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EDUCATIONAL RESEARCH AND DEVELOPMENT IN EUROPE [1]

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Seen as a whole, European educational research is still qualitatively and quantitetively poorly developed.

In many universities, the academic level of the schools of education is still relatively low. Most European primary and secondary school teachers do not enjoy any basic training in research methodology and hence are unable to comprehend those parts of a normal research report which deal with experimental design and statistical analysis; in some countries like Belgium, there are neither national research institutions, foundations, nor a network of regional laboratories.

This phenomenon has a historical and a political explanation.

One of the main tasks of educational research is to provide an empirical and critical analysis of existing philosophies, instituions, and practices in education. Since the institutions of a country reflect the values of the dominant political forces, a critical research conclusion can be interpreted as a negative attitude toward political authority. This probably explains why educational research flourishes only in societies that have reached an advanced stage of economic development and in which a mature democracy has evolved.

As long as democracy is more apparent than real, educational research tends to remain secluded within the universities and to assume a predominantly if not exclusively philosophical character. Provided that research does not concern itself with hard empirical facts it does not pose any real threat to a government's authority. Only when democracy has become a way of life and an accepted philosophy, does research exert a significant influence on the structure and function of the educational system; Sweden and perhaps to a somewhat lesser extent Great Britain provide good examples of this advanced stage of development.

Until recently, teachers have been regarded as second-class citizens within the academic world and the status of Education in most universities is judged to be inferior to that of most other established disciplines. A good example of this situation is offered by France where psychology is now academically accepted while education remains in low esteem.

Although the subject of this discourse is educational research and development in Europe it will become apparent from what follows that, because of the marked divergences in this regard between the countries concerned, the topics can be satisfactorily treated only by giving due emphasis to these differences.

Many European countries have a centralised school system that could have been favourable to the development of a coordinated national research activity, but this opportunity has often not been seized.

Accordingly, educational research is, in many cases, inadequately financed. Although UNESCO considers that two per cent of the total educational budget should be devoted to R. and D., an optimistic evaluation indicates that Belgium, for example, spend less than 0,1 per cent on the direct financing of research.

The dissemination of research results among administrators and teachers is unsatisfactory thus their impact on educational practice is limited.

The theoretical framework, the experimental design and the statistical analysis of many projects are still of poor quality. More especially, hypotheses are inadequately framed and objectives are not defined in operational terms. The same ill-formulated problems are tackled over and over again and the conclusions reflect idiosyncrases rather than fact-supported inductions. As has already been pointed out, these structures apply to a much lesser extent to Great Britain and the Scandinavian countries, where research methodology is comparatively advanced.

In several other countries such as Austria, Belgium, France, Italy, the Netherlands, Switzerland and West Germany, the situation is likely to change soon and is, in fact, already changing. With the support of their few existing highly developed research centres, those countries could and probably will, under the pressure of circumstances, improve the general quality of their research activity. If they succeed in exploiting their rich

academic traditions to nourish the theoretical framework of well conceived empirical research projects, spectacular progress could well take place. One example of this trend (De Landsheere, 1973) is offered by some recent projects in the remediation of socio-culturally handicapped children of pre-school age.

We referred above to the marked differences among European countries with regard to educational research and development. This may seem anomalous if one considers the convergence of priorities stated by the Ministers of education of the Council of Europe countries or by the researchers themselves (see the chapter on research domains). But this community of preoccupations does not indicate that all the problems are tackled by qualified researchers in all countries.

Politically, economically and culturally, Europe represents an intricate diversity. That is why a reliable picture of educational research requires a mosaic of chapters each devoted to the situation in one single country. Furthermore, the weight of the different chapters would not be correlated with the size of the countries. One should always bear in mind that the twenty-five Swiss Cantons have their own Governments, educational systems and research policies (if any!).

The documents we have gathered to write this paper reflect this diversity. Research institutions and activities in each country are inadequately described, even in responses

to standardised questionnaires sent by international organisations: UNESCO Conference, 1967; OECD, 1969; Council of Europe, 1971 and 1973; European Cultural Foundation, 1973. The information provided is often incomplete and does not permit valid comparison and analysis.

We shall have to deal separately with Western and Eastern Europe. Documents issued by Communist countries are so different from the others that a parallel treatment is impossible.

From highly heterogenous sources, we have tried to extract qualitative and quantitative information and to order it under the following headings: priorities; policies and coordination; research institutions; researchers; research domains.

WESTERN EUROPE

Priorities

The surveys made by the Council of Europe constitute the main source of information (Council of Europe, 1971, 1972, 1973). All participating countries except Italy and Ireland mention national priorities. These are all related to the general educational policies of the countries concerned; in some cases, they reflect directly some features of the national economies. In Italy, educational research is said "to remain a field of spontaneous initiatives". In Ireland, the situation is likely to change soon, for a Committee of the Department of Education will determine the main orientations, and develop and coordinate short and middle term research programmes.

The organisation and structure of the school system are major policy problems and are mentioned everywhere. The traditional segregation between Kindergartens, primary schools, general technical, vocational, art education, higher education (and at this latter level between the many forms of higher education) is a common preoccupation. The introduction of comprehensive secondary schooling is another feature common to many countries.

Reforms of the educational systems have been and are still decided upon in many instances on the basis of ideological or philosophical options which are largely determined by historical and economical factors.

The lack of emphasis, among the priorities, given to school administration and the economics of education is striking. Does it indicate that Western Europe researchers have not yet learned the necessary skills for these sorts of enquiry or that research of this kind is perceived as a potential source of confrontation and avoided for that reason ?

In many cases, no clear difference is made between conclusion or decision oriented research and development. Furthermore, many poorly controlled and inadequately evaluated innovations in methods or changes in organisation are characterised as development. Only the most advanced countries in educational research mention clearly, but rarely, priorities for conclusion-oriented research: this happens in Anglo-Saxon and Scandinavian countries, and in Germany.

