, there was growing awareness of the need to establish cross-nationally valid evaluation techniques. To what extent did achievement in various subject areas vary between and within countries and which variables (input and process) were related to achievement? Empirical comparative education was thus in the air.

In the summer of 1958, W.D. Wall convened a group of European researchers at Eltham Palace, England. B.S. Bloom (University of Chicago) attended this meeting. Shortly after, Wells Foshay (Teachers College, Columbia University) sent a research memorandum to UIE proposing a longitudinal study of the development of intellectual functioning of school children. The UIE Governing Board agreed that negotiations should take place with the Horace Mann-Lincoln Institute, of which Foshay was the Executive Officer, and the European group.

At the same time, Arnold Anderson (University of Chicago) had contacted UNESCO in Paris about the need for good dependable measures of achievement if the influence of background variables was to be assessed. He also pointed out that it was not of much interest to “judge” systems by the number of persons graduating, but what was important was ‘how many knew how much’. UNESCO apprised Anderson of the European group’s activities. Later, in 1958, B.S. Bloom proposed a plan for a large international cross-sectional study of mathematics. A feasibility study was needed first.
The Director of UIE at that time was Dr. Langeland from Norway. His reaction was immediately positive. He brought the North Americans and Europeans together and a pilot study was organised and conducted with success. (Foshay et al., 1962). F. Hotyat, the Belgian participant in this study, was a Normal School teacher, nearing retirement, and who worked in the Belgian “pédagogie expérimentale” movement, and had produced some achievement tests. He asked G. de Landsheere to help him. The latter was soon to succeed him in IEA.

The feasibility study paved the way for a series of comparative research projects on school achievement. The first one – the “First International Mathematics Study” (FIMS) – was initiated at a meeting held in 1960 at the UNESCO Institute for Education, Hamburg.

In December 1962, T.N. Postlethwaite, then working at the National Foundation for Educational Research in England and Wales (NFER), directed by W.D. Wall and a colleague of D.A. Pidgeon, Senior Research Officer and member of the IEA Mathematics Study Committee, became the first co-ordinator of IEA.

When funding for the mathematics study became available through the U.S. Office of Education, it was decided that a full-time co-ordinator should be appointed. T.N. Postlethwaite (NFER) was hired and began work on December 2, 1962. He was located at the UNESCO Institute in Hamburg.

In 1964 Robinson moved to the “Max Planck Institute für Bildungsforschung”, Berlin. Gustav Ögren from Sweden became the new Director of the UNESCO Institute, and followed by Mr. Lengrand from UNESCO Paris, and Mr. Koboyashi of Japan. By the time the latter took up his position, IEA had begun its Six Subject Survey. Its staff had grown to six persons and was beginning to be a ‘cuckoo in the nest’ of the Institute.

In 1969, Sweden offered room and data processing facilities to IEA, whose chairman was still Torsten Husén. Mr. Koboyashi let IEA go.

If things had developed differently, it is most likely that IEA could have become a sort of UNESCO Agency for empirical educational research and evaluation. UNESCO would probably have made a decision in this direction if there had been a demand from the member countries, in this case the Member States’ Ministries of Education. At the time, there was not sufficient general awareness of the importance of monitoring the standards of education. The recent success of the OECD international education indicators project is due to the growing demands by national authorities and the education community for comparative information on the organization and operation of their educational systems.

**IEA incorporated under Belgian law**

Leo Fernig helped IEA to become incorporated, advised by UNESCO lawyers that the best law for this purpose was the Belgian one. In Belgium, non-profit international scientific societies pay no taxes. Although there must be a registered office in Belgium, it is possible to locate the Headquarters in a different country. G. de Landsheere, the Belgian representative on the General Assembly of IEA, organised the incorporation which was signed by King Baudouin in 1966. IEA continued to have its Headquarters at the UNESCO Institute until July 11, 1969.

This geographical rather than philosophical divorce was not the end of relations between UNESCO and IEA and ties were never completely severed. Examples are the joint SOLEP Seminars in Europe in 1968 and following years (see below), and more recently, the joint UNESCO-IEA-OKI venture (1993 onwards) to establish an active regional educational research network in the Central and East European region was officially launched at a meeting in Budapest, attended by research institute directors from ten countries (Bulgaria, Czech Republic, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovenia, and Slovakia).
IEA AS AN INTERNATIONAL ASSOCIATION

IEA has developed over the years into a truly international association as vouched for by its membership (1.2.1), the places where its General Assembly, Standing Committee and other committees meet (1.2.2), the location of the International Co-ordinating Centres of the studies (1.2.3), the countries of origin of authors of key publications (1.2.4), the role of leading IEA members in editorial boards and panels of scientific journals in the field of education and educational research (1.2.5), as well as in important publications (1.2.6). Many prominent IEA members serve as visiting professors, lecturers, experts and consultants in many countries in all parts of the world (see attachment).

1.2.1. IEA MEMBERSHIP

The following countries are members of IEA:

Australia, Austria, Belgium-Flemish Community, Belgium-French Community, Botswana, Bulgaria, Canada-British Columbia, Canada-Ontario, Canada-Quebec, China, Chinese Taipei, Cyprus, Czech Republic, Denmark, England & Wales, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Indonesia, Iran, Ireland, Israel, Italy, Japan, Kenya, Korea, Kuwait, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Nigeria, Norway, Poland, Portugal, Romania, Russian Federation, Scotland, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Thailand, U.S.A.

