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ABSTRACT

The Information Bulletin, which is distributed free of charge three times a year in an English and a French edition, describes the educational, cultural, and scientific activities of the Council of Europe and reprints important policy documents of European interest in these fields. This bulletin has two major sections. The first part reports the activities of the Council for Cultural Co-operation, and discusses higher education and research, general and technical education, out-of-school education, cultural development, and educational documentation and research. The second part includes the introductory address and papers delivered at the Colloquium of Directors of Educational Research Organizations, Paris, November 7-9, 1973. Several of the papers included discuss the researcher and his roles as an adviser to the educational policy maker, as an agent of educational innovation, and as an agent of innovation in the classroom. A report on the 1973 Survey of Educational Research Policy in European Countries, and conclusions and recommendations on the training and career structures of educational researchers concludes the second part. (Author/RM)

COUNCIL OF EUROPE

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Contents

The Information Bulletin *which is distributed free of charge three times a year in an English and a French edition, informs on the educational, cultural and scientific activities of the Council of Europe and reprints important policy documents of European interest in these fields.*

First Part

Council for Cultural Co-operation

The twenty-fifth session of the Council for Cultural Co-operation, which took place in Strasbourg from 29th March to 4th April 1974, was chaired by Helene Andersen (Norway). It was attended by delegates from all member States, the representatives of the Consultative Assembly of the Council of Europe, the chairmen of the CCC's Permanent Committees and observers from UNESCO and the Commission of the European Communities.

After having heard the statements by the Representatives of the Consultative Assembly and the reports of the Permanent Committees, the CCC examined the various items on its agenda and approved, in the light of the Programme Committee's recommendations, a provisional version of the budget/programme for 1975. It drafted a statement to the Committee of Ministers pointing out the difficulties of fulfilling its responsibilities both for education and for cultural development in a period of increasing financial stringency.

The CCC heard a report on the progress of work in the field of cultural development. The chairman of its Working Party on the intensification of cultural development activities, set up to redress the present relative imbalance between the cultural and educational activities in the CCC programme, submitted the conclusions reached by this group. The Working Party called for an effort to achieve greater clarity of some of the basic concepts used in the field of cultural development, which were unduly influenced by vague sociological terminology, agreed in principle with the broad policy lines of the cultural development programme and the CCC welcomed an assurance by the representative of the Committee for Out-of-School Education and Cultural Development that the future work of this Committee was intended inter alia to clarify such terms and concepts.

The Working Party proposed that the programme in the next few years should be concentrated around the six following intensive projects: artistic creation (professional artists); cultural policy of towns; innovations in encouragement of aesthetic sensibility and creative abilities (general public), with particular reference to children; status and training of socio-cultural animateurs; the cultural problems of television and the human aspects of the urban environment. The medium and long-term objectives of this programme would nevertheless have to be delineated more precisely. The Working Party's choice of priorities had been influenced by the prospect of an ad hoc Conference of Ministers of Culture in 1976 which, it felt, should deal with a specific subject chosen for its relevance to European cultural policy and the CCC's cultural development programme.

After examining each of the six intensive projects put forward by the Working Party, the CCC unanimously agreed that the subject of artistic creation should be given priority as the central theme for such a Conference. However, some delegations held that the subject should be broadened to cover creativity in general, while others stressed that artistic creation should also be approached from the human rights point of view.

As for the ad hoc Conference of Ministers of Culture itself, the CCC unanimously agreed that the organisation of such a conference in 1976 was justified. It would provide those responsible at the highest level for cultural policies with an opportunity of discussing intensive co-operation among a homogeneous group of twenty-one countries inspired by the same ideals. Moreover, it would give political authority to, and ensure the implementation of, the CCC's cultural development programme. The central theme recommended for the Conference was "Support and encouragement of creative activity in a cultural democracy".

In this connection the CCC examined Recommendation No. 719 of the Consultative Assembly concerning the Exercise of freedom of artistic expression and expressed its opinion that the theme proposed for the Conference of Ministers of Culture could throw a particularly interesting light on the various problems raised by the Assembly.

Furthermore, the CCC discussed the request from the Secretary General, arising from proposals made by the Committee of Experts on Human Rights, for an opinion on the suggested inclusion in the Work Programme of the Council of Europe of studies to promote information and education in the field of human rights. On this matter, the CCC approved the following statement:

"The CCC welcomes wholeheartedly any initiative tending to promote on as broad a basis as possible the ideals set out in the European Convention on Human Rights and fundamental freedoms.