In contradiction with what may be regarded as the ideal progression from fundamental research to development, it seems that development problems are often given the first priority. Educational authorities want the necessary methods and aids and evaluation techniques and devices to implement the reforms that are underway. Then comes decision-oriented research: which measures and methods should be generalized ? Only when these reforms run into difficulties do the governments feel the need for more fundamental research. This situation is dangerous. Separated from conclusion-oriented research, innovation and school practice, easily degenerate into mere gadgetry, ad hoc recipes, and the like. Clearly in all research and development fields, rigorous quality control and evaluation are essential.

Policies and coordination

In Denmark (Council of Europe, 1970, vol. II), "Experimentation is carried out in most fields by central as well as by regional authorities and by interest schools, but research activities have only to a certain extent been influenced by administrative decisions regarding priority fields of innovation and development (p. 4)".

Does this statement give a true picture of the general situation in Europe ? In fact, member countries of the Council of Europe can be divided in two groups: those where a national policy and coordination exist (Denmark, Finland, France, Ireland,

Norway, United Kingdom, Sweden and Turkey) and those where such a coordinated action cannot be detected (Austria, Belgium, Federal Republic of Germany, Italy, Netherlands, Switzerland). Important differences exist among countries within each group, however.

One can easily understand how difficult it is to develop a national policy in federal or confederated states in which most educational decisions are made in total independence by local authorities or bodies: Länder, Cantons, Provinces, as in Germany, Switzerland and Austria. Since the end of World War II, the principle of research freedom is specially emphasised in Germany and Austria, and their constitutions reject political or ideological pressure on the scientific world.

The existing institutions and organisations responsible for national policies and coordination were recently launched, mostly after 1960 and mainly between 1965 and 1970. In other words, educational research in Europe is just getting organised.

In Switzerland, two recent creations (1969) can be considered as an acknowledgment of the need of coordination on a broader or even a national basis. The Swiss Conference of the Canton's Heads of public education departments has founded a Coordination Centre for Educational Research (situated in the City of Aarau). The purpose of the Centre (Council of Europe, 1970, vol. III) is "to help in defining the educational policy of Switzerland and to promote relations with foreign educational

research Centers" (p. 266). The Institut Romand de Recherches et de Documentation Pédagogique, in Neuchâtel, is now a focus of the educational research and development activities of the Cantons of the French Switzerland and the Tessin. The Institut Romand is an information center for teachers and researchers; it is specially interested in teaching methods (reading, foreign languages, and mathematics) and in school organization.

In the Federal Republic of Germany a similar trend can be observed. After an amendment of Article 91b of the Constitution and an agreement between the Federal and the Länder Governments, a commission for educational planning was created in 1970. Its tasks are to prepare development projects, to plan research, and to facilitate the necessary arrangements between the central and the local bodies for the implementation of research and development projects. Curriculum development and evaluation, organization and evaluation of "pilot" experiments in schools and universities, and promotion of educational research and development seem to be the main fields of activities of the commission.

Other coordinating agencies in West Germany are, to a certain extent, the Federal Institute for Vocational Educational Research recently established in Berlin, the School Building Institute, the Education Council, the Science Council, and the Conference of West German Society for Educational Sciences.

In a small country like Austria, the directors of the Institutes of Education and of Vocational Education keep in touch easily and coordinate, from time to time, their research activities.

A national policy does not yet really exist in Belgium, Italy or the Netherlands. Research depends almost exclusively on the initiative of universities or other institutes of higher education. In Italy, few universities have developed the necessary research structures. In Belgium as in the Netherlands, the ministries of education sponsor a few research projects in line with their present school policies. In Belgium, the need for regional laboratories coordinated by a national research commission has often been stressed and is now more and more recognized.

In the Netherlands, an Educational Research Foundation was created in 1965 to plan, program, and coordinate educational research. Government financing amounted to 2,700,000 guilders in 1969 and 6,500,000 guilders in 1970. At the end of 1970, it was suggested that the Educational Research Foundation be transformed to a National Foundation of Research, Development, and Experiments. In all three countries, the lack of a national research policy is seen as an obstacle to the progress of education and is often denounced.

In France, Ireland, and Turkey, a national research policy is formulated and implemented through ad hoc ministerial commissions. In France, "it appears from the organization and

goals assigned to the new structure created at the Ministry that future research is to be strictly centralized (OCDE, 1969)."

The Committee for Research and Development, at the Ministry of National Education, defines the policy and supervises the educational research planning. The Direction de la Pédagogie and the Direction des Personnels control school experiments and the schools where they take place. The Service des Etudes et Recherches pédagogiques is a part of the National Institute for Educational Research and Documentation (INRDP), placed under the authority of the Minister of Education.

On request of the Directors and Services of the Ministry of National Education or at its own initiative (but always with permission of the Ministry), the Service des Etudes et Recherches pédagogiques undertakes applied research in order to improve teaching methods and curricula, school organization, and the observation and evaluation of pupils' behavior and achievement (Council of Europe, 1971, vol. III, p. 88). Some projects of more fundamental character can be carried out at the demand of the Service, by universities or by teams working at the Centre National de la Recherche Scientifique (CNRS).

Contrary to the author's opinion (who thinks that most educational research should take place at the regional level) an OECD report suggests that this centralization may be beneficial at the present stage: reinforcing large national

institutes seems to them preferable to supporting a proliferation of smaller organizations.

Especially sensitive to the danger of strong political influence likely to bias research, Anglo-Saxon and Scandinavian countries avoid excessive centralization (Husén, 1968; Wall, 1968, Dahllöf, 1972, Council of Europe, 1973). In Great Britain, policy and priorities are directly formulated by national and regional councils for research and development. The statutes and roles of these bodies vary, but as a rule they are led by boards or committees composed of representatives of all interested organizations: political representatives, public and private school authorities, teacher associations, industry, trade unions, and research and higher education institutions.