If Latin American and African continents seem under-represented in IEA, contacts have been made with several Latin American countries regarding participation in an IEA study, e.g. Chile, Argentina, Venezuela, Costa Rica, and Brazil. Given the economic situation of many African countries at present priorities are accorded to educational activities other than international comparative research. IEA has discussed with UNESCO the possibility of providing training seminars to build up a critical mass in these countries of experts to conduct national and international survey studies to monitor the quality of their educational studies. In this context regional groups of countries may conduct international comparative studies under the auspices of IEA.

1.2.2. IEA MEETING PLACES

IEA meetings take place all over the world.

Past, present and future General Assembly meetings:

Hamburg, Germany (1963); Stockholm, Sweden (1966); Berlin, Germany (1968); Liège-Nadrin, Belgium (1969); Amsterdam, Netherlands (1970); Frankfurt, Germany (1972); Harvard, U.S.A. (1973); Berlin, Germany (1974); Stockholm, Sweden (1975); Frascati, Italy (1977); Paris, France (1979); Helsinki, Finland (1980); Ghent, Belgium (1981); Canberra, Australia (1982); Enschede, Netherlands (1983); Singapore, Republic of Singapore (1984); Auckland, Australia (1985); Stockholm, Sweden (1986); New York, U.S.A. (1987); Frascati, Italy (1988); Seoul, Korea (1989); Beijing, China (1990); Enschede, Netherlands (1991); Ascona, Switzerland (1992); Madrid, Spain (1993); Yogyakarta, Indonesia (1994); Santorini, Greece (1995); Vancouver, Canada (1996); Riga, Latvia (1997); Tel Aviv, Israel (1998).
Past, present and future Standing Committee meetings:


The Standing Committee also meets during the annual General Assemblies.

In addition, the IEA Technical Advisory Committee and ad hoc planning committee for studies meet in many different places. In the mid-1960s meetings were held in Hamburg and Stockholm. Planning meetings, regional training meetings, and National Research Co-ordinator meetings have taken place at IEA Secretariat in The Hague, Netherlands, and in other member countries. For example, TIMSS meetings in Italy, U.S.A., Venezuela, and Canada; COMPED meetings in the Netherlands, U.S.A., and Japan; RL meetings in Germany, Denmark, and Spain; PPP meetings in Belgium, Netherlands and U.S.A.; IEA NCEE meetings in Netherlands, Hungary, Lithuania, and Slovenia, and many more.

1.2.3. CO-ORDINATION OF STUDIES

IEA studies are co-ordinated by an International Co-ordination Centre (ICC), headed by the International Co-ordinator of the study. The different IEA studies have been co-ordinated from a variety of countries:

<table>
<thead>
<tr>
<th>Study</th>
<th>City/Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>- First International Mathematics Study</td>
<td>Hamburg, Germany</td>
</tr>
<tr>
<td>- Six Subject Survey</td>
<td>Stockholm, Sweden</td>
</tr>
<tr>
<td>- Second International Mathematics Study</td>
<td>Wellington, New Zealand</td>
</tr>
<tr>
<td>- Second International Science Study</td>
<td>Melbourne, Australia</td>
</tr>
<tr>
<td>- Written Composition Study</td>
<td>Yväskylä, Finland</td>
</tr>
<tr>
<td>- Classroom Environment Study</td>
<td>Toronto, Canada</td>
</tr>
<tr>
<td>- Reading Literacy Study</td>
<td>Hamburg, Germany</td>
</tr>
<tr>
<td>- Pre-primary Study</td>
<td>Ypsilanti, U.S.A.</td>
</tr>
<tr>
<td>- Computers in Education Study</td>
<td>Enschede, Netherlands</td>
</tr>
<tr>
<td>- Third International Mathematics and Science Study</td>
<td>Vancouver, Canada &amp; Boston, U.S.A.</td>
</tr>
<tr>
<td>- Language Education Study</td>
<td>Slough, England</td>
</tr>
</tbody>
</table>

Like the meetings of the General Assembly, the yearly project meetings were organized in many different countries.