The CCC wishes to emphasise that its work in the fields of education and culture is based on recognition of and respect for these basic principles. Accordingly, it would prefer not to include in its programme a project which would inevitably be restricted in scope and application, but instead to continue considering the promotion of human rights as an integral part of its work.

In addition, the CCC wishes to draw attention to the fact that other international organisations, notably UNESCO, are concerned with this question. Furthermore, the current pressures on the resources at the disposal of the CCC already impose considerable constraints on the content of the programme.

Finally, it should not be overlooked that the promotion of better knowledge of human rights is implicit in several sections of the CCC's existing programme, for instance in work dealing with civics ('European studies') and with the education of the children of migrant workers."

A question left in abeyance by the Committee of Ministers when it examined the reply of the CCC to Recommendation 649 of the Consultative Assembly was finally settled when the CCC decided to withdraw its original proposal that its title be changed to "Council for Education and Culture" (CEC).

Document: CCC (74) 13.

Higher education and research

Zürich *8th—10th April 1974*

Twenty-ninth meeting of the Committee

The spring meeting of the Committee concentrated its discussion mainly on the following topics: admission to tertiary education and "numerus clausus"; diversification of tertiary education, scientific co-operation and the special project "mobility". It was attended by senior officials and university representatives as well as by observers from UNESCO, the Commission of the European Communities, the Polytechnic Institute of Bucharest, the League of Yougoslav Universities and the International Association of Universities. Israel was also represented by an observer. The meeting was chaired by U. Hochstrasser (Switzerland).

Admission to tertiary education and "numerus clausus"

The Committee adopted a Resolution on the principles governing admission to tertiary education and decided to disseminate it as widely as possible not only to those responsible for admission policy and for its application, but also to a wider public. Although on many points there was no formal and unanimous agreement, the Resolution reflected a collective affirmation of certain fundamental principles. The main passages of the Resolution are printed below.

— "According to the philosophy prevailing in the majority of CCC countries, all who are sufficiently qualified should have broad access to higher education.

— Tertiary education institutions and in particular the universities should take the necessary steps to open their doors to those who have been underprivileged or unable — for one reason or another — to follow the type of secondary education leading to the niversity.

— Some countries feel that criteria resulting from the interrelationship between tertiary education and society (such as employment prospects) must also be taken into account. Authorities should, however, be extremely careful when basing admission to tertiary education on labour market forecasts, because such forecasts are often unreliable.

— Admission criteria must be objective. Restrictions as regards admission can only be justified, if they are based upon the principle of equality (identical treatment for identical cases). As regards more particularly the "traditional" universities, these should be required to offer all students whom they accept an education of a truly high standard. In principle, the universities should be under no obligation to offer courses at secondary education level; the education they offer should — as a rule — start at undergraduate level.

— Entrance criteria should be subject to continuous evaluation.

— There should be no discrimination between the general ("classical") sector and the other sectors of upper secondary education. Wherever levels are comparable students coming from these other sectors should be given the same chance with regard to further education as those from the general ("classical") sector.

— There already exist possibilities for students from technical and other non-classical secondary schools whose courses do not lead to university, to gain access to the normal channels of entry through additional training. Such possibilities should be developed.

— Although numerus clausus is a matter for national authorities, its introduction quite often has serious implications for other countries. Small countries, in particular those without a university of their own, may suddenly have difficulties in finding places abroad for their students. Countries whose languages are widely spoken may find themselves flooded with foreign students who cannot find university places in their own countries. Application of the European Convention on the Equivalence of Diplomas leading to Admission to Universities becomes more and more difficult, and there is a risk that numerus clausus may lead to discrimination against foreign students.

  A certain co-ordination of national admission policies therefore seems necessary, at least for those countries which are affected by the international implications of numerus clausus.

— Wherever the national situation necessitates numerus clausus, the following measures should be taken:

  • Countries concerned should inform each other well in advance of any restrictive measures planned, that might have implications beyond the national frontiers.

  • The authorities should examine existing resources to make sure that the best possible use of staff and technical facilities is made. Member States might profit from each others' experience in developing research-based procedures for assessing the number of places available.

- Methods of determining future needs and of predicting student flows should be continuously improved.
- Student guidance and counselling should also be improved. It should cover the field of studies as well as the type of institution and the type of course to be chosen.