Some organizations finance research and thus exert a directing and coordinating action on universities and other research institutions. For instance, the Educational Research Board of the Social Science Research Council, a quasi governmental organization created in 1965, is specially interested in teacher education and utilization, nursery and preschool education, minorities, further education, evaluation, and new approaches to education. (For the period 1969-1970, the Educational Research Board financed 23 new projects at a cost of 221,211 pounds.)

Other organizations develop their own research programs more independently. The National Council for Technology was created in 1967 by the Department of Education and Science, but is constitutionally independent. The National Foundation for Educational Research in England and Wales undertakes research projects of national importance or of great urgency. It is concerned with problems that arise at all levels within the educational system and its current projects cover pre-school, primary, secondary, further and higher education. The major emphasis of its work is placed on evaluation. It also provides an advisory and information service for its members and for other researchers.

The Scottish Council for Research in Education, an independent research institute, is mainly financed by the Scottish Education Department, the school authorities, and the Educational Institute of Scotland. It concentrated its efforts mainly on secondary education, examinations and assessment, environment, and further education. There is also a Northern Ireland Council for Educational Research (1967).

In Sweden, research and development priorities are permanently reconsidered by the responsible bodies and their advisory committees. These bodies distribute research funds The Council for Social Science Research (1969) and the Bank of Sweden Tercentary Fund (1970) are mainly oriented toward fundamental research. Applied research and development projects

are financed by the National Board of Education (1962), the Office of the Chancellor of the Swedish Universities (1969), and the Swedish Board for Technical Development (1970). The role of these agencies is not limited to funding; they also have to make sure that the research results are taken into account in the educational planning and decision-making processes.

In the other Scandinavian countries, the coordinating agencies depend more heavily on government and are mainly oriented to development and innovation problems. Important agencies are, in Finland, the Research Council for Social Science, the National Board of Schools, and the Council for School Research; in Denmark, the Board of Experimentation of the Public Primary and Lower Secondary Schools and the Planning Board for Higher Education; in Norway, the Department of Planning (the Norvegian National Council for Innovation in Edueation is an indspendent advisory body). Other research centers of national importance also play a political and coordinating role: the Institute for Educational Research of the University of Jyväskylä (Finland) it became a national center in 1968 and the Danish Institute for Educational Research (1958).

Educational Research Institutions [2]

Using information from fourteen countries participating in an international conference organized in 1967 by UNESCO on the role of research in educational change, A. Yates (1971)

suggested an analysis of contemporary structures of research which seems valid for Western Europe. Important variations exist, however, among research institutes in their administrations and modes of funding. Generally speaking, educational research is done by universities, national agencies or governmental departments, and special institutes independent of universities and in many cases of governments. A less but not unimportant role is also played by research institutes financed by local or regional authorities, confessional or nonconfessional professional associations, and teacher training colleges.

The Universities

In several European countries, the influence of the universities on governmental decisions and school practice is very modest. It would be unfair to deny, however, that in many cases there would not have been and would not be any educational research at all if universities had not pioneered this activity, developed the research methods and techniques, and had not demonstrated the value of high quality experimentation in education. On a continent where most teachers and their supervisors have not learned the foundations of educational research methods and of statistics, where most university professors have not had any pedagogical training, it is not surprising that research results are frequently rejected or ignored.

In the Latin countries the great majority of primary and secondary school teachers do not even master the concepts of descriptive statistics. Many have never administered an objective achievement test and ignore the existence of standardised measurement instruments for the subject they teach.

In fact, the contribution of the universities is twofold. First, the schools, institutes, or faculties of education carry out an important part of the educational research and development. Secondly, faculties outside the schools of education (psychology, sociology, law, science, medicine,...) also undertake research, mostly of a fundamental character, related to education.

The influence of university schools of education varies considerably from country to country. In France, a licence in educational sciences was legally created less than ten years ago (1967), but the objectives of this licence are far from precise (Léon, 1971). While its curriculum is an unclear mixture of courses aiming at school practice and at research, in fact the French licence is mainly geared to the advanced pedagogical training of teachers (OCDE, 1969, pp.3-4).

In Austria, Germany, and Switzerland, the schools of education are also much more teacher training than research centered. In contrast, the Belgian faculties or institutes of psychology and educational sciences (the former higher

institutes of pedagogy, founded in the twenties, even before autonomous schools of psychology came into existence) carry nearly all the weight of educational research. These faculties or institutes only, however, train teachers of education, psychologists, or researchers. In Great Britain, in the Scandinavian countries, and to a certain extent in Germany, the university schools of education participate in the training of the teachers but also have educational research departments.

Furthermore, the weight of the respective contributions of the schools of education and of the other faculties varies greatly in different countries. For instance, from about 250 French university research projects listed in 1971-1972 (Julien-Binard & Dufoyer, 1972), less than one-third belong to teaching and research units of education and more than two-thirds are carried out, in order of importance, by departments of psychology, sociology, law and economics, humanities, science, and medicine. For the same period, Sweden mentions 108 projects (Educational Research in Sweden, 1971-1972) among which 93 belong to departments of educational research of university schools of education, eight are undertaken by the Department of Psychology of the University of Stockholm, and two by the Department of Sociology and the Department of Political Science of the University of Umeå. (Generally speaking, the integration of psychology and sociology into the educational sciences is a Swedish characteristic.)

The relative importance of the role of universities in educational research is far from equal in West European countries. The list of research institutes taking part in the survey of the Council of Europe indicates that university research is most important in Austria, Belgium, Finland, Ireland, and the Netherlands. The role of universities is also great in Sweden, but nearly all research projects are controlled and financed by national agencies outside the universities. In England, Norway, and Scotland, the part of the universities is either balanced or outweighed by other institutions. In Denmark, France, and Switzerland, the role of universities is comparatively small compared to national or cantonal institutes or governmental research centers.