1.2.4. AUTHORS OF KEY PUBLICATIONS

Results of IEA studies are published in scientific volumes by Elsevier Science Ltd., Oxford, England (formerly Pergamon Press plc), in scientific and other journals, such as UNESCO’s “Prospects”, and monographs. Authors of these publications come from many different countries, as the table below shows.
<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEA (General)</td>
<td>Finland; Germany; Italy; Netherlands; Sweden; U.S.A.</td>
</tr>
<tr>
<td>- Six Subject Survey</td>
<td>Australia; Belgium-Flemish Community; Belgium-French Community; Chile; England; Finland; Germany; Hungary; Israel; Italy; Netherlands; Nigeria; Portugal; Sweden; U.S.A.</td>
</tr>
<tr>
<td>- Civic Education</td>
<td>Belgium-French Community; Germany; Ireland; Sweden; U.S.A.</td>
</tr>
<tr>
<td>- Classroom Environment</td>
<td>Australia; Canada; France; Germany; Hungary; Korea; Netherlands; Spain; Thailand; U.S.A.</td>
</tr>
<tr>
<td>- Computers in Education</td>
<td>Germany; Greece; Japan; Netherlands; U.S.A.</td>
</tr>
<tr>
<td>- Foreign Language</td>
<td>England; Finland; France; Germany; Hungary; Israel; Sweden; Thailand; U.S.A.</td>
</tr>
<tr>
<td>- Mathematics</td>
<td>Australia; Belgium-Flemish Community; Belgium-French Community; Botswana; Canada; China; Dominican Republic; England; Finland; France; Germany; Indonesia; Hong Kong; Hungary; Japan; Kuwait; Netherlands; New Zealand; Portugal; Sweden; Thailand; U.S.A.</td>
</tr>
<tr>
<td>- Mother Tongue Studies</td>
<td>Belgium-French Community; Denmark; Finland; Germany; Hungary; New Zealand; Sweden; U.S.A.</td>
</tr>
<tr>
<td>- Pre-primary</td>
<td>Belgium-French Community; U.S.A.</td>
</tr>
<tr>
<td>- Science</td>
<td>Australia; Belgium-Flemish Community; Canada; England; Germany; Hungary; Italy; Korea; Netherlands; Nigeria; Poland; Singapore; Sweden; Thailand; U.S.A.</td>
</tr>
<tr>
<td>- Written Composition</td>
<td>England; Finland; Hungary; Indonesia; Italy; Netherlands; New Zealand; Sweden; Thailand; U.S.A.</td>
</tr>
<tr>
<td>- Research Methods and Statistics</td>
<td>Belgium-Flemish Community; Chile; England; Finland; Germany; Hungary; Netherlands; Sweden; U.S.A.</td>
</tr>
<tr>
<td>- Theses and Dissertations</td>
<td>Australia; Canada; Chile; China; Germany; India; Netherlands; Singapore; Sweden; Thailand; U.S.A.</td>
</tr>
</tbody>
</table>

### 1.2.5. LIST OF EDUCATIONAL REVIEWS OF WHICH LEADING IEA MEMBERS ARE OR HAVE BEEN MEMBERS OF THE PANEL OF CONSULTANTS

- **G. de Landsheere:** Revue française de pédagogie; Education; Education et Recherche; Paedagogica experimentalis; Rinascita della Scuola; International Journal of Educational Research; Advances in Education; International Review of Education; Recherche-Formation; Journal des recherches sur la formation des enseignants; Revista Portuguesa de Educação; Golem; Syllabus; Seleinfo; Formazione Professionale.

- **T.N. Postlethwaite:** International Journal of Educational Research; Studies in Educational Evaluation; Scuola e Città.

- **R.M. Wolf:** Studies in Educational Evaluation.
Other IEA members on the editorial board of the “International Journal of Educational Research” are: Z. Báthory (Hungary); G. Eshiwani (Kenya); T. Husén (Sweden); J.P. Keeves (Australia); T. Kellaghan (Ireland); K. Leimu (Finland); Moegiadi (Indonesia); Teng Chun (China); A. Visalberghi (Italy), R.M. Wolf (U.S.A.).

IEA members on the editorial board of “Studies in Educational Evaluation” are: B. McGaw (Australia); Z. Báthory (Hungary); D. Nevo (Israel); Shin Se-ho (Korea); A. Yoloye (Nigeria); B. Dockrell (Scotland).

1.3. SOME IEA CHARACTERISTICS

I. During more than three decades of existence, IEA has developed an extraordinary co-operative research and evaluation network world wide. IEA can identify and mobilize this network to review, plan, and assess how school systems are performing, how, why, and under what conditions education makes a difference. The benefits for universities and for educational systems are considerable.

Every member of IEA wanting to solve a theoretical or technical problem related to evaluation, and more generally empirical educational research, is the unique position of being able to pick up the telephone and ask a top specialist for help – and this on five continents.

II. IEA is a democratic organisation. The periphery-centre model always has priority, which means that all participating countries come with their own cultural, curricular, decision-making processes, etc., and these specific aspects are taken into account. A realistic compromise consists in permitting each participating country to add national options to the international surveys.

Some directive however, remains necessary to make sure that agreed rules are followed. Quality control is one of the keys to validity.

III. IEA has, from its creation, played an important pedagogical role.

It soon became obvious that IEA had an obligation to bring its particular competence to bear in building research capabilities in the IEA countries, and later in other countries, not least in the Third World.

More specifically, participation in IEA entails stimulation of:

* Development and knowledge of educational research methods (theory and practice);
* Quantitative and qualitative evaluation;
* Sampling;
* Monitoring of school systems;
* Allocation of resources for research, statistics, innovations, etc.;
* Specific training;
* Accountability.

All participating countries are not at the same level of knowledge and expertise. But, experience shows that they are ready to learn from more advanced colleagues. The founding members of IEA acknowledge the profit from the excellent lectures on statistics by Gilbert Peaker. Today’s senior IEA members try to follow his pedagogical example.

IEA officers wish they could do more in this direction. However, there are financial limitations. To thoroughly teach sophisticated research concepts and techniques to the less advanced participants, requires a long time and detailed explanations can be costly. Furthermore, deadlines must be met.
Fortunately, experience shows, fortunately, that most members progress rapidly after the first take off.

Recently, a training proposal, prepared jointly by UNESCO, IEA and the Hungarian IEA member OKI, was accepted by the Dutch Government. The purpose of this 3-year proposal is to train staff of IEA national research centres in Central and Eastern European countries in order to build up a critical mass in the methodology of (national and international) survey studies in the participating countries.