— Where selection has to be made the following considerations should be borne in mind:

- It is necessary to define objective selection criteria which are readily available to applicants (i. e. criteria laid down by legislation, government regulation, ministerial decree or a university decision, and which are known to applicants).
- Selection criteria may differ not only according to the discipline and subject concerned but also as between someone wishing to enter a first-year course and someone wishing to continue his studies.
- In countries where there is university autonomy in the selection of students it would be desirable for the selection criteria applied to be as far as possible the same throughout the country.
- Ideally, nationality should not be a selection criterion, but it is an illusion to think that the applicant's nationality can be ignored in the case of numerus clausus. Exceptions will therefore have to be made if the particular situation so requires."

In discussing the application of the European Convention on the Equivalence of Diplomas leading to Admission to Universities, the Committee took note of the conclusions reached at a recent meeting (Vienna, 7 – 8 February 1974) of a working party convened to discuss the problems of interpretation of the convention arising in particular out of admission restrictions ("numerus clausus") in a number of countries. The Committee shared the working party's view that there was no need to draft a new convention or to amend the existing convention. It was the purpose of the convention to establish the equivalence of certain diplomas of completed secondary education but not to be an instrument for the solution of admission problems arising from national university policies.

Basing itself on the conclusions reached in Vienna, the Committee adopted a declaration on the practical application of the convention. It agreed that this text should not become an additional protocol to, nor constitute an authoritative interpretation of the convention. Extracts from the text of the declaration are given below:

"Promotion of mobility

The convention aims at promoting mobility of students holding diplomas awarded in the territory of Contracting Parties. This remains a desirable and valid aim in spite of the present difficulties in finding places for all those who would like to study abroad.

Equivalence of foreign and national diplomas

The convention establishes equivalence between foreign and national diplomas in the sense that the holder of a foreign diploma cannot be refused admission for the sole reason that his diploma is a foreign and not a national one.

Right to apply for admission

The holder of a diploma, in the sense in which this term is used in the convention is in no way entitled to claim admission to a university. The diploma entitles the holder to apply for admission: the university to which he addresses himself is not therefore obliged to admit him and the only obligation placed on it is not to refuse admission on the grounds that the holder of the diploma does not have the requisite qualification for admission.

General and specific admissibility

A distinction has to be made between admissibility to a university in general and admissibility to a specific study course.

The principle that the material equivalence of a foreign diploma must not be examined applies only to admissibility to the university in general. When it is a question of admission to a specific discipline it is legitimate to check whether certain particular requirements for the study course chosen are met.

Selection among applicants

The convention deals with the value of school leaving certificates but does not lay down rules for the selection of foreign applicants. The following principles should be respected:

— In cases where there are not enough places available for holders of diplomas awarded in the territory of other Contracting Parties, the national and/or university regulations shall provide for a system of selection based on objective and reasonable criteria.

— Selecting foreign applicants according to criteria which differ from those used for selecting national students would not necessarily be in contradiction with the convention.

Rights of foreign students

The convention cannot be invoked in support of a claim to be granted greater rights than those which the host country's own nationals enjoy while seeking admission to a university. Furthermore it is not the purpose of the convention to give holders of a diploma award in the territory of another Contracting Party greater rights than they would have enj in the country where their diploma was awarded nor, in particular, to give them acces courses of study other than those to which the diploma concerned would in general give access in the country in which it has been awarded.

Language requirements

The convention does not deprive the host country of the right to refuse admission to applicants not having an adequate knowledge of the language in which the chosen study course will be taught."

The Committee was furthermore informed about the activities of the European Joint Committee on Scientific Co-operation set up by the Consultative Assembly's Committee on Science and Technology. Problems both of methodology and content of this co-operation were discussed.

Finally, the Committee took note of the results of the recent meeting of West European science research councils and of the proposed creation of a non-governmental European Science Foundation. The Committee considered it advisable that the closest possible links should be established between the Council of Europe and the Foundation, and instructed the Secretariat to continue its efforts to ensure the establishment of such links. It was also suggested that national delegations should, where appropriate and possible, take action at national level to create conditions which would favour the achievement of this aim.

Document: CCC/ESR (74) 47.

Oxford *31st March – 5th April 1974*

Reform and planning of higher education

(Symposium)

The Symposium was attended by delegations from sixteen member States and observers from UNESCO, OECD, the Commission of the European Communities and the International Association of University Professors (IAUPL). It was chaired by Professor G. Williams, London. Its main aim was an exchange of views arising out of recent British experiences.

The various papers from the United Kingdom had set out frankly, and from differing viewpoints, some of the main issues in higher education that were at present preoccupying policy-makers, planners and academics. These issues could be grouped into three main areas of discussion:

- present and future trends in student numbers and their allocation between different branches of higher education and types of study;
- innovations in teaching and learning and particularly the introduction of new teaching technologies;
- other ways of improving the efficiency of higher education institutions so that the same quantity and quality of higher education could be produced with fewer resources or so that a given amount of resources could provide more students with an adequate higher education.