We know little about university educational research in Turkey or in Greece. As for West Germany, it begins a period of expansion after the long silence of the Nazi era and the decade that followed. At the university level, the Deutsches Institut für Internationale Pädagogische Forschung (Frankfurt), founded in 1951 with the help of the United States, has developed a large spectrum of studies. In 1963, the Max Plank Institute for Educational Research (Berlin) was created to promote interdisciplinary research. It is composed of four departments: education and psychology, sociology, economy, law and administration (Yates, 1971).

Still other differences can be mentioned as far as the role of national agencies is concerned. While some, as in Sweden, limit themselves to financing research (mostly in universities), others undertake their own projects. Examples are the Service Central des Statistiques and the Bureau des Programmes in France, the Planning Branch of the Department of Education and Science in Great Britain, and the Research Branch of the Education Department in Scotland. Such departments are of course peculiarly well equipped to undertake investigations of the kind often designated as "social book-keeping." Large scale surveys involving the collection and analysis of data on school enrollments and the assessment and prediction of available resources of manpower for teaching and other educational activities are a necessary component of the efficient planning of an educational service, and government agencies are tending to carry out this kind of task for themselves (Yates, 1971, p. 26).

National Agencies and Governmental Departments

Universities have, beyond any doubt, created educational research and demonstrated its potential value to solve some of the problems met by school administrators. They have also developed the frontier methods and techniques that help to improve the quality and progress of research. Nevertheless, the universities alone cannot (for lack of the necessary means)

meet a steadily increasing research demand. Traditionally jealous of their independence and autonomy, the universities do not always facilitate the progress of a national research policy and of the coordinated action that governments often deem indispensable to deal with national educational problems.

To avoid the usual heavy teaching responsibility and focus on research, some institutes or centers that have originated from universities have won independence to the extent that they do not any longer come under the usual jurisdiction of the schools or faculties, this jurisdiction being necessary in the case of a large spectrum teaching institution. Benefiting from the intellectual and material infrastructures of the universities, these research centers specialize in one or a few areas of research.

The usual budget allowed to university departments does not suffice to finance such research centers. That is why they resort to direct public funding and become more and more associated with governments (Yates, 1971). The Institute for Educational Research of the University of Jyväskylä (Finland), for example, now has the status of a national educational research center. It would be an exaggeration, however, to say that everywhere in Western Europe educational research is financed and thus controlled by national agencies as in Sweden.

National Institutions

Beside the university research departments and other specialized centers working mostly in connection with institutes of higher education, some countries have national research institutions. Examples are the National Foundation for Educational Research in England and Wales, the Danish Institute for Educational Research, the Institute for Educational Research in Finland, the French National Institute for Educational Research and Documentation (INRDP). These institutions are very active and in some cases, as in France, are the leading educational research agencies.

As far as staffing and choice of research projects are concerned, national institutions strictly controlled by the political power, as in France, and institutions like the NFER enjoying the traditional British independence are of course in a very different situation.

The centralization of research activity is a temptation in several countries. This trend has probably a twofold explanation: the search for efficiency and the wish to keep things under control, which is certainly not so easy when universities are involved. The dangers of strong centralization are obvious: politicizing and bureaucracy: loss of contact with human realities and contingencies; and, as a consequence of this loss of contact, a lack of relevance to the needs of the schools.

The role of private foundations

Private foundations deserve a separate treatment. In the United States, their role is great. The situation in Europe is far from being so favorable and in small countries like Belgium without any educational foundation of importance, financing research can be extremely difficult. It is certainly not an exaggeration to say that many highly promising projects are interrupted before they can yield their results, or they do not even have a chance to get started.

Educational research in Great Britain seems to receive the most help from private foundations, for it finds support rather easily from the great American foundations like Carnegie and Ford, and also has important foundations of its own: Nuffield, Leverhulme, Gulbenkian, Wolfson, and Rowntrèe. The Nuffield Foundation has been particularly influential in stimulating and carrying through research and development on the curriculum (Council of Europe, 1970, 1, p. 4). In Germany, the Volkswagenwerk Foundation promotes research and teaching in science and technology, partly finances the UNESCO Institute for Education in Hamburg, and subsidizes the German participation in some other projects, as the survey of the International Association for the Evaluation of School Achievement (IEA). The Dutch Bernard van Leer Foundation has specialized in research on deprived children and finances projects in several

European countries. In Italy, several foundations (Aghelli, Olivetti, Cini) sponsor educational research. Finland and Sweden also obtain help from private foundations, but the contribution seems marginal. Finally, the Gulbenkian Foundation in Portugal could play an important role for that country in the near future.

Researchers in institutions

Before closing this section, it seems worth mentioning that a difficulty that is well known in the United States is beginning to affect West European research. When it is the main source of financing, private sponsoring of short-term research projects makes for instability in the staffing of research teams. This creates a paradoxical situation: especially in countries in need of a firm network of research centres (that is in most European countries), the few existing qualified researchers often find it difficult to envisage an uninterrupted and developing career. For cultural (especially language) reasons and lack of better working conditions in other countries, their mobility remains limited. Consequently, researchers often take up teaching or administrative positions. As a result, the few existing teams with high potential and member qualifications are recurrently liable to disintegration.

The educational situation in Europe could be dramatically improved if the strategy of development areas could be applied as in economics. This would consist in developing and stabilizing a few dynamic regional research centers or laboratories and using them for the training of researchers and the organization of other centers. The assumption is that an irreversible movement of educational progress could thus be created. Today, for lack of resources, most of the research demands among which many are crucial for educational revitalization and innovation must be turned down by the few efficient research teams.