It would, furthermore, be desirable if time could be spent finding out the research questions that all national centres would like answered from each international study before the studies begin.

1.4. IMPACT

1.4.1. OF POLITICAL NATURE

IEA was founded at a historical turning point in the history of educational research. In the decade after the Second World War, a definite willingness of governments to support and utilise research in education appeared in the belief that the studies would be useful to the formulation and conduct of educational policy.

Government agencies turned to research workers for ‘answers’ to what was considered to be basically the ‘scientific’ problems involved in planning educational reforms. Policy-orientated research increased rapidly. The “Plowden Committee” in Great Britain, the “Bildungsrat” in the Federal Republic of Germany, and the “School Commission” in Sweden, are cases in point.

Certain educational policies which came to the fore in the 1960s, such as provisions for greater equality of educational opportunity, bilingual education, and the education of the handicapped, could not have been properly framed and achieved without information provided by surveys and evaluation studies.

It was assumed that concerted and amply financed research in education would produce what it has achieved in industry, namely an increase in efficiency and productivity.

IEA has survived thanks to two major contributions rendered to education both at national and international level: IEA survey research in the first mathematics project and the Six Subject Survey were designed to yield answers to some specific important policy questions.

It appeared that three policy perspectives could be enriched by the empirical evidence collected by large scale sample surveys of national systems of education:

(1) IEA could bring a cross national perspective to bear on how educational policies relate to social and economic policies. This perspective could be broadened by trying to clarify the various social and economic factors that impinge upon school outcomes, both cognitive and non-cognitive. What is the relative importance of home and school, respectively, for these outcomes? What relations are there, if any, between economic resources and school attainment? To what extent is what the school achieves simply a reflection of the society within which the school operates?
The second perspective which IEA could enrich has to do with the structure of the educational system, particularly at the elementary and lower secondary school level. When and to what extent should a differentiation in terms of abilities occur? IEA's Six Subject Survey cast some light on the equality-excellence controversy by showing that top students in comprehensive and relatively undifferentiated systems achieved at the same level as those in highly selective systems. It also contributed to an assessment of the trade-off between equality and excellence.

The third perspective relates to school resources and methods of instruction. By relating these to student achievement and by comparing outcomes of such analysis cross nationally, IEA hoped to be able to identify strategic factors in school teaching. It appeared that extensively collected information obtained by questionnaires from students about their home background and from teachers about their method of teaching does not provide a very solid basis of data needed for such analysis. The obvious was confirmed though: student achievement depends to a large extent upon the opportunity to learn.

It remains a fact, however, that IEA substantive findings had a significant impact on the policy debate in several countries. One example of this was that knowing that Hungarian students performed poorly in reading comprehension, the Minister of Education initiated an investigation into the teaching of reading in primary schools and on the basis of this he ordered an overhaul of curricular guidelines.

Generally speaking, it is clear that by the national scope of its studies, IEA serves policy makers, be they top administrators in charge of educational planning and day-to-day operations of national systems of education, or politicians who are appropriating funds for major educational programmes.

In 1991, two of IEA's crucial missions could be summed up by the following statement: "...enable researchers and policy makers to enter into a dialogue with and learn from their colleagues around the world, and enable systems of education to see more clearly their unique cultural setting from an international comparative perspective."

In 1993, the data produced by the IEA Reading Literacy Study made headlines in the Belgian and international press. Such an event, coinciding with the take-off of the OECD international indicator project gave a strong impetus to the development of the systematic monitoring of the Belgian education system.

In 1994, J.B. Carroll, one of the world's most outstanding and lucid scholars in the field of education writes: "It goes without saying that IEA has had a truly enormous influence on educational policy-makers in the USA, almost from the very first efforts to survey mathematical competencies of students in various countries. At the present time, one often sees IEA-based comparisons depicted in the popular press."

It can be concluded that the IEA large-scale sample surveys of national systems of education have, by both national and international reports, had implications for educational policies in the participating countries, notably about:

1. The overall quality and/or performance of the entire national systems of education, including the role of education in achieving certain social and economic objectives, such as greater equality of opportunity;
2. The structure of the formal system and its influence on student achievement;
3. The influence of school resources and methods of instruction and learning.
1.4.2. OF ACADEMIC NATURE

No systematic evaluation has been made of IEA’s impact on the international educational research community, but some indicators seem significant. For instance, the U.S. National Academy of Education found the reports of the Six Subject Survey worthy of two comprehensive, commissioned reviews by two leading social science researchers:

“There is no doubt that IEA had a very substantial influence on the development of educational research activities in all the countries that it has involved in any way, particularly in those countries where, previously, education research efforts had been of small extent and sophistication. Overall, this influence has been highly beneficial, resulting in the professionalization of educational personnel in the area of educational achievement measurement, statistical analysis of data, and the management of large scale educational projects. Again, it can be said that these developments would have had minimal likelihood of occurring without the existence of IEA. This was partly because IEA had to develop, in different countries, cadres of educational researchers that could help carry out IEA’s investments.” (J.B. Carroll)

Another indicator of impact is the utilisation of the IEA data bank by researchers around the world. An impressive series of monographs and articles in scholarly journals have resulted from further analysis of IEA data (see Degenhart, 1989).

The mere participation in a major study in which many schools and researchers in a country are involved is ‘an intervention in itself’ – irrespective of the eventual outcomes of the study – in that it contributes to alerting educators and researchers to problems they have previously not been aware of.