These provided the three main headings under which the Symposium was conducted: present patterns and future developments; new educational technologies; planning and efficiency. Underlying the choice of all three headings was the increasingly widespread feeling in Britain that after the golden age of well-financed expansion in the 1960s higher education was likely to continue to experience much leaner times in the present decade.

Mr. G. Fowler, Minister of State for Higher Education, addressed participants. His main theme was the failure of higher education to promote social equality. He believed that this was why students were turning away from it and why it is now getting lower priority in public budgets than it did a few years ago. He himself was concerned with providing equal opportunities of access to higher and further education so that all should get the best possible education corresponding to their abilities and personal desires. The problem was that past experience had shown in both Europe and North America that expansion of higher education in itself, both inside and outside the universities, had done little to reduce social inequalities. In a later debate it was suggested that one of the obstacles to equality in any sphere was that middle-class people were the most capable of grasping any opportunities offered — though it was also realised that to diagnose the problem was not the same thing as to cure it.

The first main contribution to the Symposium was from Mr. W. Taylor, Director of the London University Institute of Education. He first considered the theme of higher education expansion. While accepting that much of the reduction in expansion in Britain had been caused by a slackening in the growth of applications by school-leavers for university and polytechnic places, he took the view that it was the responsibility of the government to stimulate the demand.

He did not accept that higher education could do nothing to reduce social inequalities quoting among others from his own personal experience. Higher education — as all education — provided opportunities for young people from modest social backgrounds to better themselves and the lack of complete success in this respect was an argument for further expansion rather than for limiting the opportunities that are available. However higher education could make its contribution by becoming much more flexible.

Mr. Taylor in particular welcomed the opportunities offered by recurrent education. He recognized that much of the current discussion had a slightly unreal air about it. Many of the most ardent proponents of recurrent education did have a tendency to oversell it. But there was, in Mr. Taylor's view, something new and something worthwhile in the experiments in France and Sweden with paid educational leave for adults and in the attempts to make changes in higher education institutions that were as relevant for adults as they were for students who were undertaking them immediately after leaving school.

Present patterns and future developments

The discussion was introduced by Mr. E. H. Simpson, Deputy Under-Secretary responsible for higher education at the Department of Education and Science. Mr. Simpson explained the background of the government's White Paper *Education: A Framework for Expansion*,

published in December 1972. Not only did it set out an outline plan for the whole of education for the decade up to 1981 but also (unusual for a government document) it included a discussion of the purposes of higher education. Mr. Simpson recalled that when it was published little more than 15 months previously, the government's estimate of 750,000 full-time students in higher education had been criticized by many commentators as being much too low.

In the event the year 1973 had proved to be what Mr. Simpson described as "a planner's nightmare". The number of school-leavers qualifying for entry to higher education and applying for entry continued to rise much more slowly than previously. At the same time the birth rate, which governs the demand for teachers in primary schools, was falling more sharply than allowed for in previous demographic projections. This meant that even fewer teachers would be needed in the 1980s than had been anticipated in the White Paper. Finally, at the end of the year when building costs had soared, the government's public expenditure cuts arising out of the balance of payments crisis had resulted in the necessity for severe reductions in the capital expenditure programme.

However, the experience of 1973 did not invalidate the type of policy planning exercise that lay behind the December 1972 White Paper. Rather the reverse. The fact of publication of the White Paper had stimulated informed discussion of the issues involved. Officials would be more alert in future in monitoring trends in the key indicators and all those involved in higher education had a much better understanding of the factual basis of educational policy. Future planning could be more "open" than had often been the case in the past.

The value of planning exercises in stimulating informed discussion was also emphasized by Drs. G. H. B. Verberg when he recounted the history of the proposals on *the planning of higher education in the Netherlands* prepared by McKinsey & Co. Incorporated. These proposals for the reform of planning arrangements and the establishment of new planning machinery had been widely discussed and political changes had meant that they had not been implemented in their original form. However, a joint working group of government officials and university representatives had been set up to consider which of the McKinsey recommendations could be implemented whereas previously there had been virtually no joint consideration of the future of higher education. Drs. Verberg also felt that there was more widespread awareness of the resource limitations on further rapid expansion.

Participants from many of the countries represented at the Symposium echoed this concern with costs. There is clearly a feeling in many European countries that higher education is claiming too large a share of the national income, of public expenditure and of the education budget. Methods of reducing costs (without reducing quality) formed the core of the third major theme of the symposium.