There is now an alarming shortage of researchers in Europe. We define a researcher as a person knowledgeable in one subject and possessing a mastery of research methods and techniques, including experimental design and multivariate statistical analysis. If one bears in mind that teachers or other unqualified persons associated with or even in charge of projects are often counted as researchers, an examination of some of the available statistics reveals a disturbing situation.

An analysis of the Council of Europe survey has been made in order to discover the number of active educational research people in the different countries. The figures mentioned are approximations. Among the reasons for the lack of accuracy is that the description of the staffs of the

research centers has not been carefully standardised in the survey. Furthermore, not all research centers have been reached by the Council of Europe, while some of those mentioned in the document hardly deserve their names. Only the least ambiguous data have been considered. It also happens, as in France, that the same persons are listed by several institutes. Finally, the non professional researchers (graduate students and primary or secondary school teachers occasionally cooperating with research projects) have been omitted.

Insert Table 1 about here

Although they are small, some of these figures must still be considered as inflated and misleading. For instance, a certain number of persons tabulated as full time researchers in Belgium do not meet the definition we have adopted. Typical examples are owners of the equivalent of a B.Ed. or M.Ed., with a major in educational history and teaching methods, but nearly ignorant of inferential statistics, sophisticated experimental design, modern measurement methods and techniques, and the advanced research literature on their research problem. A similar remark applies to France. In short, it is striking to observe that the Educational Testing Service (Princeton), for instance, has alone a much higher potential in educational research than nearly all European countries.

Areas of Research

Not long ago philosophy and history still possessed a sort of theoretical monopoly in the world of education, while pedagogy was mainly considered an art, or a practice finding its source in intuition and inspiration. An empirical approach was excluded. Research was then limited to the formulation of educational policies, and to the construction and defense of pedagogical doctrines, which were themselves eclectic syntheses of general (and often generous) principles, of rules of thumb, and of heterogeneous psychological and sociological observations or hypotheses. So called school experiments preparing for the introduction of new curricula, structures, methods, and materials were done without serious design or evaluation. They served as propaganda rather than scientific trials. In fact, they were conceived to create enthusiasm or at least acceptance of innovations that were deemed to be good since they were in accordance with the dominant philosophy.

Everywhere, there is an observable trend away from this sort of "research". But it would be naive to believe that it has entirely disappeared. In Belgium, the present reform of secondary education is mainly a philosophical construction, while in several countries the new mother tongue and mathematics curricula are to a great extent of dostrinal origin. Any

educational reform of importance, of course, raises philosophical and political problems, for it is at this higher level that all decisive orientations are chosen. Our criticism concerns mainly the means selected to reach the ends. One believes that they are appropriate, though they have not been empirically tested.

In France, education has not yet been fully acknowledged as a university discipline (Léon, 1971). Pedagogy remains the field of the teachers, a craft occasionally fed by psychology, sociology, history, and philosophy of education. It is striking to observe that more than half of the research projects appearing in the already mentioned OECD statistics (1969, appendix, pp. 11-13) belong to these disciplines. From a list of 314 doctoral dissertations in education for the period 1944-1967, 72 are in history of education, 69 in comparative education, 32 concern teaching methods, 46 psychology, 45 sociology. None are concerned with curriculum development, 2 with educational objectives and 4 with evaluation.

The real home of scientific educational research is in the Anglo-Saxon and Scandinavian countries, where contemporary measurement methods and techniques (further developed or invented during or after Wolrd War II) are widely used. In those countries, the success of the first national surveys of school achievement and of associated psychological factors (Walker, 1968; Yates, 1971; Swedish Council for Social Science Research, 1973) has

quickly convinced the educational authorities of the usefulness and the tremendous benefit of empirical educational research. Of course, developments in statistics and the tremendous possibilities offered by computers have also had a dramatic influence.

Exploiting the advance of those countries in the field of surveys, the International Association for the Evaluation of Educational Achievement (IEA) has now demonstrated the feasibility of international empirical comparative research and has contributed significantly to the methodological development of the other European participating countries: Belgium, Finland, France, Hungaria, Italy, the Netherlands, Poland, West Germany.

The rather slow penetration of educational measurement and statistics in Latin countries can be partly explained by the fact that in those countries psychology is profoundly influenced by the work of Jean Piaget and by the great French and German clinicians. (However, the influence of a definite technological retardation especially in data processing, and of the philosophical tradition, now illustrated by the institutional theories, should not be underestimated.)

Two further explanations must be considered; one of a deeper cultural character, the other of an institutional character. Saying that Anglo-Saxons are men of action or

empiricists while continental Europeans are theorists is more than a cliché. Some striking examples among hundreds of others are the differences the way students are evaluated, in the character of the schools of engineering, and in the business methods employed on both sides of the Atlantic.

Institutionally, the rigid centralization at the national or at the Land or Canton level with a uniform curriculum everywhere is certainly discouraging to experimentation. Another aspect in the institutional domain is the fact that soon after World War I, primary and junior high school teacher training in America more and more took place in colleges of higher education, while this movement is just starting in nearly all continental European countries.

The largely apprentice-type of training that most teachers and supervisors have undergone probably explains why so many educational meetings and conferences in Europe manifest a strong visionary and dogmatic flavor. To indulge in a bit of caricature, one might say that the Holy Ghost and the soul of the child remain respectively frequent independent and dependent variables. This does not mean, however, that Western Europe is ignorant of the latest developments in education.

In fact, one can hardly imagine a contemporary research theme or topic that is not treated somewhere in Europe. The difference is that while practically all the themes are tackled

by many individuals or teams in the United States, one has in many cases to survey the whole of Europe to identify the few persons who deal with the same problems, in most cases with limited resources. Examples are teacher behavior analysis, objective evaluation and remediation of sociocultural handicaps, computer-assisted-instruction, mastery learning strategies, readability, empirical study of microteaching. The use of specific analytic techniques also illustrates this point: the semantic differential, the Q sort, canonical correlation, and path analysis for example, are very rarely utilised.