One of the most important scholarly by-products of IEA is the development of an international network of researchers and research institutions. All senior researchers involved in IEA meet at least once a year. Technical officers and members of various project groups meet frequently to discuss design, methodology and reporting. IEA researchers have been, and still are, involved in organising and teaching at intensive courses and have served in consultative functions in various parts of the world.

Another example of spill-over effect on other international endeavours in educational research is the preparation of the 12-volume “International Encyclopaedia of Education: Research and Studies”, which represents the first attempt of its kind to present the body of research and scholarly analysis of the hosts of problems which educators are facing all over the world. As already indicated, many IEA members played a leading role as editors and/or contributors. The success of this encyclopaedia – first published in 1985 – is such that a fully revised edition was published in 1994.

What can a country gain from its participation in IEA research? IEA, from the outset until a few years ago, focused mainly on survey research and will most likely continue this type of study. Thus, the overall competence of IEA can help build up in countries with limited or no capacity in this field the necessary know-how to conduct a national survey of achievement in their system of education.

Modern survey techniques are complex in terms of design, methods of devising instruments and in data processing and subsequent statistical analysis. They presuppose the existence of an infrastructure of administrative statistics and of experience in conducting large-scale testing and the use of data processing facilities, including electronic scoring and computer based data processing and complex statistical analysis which is not yet easily available in all countries.
To be specific, the competencies which are required are: (1) the design and execution of random sampling; (2) large-scale administration, including try-out and/or modification of test instruments for use in one's own country; (3) processing of large sets of data; (4) statistical analysis including multivariate techniques.

As soon as the country possesses this equipment and know-how, it has by the same token the instruments needed to set up a monitoring system by means of which one can follow and evaluate more or less routinely what happens in a nation's schools. This way, policy-makers can obtain an idea of how their system of education performs in various respects.

As a matter of fact, more and more countries now monitor their school systems and produce indicators for internal and international use (for instance, in the OECD INES project).

Closely related to the general monitoring function are follow-ups of major reforms or of individual students over time.

A third academic and policy impact which IEA research has dealt with are instructional resources. The most crucial of these has turned out to be time. Time can mean different things, such as ‘time on task’, the age/grade when a particular subject is introduced into the curriculum, the number of hours per week or the number of years a subject is taken, and the number of hours per week and year devoted to homework. All these aspects were included in the Six Subject Survey and the analysis yielded findings that were highly relevant to policies in several countries.

1.4.3. QUANTITATIVE ASPECT

Over its 30 year history (including the Third International Mathematics and Science Study), it is estimated that close to two million students will have been tested.

1.5. WHAT HAS BEEN ACHIEVED?

1.5.1. ACHIEVEMENT SURVEYS

- The Feasibility Study: 1959-1962
  From 1959 to 1962, IEA ran a small-scale study in 12 countries: Belgium, England, Finland, France, Federal Republic of Germany, Israel, Poland, Scotland, Sweden, Switzerland, U.S.A. and Yugoslavia. About 10,000 children of age 13:0 to 13:11, speaking eight different languages, were tested in reading comprehension, mathematics, science, geography and non-verbal ability. The venture proved to be successful.

- The First International Mathematics Study: 1962-1967
  At meetings held at Eltham Palace, England, in 1919, and at the UNESCO Institute for Education, Hamburg in 1960, it was decided to embark on a major cross national study in mathematics. At the time, the curricula and the methods of teaching mathematics were re-examined and the so-called ‘new math’ was introduced to varying degrees in some participating countries.

  In 1964, representative samples of 13 year old students and of students finishing high school were tested. In 1967, Husén et al., summarized the work and results in a two-volume publication that was read with great interest around the world and was at the origin of many national debates and reforms.
The Six Subject Survey: 1966-1973

IEA wanted to see if some of the results of the mathematics study could be generalized to other subject areas and in 1966 launched a study of achievement in Science, Reading Comprehension, Literature, French as a Foreign Language, English as a Foreign Language, and Civic Education.

Three populations were tested: 10:0 to 10:11 years, 14:0 to 14:11, and students in the final year of full-time secondary education programmes. Both cognitive and affective outcomes were tested. Three to five years of developmental work had been required to construct measures of performance in each subject.

The main international results were published in a series of nine volumes.

The Second International Mathematics Study: 1976-1986

The main report of the first survey of mathematics achievement was published in 1967 on data collected in 1964. In the 1970s many countries had invested large resources in the development of new mathematics curricula, new instructional methods and materials, and in the training of teachers. It was therefore deemed appropriate that IEA should undertake a second mathematics study.

This study was the first to be attempted in a decentralized mode. Rather than operating from an international headquarters, a co-ordinating centre was established in New Zealand.

One of the key questions of this study was: “How do mathematics achievement and attitudes compare with those of similar groups surveyed in the first IEA survey?”

Another important feature of this survey was the longitudinal study of classrooms over a school year with the aim of investigating classroom processes.

The titles of the working papers published between 1977 and 1979 bear witness to the pedagogical action of IEA

- Tables of Specifications of IEA Mathematics Tests
- Attitudinal Scales
- Opportunity to Learn
- Minimal Mathematics Competencies
- Classroom Processes
- Hand Calculators
- Sampling Specifications

The Classroom Environment Study: 1978-1982

This project, approved in 1978, is a descriptive study of classroom processes which have the potential for facilitating student learning. What are the relationships among contextual factors, student behaviour, and teaching practices? Can teaching practices be identified that are predictive of high student achievement and attitudes?