A number of papers were presented on issues in higher education planning and policy in various other European countries. Professor J.-C. Eicher described French reforms since 1966, Mr. E. Ringborg the Swedish U 68 Report and Dr. H. Braun described the present situation with regard to the Gesamthochschulen or "comprehensive universities". That this is a somewhat sensitive issue in Germany and that all are not agreed about the desirability of such a development was shown by a lively debate between members of the German delegation about the merits of the Gesamthochschule.

This intra-delegation debate was, however, only a pale shadow of the often acrimonious debate between the participants from the host country on the merits of the binary policy. Mr. E. Robinson, Director of the Bradford College of Art and Technology, claimed that the non-university sector of post-compulsory education had been a very considerable success in recent years whereas the universities had not. He asserted that many of the ills of the universities were a result of specialisation based on single-subject departments with professors as head of departments. According to Mr. Robinson this means that career success for university teachers results from success in research and teaching in single disciplines rather than in dealing with problems of the "real" world. The work of an individual was judged according to whether it conformed to the rules of the discipline rather than on the

basis of its relevance. It is, he said, impossible for universities to escape from this trap. By contrast, in the non-university sector which has its roots in vocational and technical training, practical problems are at the centre of the picture and departments are organised around groups of related problems rather than on preconceived subject lines. Many participants could not accept this distinction between the roles of universities and the non-university sectors of further education. It was felt that new vocational degree courses were desirable in all sectors of tertiary education. It was also pointed out by some British participants that the binary distinction was an administrative one, based on the method by which institutions are financed. Mr. Robinson also drew attention to the fact that universities neglected the needs of mature students and ignored the claims of junior staff to be involved in course planning. Other British participants maintained that there was no substance in these complaints. Several participants did however take the view that intellectual leaders were always necessary and desirable. If professors did dominate their departments this was largely due to their intellectual preeminence rather than hierarchical authority. Professor H. Perkin, Lancaster University, took up some of these themes in his paper on *Adaptation to change by universities*. His case was that British universities have, since their inception in the late middle ages, been evolving and adapting. From the beginning universities have had a major interest in vocational training. He presented many examples of adaptation to change by universities: in general terms, from the beginning of the nineteenth century to the middle of the twentieth, and in considerably more detail from 1960 onwards. In the discussion of the paper it was generally agreed that all institutions of higher education should be so structured that innovation was not impeded. It was also pointed out, however, that change for its own sake was not always beneficial and that it was equally important that a situation should not arise in which any temporary problem was met by instituting some structural change.

Other points made in the discussion of present trends and future developments concerned the problems of "certification" or "credentialism" as it is coming to be called in the United States — and the general issue of employers' attitudes. In general it was felt that higher education's function of certifying competence was an important one and could not be simply abandoned because of occasional excesses.

The introduction of two-year courses of higher education — the proposed Diploma of Higher Education in Britain — was also discussed. It was generally agreed that this could succeed only if employers accepted it as a qualification that indicated something more than a General Certificate of Education 'A' level — or its equivalent in other countries. In this context it was pointed out that in general the public sector was much more demanding of formal educational qualifications than private employers. If the worst excesses of "credentialism" were to be avoided the public sector should make the main contribution in its recruitment policies. Similarly the success of innovations such as the Diploma of Higher Education would be determined largely by the criteria used by public sector employers in making appointments.

Mr. J. Embling introduced a discussion of the United States Carnegie Commission Reports and their implications for European higher education. He considered that there were six main themes that were of considerable relevance to Europe:

- Clarification of purposes of higher education;
- The preservation and enhancement of quality and diversity;
- The advancement of social justice, i. e. the equality of educational opportunity;
- Enhancement of constructive change;
- The achievement of more effective government;
- Assurances of resources and their more effective use.

Many participants proposed recurrent education as a solution to one or other of the problems currently besetting higher education and its relationship with the rest of society. A formal discussion of this issue was initiated by Professor H. A. Jones who was a member of the Russell Committee on Adult Education which reported in 1973. Professor Jones

emphasised that a great deal of recurrent education already went on in Britain under the auspices of both public and private agencies. However much remained to be done, in particular in the way of government financial support. Some coordination of efforts was also desirable. All participants at the symposium agreed about the importance of providing adequate educational opportunities for adults. Many felt that in the case of higher education this might be given preference over higher education for young people immediately after leaving school. It was suggested that this would have positive educational and social advantages: improving motivation through removing the automatic progression from school to higher education. Mention was made of the reforms in China, whereby work experience and recommendations of colleagues are important criteria in determining an individual's eligibility for higher education. However it was also the feeling of the Symposium that a great deal of thought needs to be given to the organisation of recurrent education. Its content must be defined in co-operation with all concerned – especially students and employers. The aim of adult education must be much broader than simply providing credentials for those who missed out the first time round. It was generally agreed that the right to paid educational leave was highly desirable, though the impression given was that the schemes at present in operation in France and elsewhere are too recent in origin to allow any sort of realistic evaluation.