To list all the headings under which research projects can be categorized and to try to evaluate the European production for each would be an impossible task. Only those areas that are considered to be the most important and those aspects that may yield interesting comparisons between America and Europe will be considered.

Since 1967, the analysis of the common problems raised by the Conferences of the Ministers of Education of the Council of Europe members indicates five important areas: the social factors underlying aptitude for education, curriculum development and evaluation, teacher initial and in-service training, technology of education, and post-secondary education, including further and recurrent education.

The organization of the equivalents of the U.S. Seminars on Learning and Educational Processes (SOLEP) in Europe (Stockholm, 1968; Pont-à-Mousson, 1970; Munich, 1971) gave an opportunity to identify the main preoccupations of the leading European researchers. They include the same topics as above, but add educational research methods, cognitive development in relation to social and cultural factors, psycholinguistics and quantitative analysis of verbal communication in educational perspective, and national and international surveys of school achievement. Great interest is also manifested in the new mathematics, science, and mother tongue curricula.

Outlines of the national school organization and research priorities are given in Tables 2 and 3. They offer a picture of R and D trends in Western Europe.

Insert Tables 2 and 3 about here

Another indicator are the areas in which the majority of projects are carried out in a given country. For instance, in the Council of Europe survey (1970) of 131 projects mentioned by Great Britain under 31 different headings, 36 are curriculum development, and eight are social factors of education. More precisely, D. Pidgeon categorizes as

follows the recent projects of the NFER: school organization, educational environment, communication research, teachers and teacher education, educational and vocational guidance, national and international surveys, examinations and tests results.

The 1971-1972 inventory of 108 Swedish projects seems to indicate a different emphasis: 71 of these projects are on the comprehensive school, 21 teaching aids, 15 special education, 14 school adjustment, 12 handicapped children, and 10 preschool education. Among 123 Finnish projects, 10 bear on teacher education, 12 on teacher behavior and evaluation, 16 on teaching methods and organization, and 11 on school achievement.

As for France, a sophisticated research classification system has been elaborated by J.C. Asselain for the National Center of Scientific Research (CNRS) and for the Service of Educational Research and Studies (Julien-Binard, 1971). Some of the detailed information available from this classification can be summarized as follows (number of projects in parentheses): aims and objectives (17), school organization (65), study of the sociocultural environment (35), child psychology and cognitive processes (60), teaching methods and subject matter (138), evaluation and achievement (28), cost and productivity of the system (8), teacher training (107), lifelong education (17, equality of opportunity (69).

Britain seems to concentrate its efforts on curriculum development, evaluation of attainment, school organization, examinations and educational guidance. This may be because the British educational system is probably the most independent from the central authority and also allows the greatest liberty to the teachers curriculum development and teaching methods. Research is to an important extent inspired by administrators, who feel the need to help teachers develop an adequate school curriculum, to evaluate efficiency of instruction and to make teacher-made examinations results comparable. In short, one can detect in British educational research a trend towards technocracy.

In Sweden, the will to attain a more and more democratic order where every individual should get all the chances he can exploit seems to explain the main lines of R and D activity. Hence the emphasis is on the psychological diversity of the pupils, adjustment ot school and all aspects of special education. Priorities go to preschool education, comprehensive "fundamental" education, and higher education.

As a highly centralized state with a long intellectual elite tradition, France concentrates more on subject matter and on planning framed by the needs of the dominant economical system carefully defended by successive governments.

This sketchy presentation does not help in detecting projects of special value; a series of monographs would be needed to provide a full description. A good example in this respect is E. Malmquist's survey of reading research (1970). Furthermore, tables like those given above do not provide information about specific local centers that may be significantly active. In its latest R and D activity report, for example, the Laboratory of Educational Research of the University of Liège (De Landsheere, 1973 a) lists seven projects on compensatory early childhood education, four on teacher behavior analysis, eight on readability and TV intelligibility, six on programmed learning, ten on formative evaluation, and two on national achievement surveys. Last but not least of the difficulties encountered in attempting to collect information on European research is the publication of the reports in local or national reviews in more than fifteen different languages. So far, there is no comprehensive European review that offers a picture of the R and D activity on the continent.

EASTERN EUROPE

The severe limits of our study of ed cational research in socialist countries must be stressed. We have extracted as much information as possible from rather meager documentation

and some direct communications from research agencies. Only for Hungary and Rumania can we speak of information giving a picture of considerable educational research activity in both countries.

Two surveys (Birzea, 1973; Novak, 1970), published by the Unesco Institute for Education (Hamburg) along the lines of the Council of Europe's surveys, were not too useful since they offer only gross compilations.

As a whole, the situation does not look especially bright. One point that deserves mention is that it is obvious that some East European researchers have a thorough knowledge of the Western scientific literature and are acquainted with our current research and development projects; they quote abundantly the latest publications in English, French, or German. Where are the Western European or American researchers who could do the same for the other side ? How many West European researchers know their distinguished colleagues Luria, Stolurov, Adam, Agoston, Vaideanu, Slama-Cazacu, and so many others ? Of course, the language barrier is a central problem, and the international publications of the socialist countries are not of much help because they contain more philosophy or ideology than detailed descriptions of research projects.

It is striking that nearly all research institutions are under the direct authority of the governments, mainly of the Ministries of Education, Culture and Sports. This administrative and financial dependence is also clear in the selection and planning of the research projects. Though many Western European countries also have centralized systems, the control is much weaker than here. It is not exceptional for programmes to be outlined by the highest political authorities. For instance, after six years of preparation, the Yugoslavian Federal Assembly made public on March 26, 1970 the Resolution on the Development of Education on a Self-Management Basis, a sort of educational research and development charter (Pedagogy, 1970). In November 1971, at the Plenum of the Rumanian Central Committee of the Socialist Party, Ceaucescu stated "that teachers should relate much closer to teaching practice, research and production" (Barsanescu, 1972). This direction is immediately analyzed and commented upon by educators and teachers, who dialectically infer the benefit and implications for innovation and research.