Training seminars in the use of the classroom observation system were organized.
• **The International Study of Achievement in Written Composition: 1979-1987**

The aims and expected outcomes of the study were:

- to contribute to the conceptualization of the domain of writing and particularly the domain of school-based written composition;
- to describe the recent development and the current state of instruction in written composition across the world;
- to identify factors which explain differences and patterns in the performance of written composition and other outcomes, with particular attention to cultural background, curriculum, and teaching practices;
- to make a contribution toward solving problems related to the assessment of essay-type answers, particularly when more than one language is involved.


The general aim of the study was:

- to examine the current state of science education across the world;
- to identify factors which explain differences in achievement and other outcomes of science education;
- to examine changes in science education since the early 1980s.

More specifically, clarification was wanted on the following important questions:

- What is the relative performance of students in different types of schools in the country, of different ethnic or minority groups, or of different socio-economic groups?
- Which important objectives in the science curriculum are poorly achieved? Which data can be used to improve curricula?
- What teaching methods are associated with higher student performance?
- What are the differences in participation patterns and performance between male and female students?
- Will the supply of adequately educated science students be sufficient to meet national manpower needs for scientific and technological workers?

• **Pre-primary Study: 1983-1994 (Phase I)**

Focusing on four year old children and their families, the study is designed to assess the growing role that out-of-home care and education play in the development of the world’s children.

One of the main aims is to make a detailed examination of the experiences of a sample of four year old children in each major setting identified.

The final aim is to assess the significance of pre-school socialization experiences for general development as well as for the adjustment to the social and academic demands of schooling. This will be achieved by following-up these four year old children at least through their first year of primary school.

The three stages of this study are thus: I. The inventory of settings; II. The quality of life study; and III. The follow-up study.
Computers in Education: 1987-1992

This project has as many as 20 participating countries.

The aims of the study are:

- To identify goals for learning about new information technologies and computers;
- To assess the way computers are used in education in order to reach the intended goals;
- To assess the achievement of students in handling new information technologies;
- To identify the teacher, curriculum, and home-background factors including available resources which promote or hamper implementation and outcomes of teaching information technology.

This study was conceived in two stages. During the first one data were collected at school and teacher level (from 1987 till 1990); during the second one (1992) a partial replication of the data for Stage I was carried out to be able to study change over time and to assess students’ functional knowledge and skills.

The Reading Literacy Study: 1988-1992

This study was designed to provide results which could serve as a basis for decision making concerning the improvement of reading in primary and secondary schools. The study coincided with the UNESCO International Literacy Year.

Some of the products of this study are:

- Comparative data across countries of literacy achievement in three domains (narrative passages, expository passages and documents);
- The identification of which school, teacher, and social factors influence literacy and to what extent;
- The establishment of a 1990 baseline database in 35 countries.

The resulting publications made headlines in almost all participating countries.


This study will not only measure achievement in mathematics and science internationally, but will also investigate differences in curriculum and instruction, and include alternative assessment options. More than fifty educational systems from all regions of the world and at all levels of socio-economic development are participating.

The study builds on the insights into the learning and teaching process produced by previous IEA studies in mathematics and science. It will provide further information about several important matters, such as:

- The potential impact that alternative curricular offers, teaching strategies, administrative arrangements have on learning;
- The identification of underlying causes for a high growth rate in some countries;
- The understanding of how and why students’ attitudes change, and what relationship the development of positive attitudes bears to classroom practices.
• **The Language Education Study: 1993-1997**

As approved by the 1992 General Assembly, this study of foreign and second language education will focus on:

− determining the yield of school language curricula in different countries;
− describing the scope and content of school language curricula in different countries;
− identifying the factors related to differences in yield in school language curricula;
− assessing needs and promising options for changes in foreign and second language curricula.

• **Civic Education**

Preliminary negotiations are underway for a new Civic Education Study.

**Planning future studies**

IEA intends to establish a regular cycle of studies so that countries can plan ahead. Four cycles are being considered I. Mathematics/Science, II. Language, III. Civics/Arts, IV. Special Subject.

**Bibliography**

The products of IEA activities are published in the form of reports and manuals, usually disseminated at little cost to the international research community. One avenue of dissemination includes publication of special journal issues along with a spate of IEA printed booklets, plus scholarly volumes from Elsevier Science Ltd. (formerly Pergamon Press).

**International Publications**

Official IEA publications which document international comparisons. This definition includes all study volumes and preliminary reports indicated at the start of each project.

Study volumes (200-300 pages) contain in-depth descriptive and/or explanatory analysis of major issues/findings. These reports set out the results and educational implications of each study and are aimed at educational policy makers, administrators, university and teacher training college personnel.

Short reports (80-100 pages) highlight the major comparative outcomes of a study alongside basic contextual information. The report is used to inform the educational community worldwide.

**Other Publications**

Technical reports; Project handbooks; IEA Monograph studies; Bibliographies; Guidebooks; Newsletters; IEA Bulletins; Training material; Instruments and related material.

Data archives are prepared after completion of each study. They consist of codebooks and data files along with SAS and SPSS system files available on disk or tape. These files are available to universities and researchers.