There was some discussion of difficulties caused by what is often an arbitrary division of responsibilities for post-school training between Ministries of Education and Ministries of Labour.

The new media

Professor J. Black, pro-Vice Chancellor of the University of Bath, gave the keynote address under the title *The systems approach to educational technology*. He demonstrated how new educational technologies fitted into the total pattern of teaching and learning. In the first flush of enthusiasm in the 1960s audio-visual aids had been treated simply as audio-visual aids for the teacher and did little to facilitate learning by the student. One example was that simple closed circuit television of lectures offered no possibility of learner recall, which was one of the most important features of learning. Professor Black reminded his audience that the book was an extremely important audio-visual aid. Versatile, portable, individualized – any learning system in higher education must give an important place to books.

The main role of lectures in Professor Black's learning system is not to impart knowledge – that is much better done by books and recorded material – but to stimulate the desire by the student or increase his motivation to seek knowledge. In general the teacher should devote his efforts to personal tuition of various forms while routine learning is done through the medium of books and other recorded material.

Professor Black also emphasized the importance of rapid feedback to students in order to diagnose and correct errors. He contrasted the arrangement in which students had one examination at the end of the course with one in which essays were written and assessed each week. The latter procedure could identify which parts of a course students were finding difficult in time for remedial action to be taken.

Two papers were presented on educational technology units in conventional higher education institutions. Dr. M. Eraut spoke about his Unit at Sussex University and Mr. W. Chavner on a newly established educational technology centre at Leeds Polytechnic. Considerable interest was shown in the work of these Units and their modes of operation. It was recognised that use of new technology could not be imposed on academics: rather the Units must aim to work through academic staff: they should be available to fill perceived needs. Many of the mistakes in the past stemmed from the fact that a lot of academics thought that pre-packed packages were being imposed on them.

The most important function of an educational technology unit is to help practising teachers to identify and analyse their teaching problems. However, it was desirable that teachers should be helped to perceive their problems by means of training courses and seminars.

This was far more successful than having the all purpose educational technology "expert" pontificating to academic specialists or having senior staff dictating to junior staff about the best way of doing things. It was felt that there was scope for international co-operation in subject-orientated seminars on the use of new teaching technologies and that the Council of Europe might take a lead in this respect.

The discussion of training in the use of visual aids led on to a consideration of the training of teachers in higher education more generally. It was widely agreed that some form of training is desirable though few would make training compulsory. Indeed it was pointed out that we know very little about what constitutes a successful teacher in higher education. Some of the most successful teachers have broken nearly all the "rules" of good teaching.

The other main topic considered under the heading of new media was experience with "distance studies". Mr. G. Edge, M. P., formerly of the Open University, read the paper by Professor Gerald Fowler on the *Role of Open Universities in the Reform of Higher Education* and Mr. E. Heidt of the Deutsches Institut für Fernstudien, University of Tübingen, spoke of German experience. In determining the institutional pattern of open universities, Professor Fowler saw three alternative possibilities:

— an "open university" as a single *comprehensive* institution subsuming traditional as well as innovatory modes of study;

— an "open university" as an *alternative* to traditional institutions, for all student age-groups;

— an "open university" as a *compensatory* institution, catering for those who failed to take up or never had a chance of admission to traditional institutions.

Mr. Heidt reported on the efforts made to extend the present "Quadriga" radio colleges to other target groups, especially to undergraduates at conventional universities. At present it is mainly concerned with teacher training.

Several points arose in discussion. An interesting parallel emerged between the university teacher's need to do research to achieve promotion and the television producer's need to produce nice television programmes to achieve promotion which resulted in their reluctance just to transfer the classroom or seminar situation on to the screen. A pointer to making teachers more aware of the increasingly great need to consider costs in the future might be drawn from the Open University's practice of always involving teachers in costing their courses. The international transfer of British Open University courses was not easy, not because of language difficulties only but because of differences in curricula in different countries. A matter which arose frequently in discussion, of relevance not only for the new media, was the transfer of credits both within systems such as the university system, and within sections of higher education systems and between countries. There was agreement on the need for international action to transfer educational technology but different views were expressed on the best way of achieving this.