In relation to the plans that are made for the development of the economy and the school system, research priorities are formulated by political executives. In turn, the research institutes suggest definite projects within those areas and submit them for approval. Beside this official program, some institutes undertake sponsored research projects

of their own, but they do not exceed ten per cent of the total resources. Planned by academic authorities, research in the universities also follows governmental directions. Initiatives seem easier to take in the university, however, than in other institutions.

Socialist universities do not invest as much in educational research as in Western Europe, and this lesser investment is sometimes regretted (Agoston, 1971). Generally, there are no schools or departments devoted exclusively to education. Educational research is done by professors of general pedagogy or of didactics who teach in faculties of philosophy or art, or in teacher training colleges.

The centralized policy is reinforced by a close cooperation between all research agencies within a country and also between the socialist countries. In Yugoslavia, this strict centralization, also called bureaucracy, has been regarded as a handicap and, as mentioned before, self-management is now recommended (Novosel, 1961; Schmidt, 1970).

The research themes more widely reported and frequently mentioned are related to general or technical secondary education in its continuity with the compulsory fundamental schooling. The connection with lifelong or adult education is often made. In Yugoslavia, preschool and primary

education also draw much attention, while in the USSR special education is widely studied at the Pedagogical Academy of Moscow. The absolute priority given to ideology explains the wealth of studies in history of education, comparative education, general pedagogy, and the philosophy of education.

In connection with curriculum development, numerous institutions seek to increase the efficiency of teaching methods (Nicolescu, 1970; Vaideanu, 1970). In this context, a special effort is made in the field of educational technology. Audio-visual techniques and programmed instruction are carefully developed and widely used. More than in other parts of the world, however, coordinated action and reflection can be observed in the field of technology, since the whole instructional process is conceived as a technological system all the parts of which are being permanently optimized. It seems that the most important contribution of the socialist countries to the progress of education is likely to be found here.

Finally, the large place devoted to the evaluation of the productivity of the educational system in its relation to the economies of the nations explains the importance attached to school and vocational guidance and counselling, which are the object of many studies in numerous specialized institutes. The selection for higher education seems to remain severe and more efficient screening is sought (Agoston, 1972).

All this indicates that more place is given to development than to research. Indeed, most researchers are former teachers who have been specially selected for this task.

Research institutes generally specialize in one research area. Members of such institutions frequently have teacher training duties. Unlike nearly all West European rssearch centers, the socialist institutes have their own network of experimental schools. With a far from sophisticated empiricism, new curricula, teaching methods, techniques, and aids are tried in the experimental schools, which also act as demonstration centers and models for the other schools.

To consider that there is nothing but educational development in socialist countries would, however, be misleading. While pedagogy is identified with and limited to practical goals, psychology, physiology, linguistics, and sociology are not. They do fundamental research in learning, and cognitive and affective development. But the situation is not uniform.

The wish for greater methodological rigor in educational observation and experimentation is occasionally expressed and measurement is recommended (Malita, 1970; Palov, 1972). The earlier opposition to psychometrics is being relaxed and achievement tests are being constructed (Zorgo, 1970; Kahuda, 1972, Orosz, 1972). Finally, the worth

and virtue of sophisticated statistical analysis are now recognised (Segadin, 1972).

The use of achievement tests seems already well accepted in Czechoslovakia (Novak, 1970), while Hungary is a member of the International Association for the Evaluation of School Achievement (IEA) and launches national achievement surveys deemed to be of great interest for the development of curricula, the preparation of school books, the evaluation of teaching methods, and the management of the whole school system (Orosz, 1972).

According to E. Malmquist (1973, p. 93), the Soviet situation can best be described as one of transition from traditional, small scale academic research to systematic, large scale, client-oriented R and D. In fact, the movement is the same as in other Eastern countries and probably inspires it. E. Malmquist has stressed the limitation of research freedom in the social sciences in USSR and concludes that "Soviet ER works under severe restrictions due to its subordination to Marxist-Leninist ideology," but that there is nevertheless "some scope for objective and empirical study (p. 98)." E. Malmquist's conclusion that Soviet ER is developing along lines in many respects similar to those found in the Scandinavian countries and the United Kingdom

can be misleading if one does not add that the gap between the two blocks remains quantitatively considerable, as far as research products, the utilisation of research results in the schools, and the availability of qualified researchers are concerned.

CONCLUSION

If one considers Europe as a whole and we have seen that such a view obscures the wide differences among the countries concerned educational research is qualitatively and quantitatively insufficient. Of course, some countries are exceptions and some individuals or local teams are of a very high standard, but this does not change the general situation.

The most basic explanation of this phenomenon seems to be that education as such is not yet considered a science, or educational research is seen as a minor scientific activity. The public often wants more and better education but does not realize how outdated many school curricula and practices are; the members of the public refer to their own school experience and do not condemn it whole heartedly because this involves accepting that they themselves are less than satisfactorily

educated. Furthermore, it is often hard to convince parents and authorities that education is such a sophisticated enterprise that research of the same level of complexity as that carried out in medicine or engineering is necessary. The reactions of the learned world, personified by university professors, are not very different. Expertise in the subject matter and some pedagogical feeling seem to them the alpha and omega of education. They do not only cherish the attitude but transmit it to their students and reinforce it on every occasion. Once again, there are exceptions, but not enough to be of real weight. In short, many Europeans still think that provided a sufficient number of teachers are trained as practitioners and "good" school books and buildings available, the most basic educational problems are solved.