1.5.2. SELLING THE IDEA OF EDUCATIONAL RESEARCH AND EVALUATION

Under point 1.4., the impact of IEA of political and academic nature has already been dealt with.

This chapter refers to a more subtle process by which more and more people realize the importance of the empirical study of educational phenomena and of the monitoring of educational systems.

Though an influence is difficult to demonstrate objectively, it is certain that IEA has significantly contributed to familiarize many people, including academicians, teachers, civil servants, union members, parents, with the idea of quantitative and qualitative evaluation and to make them aware of the importance of rigorous educational research and studies.

1.5.3. MEMORABLE TRAINING SEMINARS

In the years following the Second World War, especially thanks to the rapid development of airlines, travelling around the world became easy. All the means of communication progressed rapidly.

At the same time, big international organisations like the UN, UNESCO, and many others, undertook missions covering the five continents. The same boom of communication and exchanges of knowledge and people took place.

This blasé introduction serves to make a point: four seminars – joint IEA-UNESCO ventures – have been extraordinary exceptions: the SOLEP and the Gränna Seminars.

The Stanford SOLEP’s

The first Seminars On Learning and Educational Processes (SOLEP) were run in Stanford in 1964 and 1965 by professors Lee J. Cronbach and R.C. Atkinson. The idea was to identify about 30 young and promising educational researchers, on their way to a Ph.D., ask them about the crucial scientific problems they were facing, identify the best specialists in the field, and put the whole group together for about three weeks for intensive interaction. There were no money problems. The participants even had pocket money, and their mentors were well paid.

The first seminar was all American. In the second one, there were 10 Europeans out of 30 persons. Success was complete.

Lee Cronbach was impressed by the Europeans and suggested that the next SOLEP be in Europe with 10 Americans out of 30 persons.

The Skepparholrn SOLEP (1968)

Neville Postlethwaite attended a meeting in Stanford where this was discussed and he was given the task of going to Paris and see if any UNESCO funding and – even more important – UNESCO blessing could be made available.
Leo Fernig was immediately convinced and promised US$ 20,000 to get things moving. He thought that many UNESCO decisions and actions could benefit from a strong data and research base. Neville Postlethwaite succeeded in raising the rest of the money needed and Professor J.B. Carroll became the director of the first European SOLEP, held in 1968 in Skepparholmen (Sweden).

UNESCO sent Ms. Jacqueline Hommey as an observer and the Hamburg UNESCO Institute for Education carried the responsibility for the administration. Fernig suggested that Professor G. de Landsheere be invited to find out whether he could set up a French speaking SOLEP.

The announced purposes of the seminar were:

“... to provide advanced training for experienced research workers interested in problems relevant to education. It will examine developments in psychology and other behavioural sciences that have potential significance for education, and also educational developments and needs that pose questions for the behavioural scientist. The activities of the seminar will assist participants to select problems for their own research and to plan an attack on them with the aid of expert consultants. Both methodological and substantive problems of research will be considered.”

The Skepparholmen seminar was again an extraordinary successful venture. At least 80 per cent of the attendants became distinguished scholars or took high responsibilities in education systems.

In 1994, J.B. Carroll could write: “In retrospect after 25 years, it can be stated that the conference was successful to the extent that many of its participants became more active in educational research in their own country, and became well-known.”

The Pont-à-Mousson SOLEP

Professor Brunswick, at UNESCO Headquarters, encouraged G. de Landsheere to accept the responsibility of the French SOLEP and suggested applications be examined with the help of Professor Maurice Reuchlin. A special technical library and the full ERIC file was brought from Paris to Pont-à-Mousson.

An outstanding faculty was again brought together: J. Carroll, M. Richelle, W. Lambert, P. Gréco. A UNESCO officer, Dr. Legrand, attended the seminar during its full duration.

Later on, G. de Landsheere was to declare that the Pont-à-Mousson SOLEP was the most productive seminar he had observed during half a century in the field of education. Nearly all participants were either young Ph.D.’s or half way there, or young assistants in more or less advanced educational research laboratories. The great majority of them are now renowned professors in Rome, Geneva, Brussels, Caen, Madagascar, or well known researchers or high level civil servants.

The Leoni am Stranbergsee SOLEP (1971)

Impressed by the success of the above mentioned SOLEP’s, Dr. Helmut Becker, Head of the “Max Planck Institute für Bildungsforschung” (Berlin) asked Neville Postlethwaite to organize a similar seminar in Germany. Funding was obtained from the “Volkswagenwerk Foundation”. The director of the seminar was Hans Heckhausen.
The Bangkok SOLEP for Asia

It was organized by the UNESCO Institute for Education (Hamburg) and lead by Cronbach and Alan Brimer, who later became the head of the Hong Kong IEA centre.

The Gränna Seminar

The Gränna Seminar on curriculum development is definitely one of the most important training programmes ever run by IEA. It trained groups of curriculum workers from 23 different countries. Professor B. Bloom, one of the founders of IEA, was its director and Neville Postlethwaite the manager.

1.5.4. COURSES AND PROJECT TRAINING

During the 1970s, members of the IEA network, in particular Neville Postlethwaite, were responsible for organizing and teaching other seminars on educational evaluation under the auspices of international or bilateral agencies, mainly for evaluation personnel from developing countries.

Actually, IEA would like to mobilize thinking on educational issues by hosting think tank seminars on critical issues when they arise.