Planning and efficiency

The keynote address was given by Mr. C. F. Carter, Vice-Chancellor, University of Lancaster. The main burden of his argument was that higher education is a system with multiple objectives from which a balanced performance must be obtained. The problem of efficiency in higher education is a problem of harmonious interrelation of its operational sub-systems, in relation to the desired performance of the multiple, often conflicting, objectives. He examined the system of budgetary control in the British higher education system which was in effect the only system of control available to the Government.

In the discussion which followed, several people reported the difficulties in their countries in defining objectives and that they had eventually had to confine themselves to defining activities. This was agreed to be often the only way of proceeding but it must be remembered that it was only a second best one.

Mr. D. W. Verry, in introducing his paper on *Planning higher education at the sectoral level* with special reference to higher education costs in Britain, emphasised the dichotomy between sectoral and institutional planning. The main questions to be answered were what the higher education system is to produce; how this production should be organised and who should get the benefits. The econometric measures used by Mr. Verry to evaluate these various factors were criticised in discussion. Mr. Verry agreed with most of the criticisms. He claimed, however, that a start had to be made somewhere and that this was the way in which progress was made. Most participants agreed with him. Similar efforts to measure inputs and outputs of the educational system in France and Germany were mentioned and it was agreed that these had, if nothing else, the effect of making those in the system a bit more aware of the need for planning higher education.

Mr. A.C. Morris, formerly of the University of Sussex, spoke about *The context and process of planning in British universities.* In particular, he drew analogies between the university and the industrial firm. He considered that the fundamental difference between university management and industrial management lies in the need for the problems of the former to be solved with political rationality as a primary criterion and economic rationality as a secondary criterion. This was not a view with which Mr. Carter could concur. In his view, a university is not only a political system; nor is a firm only an economic system.

The final topic dealt with in the Symposium was the finance of higher education. This was based on a presentation by Mr. and Mrs. G. Polanyi on the economics of loan systems for financing higher education. Mr. and Mrs. Polanyi were of the opinion that where higher education is financed by loans it is more equitable and more efficient. Various arrangements can be made to avoid the possible problem of discouragement to children from poorer families. Borrowing conditions, whether from private sources or a state-sponsored plan, must include a long income-related repayment period. In the British context in any case a great extension of grants to young people to bridge the age group 16–18 would do far more to promote equity than the present grant system for students in higher education only.

Several participants showed considerable interest in loan schemes both on the basis of the paper presented and in the light of experience in Scandinavian countries which have had loan schemes in operation for many years.

Documents: CCC/ESR (74) 1; 2; 14; 15; 16; 21; 22; 23; 24; 26; 33; 34; 35; 36; 101; 102; 103; 104.

Strasbourg *20th–21st May 1974*

Strasbourg *30th–31st May 1974*

Level of academic attainment

(Working Parties)

In the framework of the Intensified Project on Equivalence of Qualifications, two meetings were held with the aim of reaching agreement on guidelines for the level of academic attainment in medical education and in pharmacy.

MEDICAL EDUCATION

Experts from ten member States and an observer from the World Health Organisation (WHO) attended the meeting and discussed the following questions: the role of medicine, basic medical education, assessment, the quality of the teaching given at upper secondary level, and regulations governing admission to medical studies. They also examined the possible creation of two bodies: The European Academic Advisory Council and the European Association of Medical Schools.

The experts noted that the attempt to define the academic level of attainment in medical studies was a difficult work since in medicine the practical and clinical ability could and should not be separated from academic attainment. The study systems and the conditions for the award of final qualifications are different in each country as is the role of the general practitioner. The profession of the general practitioner has now become a specialisation calling for a period of post-basic training. For all these reasons the experts decided to deal only very generally with the level of attainment in basic medical education.

The change in the role of medicine should be reflected and even anticipated by change in the content and balance of curriculum. The shift from emphasis on treatment to emphasis on prevention, the increasing psychological and social factors, the new role of biostatistics, the emphasis on rehabilitation activities, the psychological and physical effects of the use of technology, the trend towards team work and the need for continuing education should therefore be taken into account when defining course content and teaching methods. Methods of introducing change were also discussed. In some instances a change of emphasis could be achieved by deliberate appointments of staff. Otherwise evolution would be too slow.
There was general agreement that some subjects can be omitted from the course content thus making way for additional new material. In some non-European countries basic medical education takes up only 50 % of course time and students may graduate without any exposure at all to certain subjects in the traditional curriculum.