All this has important and unfortunate consequences. First, though nations spend a considerable part of their resources on education, efficiency and attainment are not monitored. Secondly, the best students are not attracted to careers in education because they offer neither prestige nor large-scale research opportunities. Third, the mass media deal more and more with education, but on the practical side. There is a sort of research sage for physics or medicine. But who has ever seen an educational researcher as a hero?

Fourth, as a rule, politicians follow the pressure of public opinion and do not take the leadership to form it. Why should they interest themselves in a domain with apparently so low a political pay off as educational research? Fifth, education remains the most powerful instrument of indoctrination in the hands of political leaders. As indicated at the beginning of this study, educational research leads easily to a level of criticism that only the most mature democracies can tolerate.

We have repeatedly observed that Great Britain and the Scandinavian countries are the most advanced in the field of educational research. It plays an important and effective role in the lives of these nations. Then come countries with very different situations. Belgium, France, and Switzerland, for instance, have only a few research centers and a few highly qualified researchers. The direct impact of educational research in those countries is thus weak. Germany is approximately in the same state, but a rapid development seems to be in sight.

An evaluation of socialist countries is not easy because we lack frequent contact with their educational life. Officially, the importance of educational research is acknowledged and, in the USSR, there is even a model for a national research centers network. In practice, the impact

does not seem any greater than in many West European countries. Furthermore, access to Western Europe and United States research and statistical literature definitely exists but seems to be reserved to a few individuals or groups.

Spain offers still another picture. Here, the important role of educational research is clearly stated in the new school laws and an institutional network has been developed. It seems that a tree has been planted and grows. The fruit is still more promise than reality, however.

Can a rapid change be generally expected? Probably, though not overnight! Nations will have to support educational research because there is no way to avoid it. The growing multiform needs in education created by our contemporary culture are impressive: both to keep social peace within their boundaries and to avoid being intellectually colonized by more efficient neighbours, the countries must systematically innovate, evaluate the output, and optimise the effectiveness of the educational system. Research is under such circumstances a necessity.

Coordinated research projects at the European level is still a dream. The Council of Europe, OECD, UNESCO, the Unesco Institute for Education (Hamburg) do not launch European empirical research projects but play an important

information role. Thanks to many conferences, colloquia, and expert meetings, all leading European researchers meet and communicate. They also meet United States colleagues and many crucial tips or hints are given on these occasions.

It seems that critical steps towards "European research" could be the organization at regular intervals of long European research seminars of the type of the European Seminars on Learning and Educational Processes, which UNESCO has organized in Stockholm, Pont-à-Mousson, and Munich. In all cases, the success and yield of those seminars were definitely greater than the output of many dozens of conferences. The launching of a few European projects, the feasibility and great methodological benefit of which has been demonstrated by IEA, could also have a strong impact.

Nevertheless, large-scale educational research activity and the systematic dissemination and utilisation of the results that it yields are still distant prospects.

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FOOTNOTES

1 Professor E. Bayer, University of Geneva, was chef de travaux at the University of Liège, when this paper was written and has considerably contributed to it. I also want to express my gratefulness to my numerous correspondents, in most European countries, who have answered my questions and put a rich documentation at my disposal.

2 In this section, we borrow mainly from Yates (1971, pp. 23-43). We also use answers given to the UNESCO questionnaire by Belgium, England, France, Germany, Scotland and Sweden, which are reproduced in the same book (pp. 115-220).

TABLE 1

Evaluation of Number of Researchers in Selected Countries

	Full time	Part time
Belgium	87	41
Denmark	80	1
France	284	246
Italy	4	38
Netherlands	142	78
Switzerland	88	42
Sweden	157	39
Turkey	21	-
West Germany	294	52
N.F.E.R. England and Wales only	53	-

TABLE 2

School Organization Priorities

Preschool education	Austria, Netherlands, Norway, Sweden, United Kingdom (a)
Compensatory education	Belgium (b), Finland, Netherlands
Transition between preprimary and primary education	Belgium (b), Netherlands
Primary education	Netherlands, Norway
Transition between primary and secondary education	Denmark, Netherlands, Norway, United Kingdom (a)
Secondary education	Austria, Denmark, Federal Republic of Germany, France, Netherlands, Norway, Switzerland (c), United Kingdom (a)
Transition between secondary and higher education	United Kingdom (a)
Vocational education	Denmark, Norway
Higher education	Denmark, Finland, Sweden
Adult and life long education	Federal Republic of Germany, Sweden, United Kingdom (a)

[a] This priority was deduced from the activity programmes of the national educational research agencies.

[b] This priority is explicitely mentioned though Belgium states that no definite national policy in the field of educational research existed in 1969 and 1970 (Council of Europe, 1971c).

[c] No national policy. This priority is deduced from the list of research projects just completed or in progress.

TABLE 3

Research Priorities

I. School guidance and evaluation	France, Switzerland, Turkey, United Kingdom
a. Examinations and testing	Belgium, United Kingdom
b. Other evaluation methods	Belgium
c. Youth problems and dropouts	Turkey, United Kingdom
II. Curriculum	
a. Curriculum revision and development	Denmark, Finland, France, Germany, Netherlands, Norway, Switzerland, Turkey, United Kingdom
b. Methods of curriculum development	Germany, Sweden
c. Curriculum evaluation	Finland, Turkey
III. Teaching methods	
a. Revision or development of methods	Austria, Denmark, Finland, France, Norway
b. Teaching and learning processes	Finland, Netherlands, Sweden
c. Evaluation of methods	Finland, Sweden
IV. School technology	Switzerland
a. Teaching aids and individualization techniques	Norway
b. Audio-visual means	Austria, France, United Kingdom
c. Programmed learning	Austria, France
d. CAI	Denmark, United Kingdom
V. a. Evaluation of school achievement	Austria, Finland
b. Experimental pedagogy	Finland, Germany, Sweden, United Kingdom
VI. Teacher training	Belgium, Switzerland, United Kingdom
VII. School administration	Norway
VIII. Educational economy	Turkey