Project related training

In addition to IEA studies and their project related training, IEA is also engaged in developing technical assistance to aid regions of the world to develop and strengthen their research infrastructure.

− IEA is currently working with East Europe to assist researchers to organize themselves to carry out regional data collection.

− IEA is working in Latin America (via OISE, Toronto, and UBC, Vancouver, and the Dominican Republic and Mexico) to identify and develop institutional links for the current mathematics and science study for which up to 10 Latin American countries are undertaking curriculum analysis.

− IEA has also contacts with the Latin American Division at the World Bank, Washington, D.C.

− Finally, IEA wishes to co-operate with the Arab Gulf Council to develop capacity among the six Gulf States in that region.

2. PAST COOPERATION UNESCO-IEA

2.1. INDIVIDUAL

From the foundation of UNESCO, today's IEA members co-operated with the Organisation. For instance, G. de Landsheere worked with Professor V. Bohet (University of Liege) when he participated at the first UNESCO General Conference and delivered a memorable speech. Since then many IEA members have attended numerous UNESCO conferences, seminars and meetings, both at Paris Headquarters and in other countries.

T. Husén was Chairman of the Governing Board of the IIIEP from 1970 till 1980. He was also on the United Nations University Board, and was a member of various UNESCO task forces.
Professor Tjeerd Plomp, chairman of IEA, was recently involved in following UNESCO related activities:

- UNESCO General Conferences of 1991 and 1993; interventions at the meetings of the Education Commission;


- 1994: UNESCO workshop held at the University of Enschede, The Netherlands on “Teacher Education and Communication and Information Technologies: Issues and Experiences for Countries in Transition”.


Other recent co-operation with UNESCO

- Contribution to UNESCO publications on international testing;

- Production for UNESCO of two Special Issues of “Prospects” on international surveys and the benefits participants accrue from this. It included national examples of IEA participation for Japan, Hungary, Finland, Kuwait, Botswana, Dominican Republic, USA, China, and Portugal.

- IEA has contributed data for the UNESCO 1993 World Education Report, looking at reading achievement around the world.

- Participation in the UNESCO conferences and workshops on Computers and Technology.

- IEA along with UNESCO and OKI (Hungary), jointly develop and run workshops in Central and Eastern Europe to transfer survey research methodology, and assist with institution building in the region. The participants include: Bulgaria, Czech Republic, Estonia, Lithuania, Poland, Romania, Russia, Slovakia, Slovenia, and the Ukraine.

- With financial assistance from UNESCO, IEA sponsored a regional workshop on curriculum analysis in the Dominican Republic in 1992. Attendees included: Argentina, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Mexico, Peru, and Venezuela. Dr. Juan Cassasus represented UNESCO-OREALC.

- Co-operation with UNESCO Bangkok and SEAMEO, along with NIER (Japan) and NEC (Thailand) to help spur regional co-operation in holding workshops and seminars on topics related to national educational assessment.

Co-operation with other international agencies

IEA has also ongoing working and/or consulting relationships with the World Bank, the Council of Europe, and OECD.
2.2 INSTITUTIONAL

The SOLEP seminars described above are good examples of successful co-operation.

3. POSSIBLE FUTURE CO-OPERATION BETWEEN UNESCO AND IEA

− Making survey data available to UNESCO
− Organization of conferences, seminars, and generally speaking, training activities and research information dissemination.
− Production of books and other documentation.
− Expert evaluation of educational and training programmes and activities.
− Co-operation in planning activities.
− Availability of IEA members as resource persons.

ATTACHMENT - DOCUMENT: GA-35/IV/026 - Upgrading Status IEA with UNESCO

A. LIST OF COUNTRIES OR PLACES WHERE LEADING IEA MEMBERS SERVED AS VISITING PROFESSORS, LECTURERS, EXPERTS, OR CONSULTANTS.

* Visiting Professors:
  − Torsten Husén: Universities of Chicago, Hawaii, and Stanford; OISE (Toronto, Canada).
  − Neville Postlethwaite: UCLA, IUFM d’Aquitaine

* Lectures and visits:
  − Torsten Husén: has worked extensively on the five continents.
  − Gilbert de Landsheere: has worked and/or visited in more than 40 countries.
  − Tjeerd Plomp: China, Cyprus, France, Greece, Hungary, Indonesia, Italy, Japan, New Zealand, Norway, Russia, Spain, Thailand, U.S.A., Zimbabwe.

* Consultants:
  − T. Neville Postlethwaite: Argentina, Australia, Brazil, Chile, Ghana, Hungary, India, Indonesia, Iran, Kenya, Morocco, Nigeria, Singapore, Tanzania, Thailand, Zimbabwe.

NOTE This is not a complete list. Additions can be sought with the IEA membership.
BIOGRAPHY OF THE AUTHOR

GILBERT L. DE LANDSHEERE
(Belgium)

Teacher in primary teacher training at the Ecole Normale of Liège, Gilbert L. de Landsheere became lecturer in charge of the pedagogy courses for developing countries at the University of Liège. During the periods 1972-1979 and 1982-1983, he was President of the 'Institut de psychologie et des sciences de l’éducation' of the University of Liège.

From 1971, he undertook several missions for UNESCO in the field of pedagogy, educational research, evaluation.

Author of several books, articles in periodicals, some of which published by UNESCO.