In one or two European countries it is possible but unusual for students to omit certain specialisations. The experts felt that apart from reasonable opportunities for optional studies and apart from the possibilities to branch out into science degrees, basic medical education in European medical schools should be the same for all students. In this context they recommended that one or two representatives of the European Society for General Practitioners should be invited to attend the next meeting so that they could give their opinion on the content of the courses. Any intern year or other practical work which is needed by all students and which is under the aegis of the university should be part of basic medical education. This year might be called pre-diploma internship.

In discussing assessment methods, the experts took note of the new system of national examinations in medical schools in the Federal Republic of Germany. These national examinations take place at given intervals during the study course, and consist of multiple choice tests.

The experts were of the opinion that if countries were seeking international compatibilities of the student level of attainment they should first of all be ready to introduce uniform medical examinations at national level. Though the multiple choice tests are, in general, a good method of assessing the student's knowledge either on a national or international level, skills and attitudes, on the other hand, can only be continuously assessed practical work by the universities.

It was recommended that experiments setting the same examination in different countries should be encouraged both as a step towards international compatibility and as a yardstick which would allow individual countries or universities to introduce innovations and at the same time monitor their success or failure. Such experiments might be carried out in a number of member countries where study courses in medicine are already similar.
Further questions in this field will be discussed at the next meeting.

PHARMACY

The meeting which was attended by experts from eleven member States and observers from the Pharmaceutical Society of Great Britain and from the Commission of the European Communities examined the following items: the role of the pharmacist, the content of curricula, teaching methods, examinations and admission procedures.

The experts agreed upon a definition of the role of the pharmacist, but felt that having regard to the academic freedom of universities, no attempt should be made to fix too detailed conditions for the mutual acceptability of qualifications.

Also, they made proposals concerning the general guidelines for the academic content of courses which should concentrate on three main elements within the pharmaceutical sciences: chemistry of drugs and natural products, pharmaceutical aspects of medicines, the action and uses of drugs and medicines. These elements should be properly represented and should be given the same emphasis in courses for an approved pharmacy degree. A further element, namely the instruction in the national pharmaceutical legislation should be added to the course content.

A summary of the criteria adopted for defining the level of academic attainment in Pharmacy is given below:

The role of the pharmacist

The role of the pharmacist is to act effectively as a specialist in all aspects of drugs and pharmaceutical products. It includes responsibility for the preparation, quality and distribution of drugs and pharmaceutical products.

The pharmacist should also contribute to and promote the health education of the population, safeguard the public health and be able to act as consultant to the physician and the public.

The content of curricula

The content of the curricula should allow scope for development to accord with the evolving situation of requirements in Pharmacy.

Students should acquire either before entering the faculty or school of pharmacy or as part of the course an adequate understanding of the basic scientific subjects:

— Mathematics and statistics;

— Physics;

— Chemistry (including general, inorganic, organic, physical and analytical chemistry and biochemistry);

— Biology (including elements of physiology, physiopathology, anatomy and cell-biology).

Upon these basic subjects are then built the curricula which cover specifically pharmaceutical subjects.

Specifically pharmaceutical subjects should include courses covering:

— *Chemistry of drugs and natural products* (including medicinal chemistry)

The structure and properties of chemical substances of natural and synthetic origin used in medicine, their relevant stereochemistry and biological activities; relevant physico-chemical aspects including chemical kinetics and thermodynamics; quality control by physical, chemical and biological techniques.

— *Pharmaceutical aspects of medicines*

Physical and physico-chemical properties of substances used in medicine and their application in the formulation and production of medicinal products; the influence of formulation on the biological availability of substances; the evaluation of products and pharmaceutical processes with particular reference to uniformity, quality and stability of products; the principles of sterilisation and of aseptic preparation of pharmaceutical and surgical products; the evaluation of sterilisation and aseptic procedures; immunological products; microbiological aspects of the contamination and preservation of pharmaceutical products; radiopharmaceuticals; the dispensing and storage of medicines.

— *The action and uses of drugs and medicines*

Human and mammalian physiology and biochemistry as a basis for the understanding of the pharmacology of drugs including experimental pharmacology and biological methods of measurement of activity; chemical, physical, biochemical and biological aspects of the action of drugs in man and animals; plant biology in relation to natural sources of drugs and medicines and in relation to pesticides; microbiology in relation to immunology, disease and chemotherapy; the presentation, uses and adverse reactions of drugs and medicines.

The diploma of pharmacists must be valid equally for analytical work in hospitals, industry and government laboratories. Theoretical and practical teaching should therefore include modern analytical methods; stability control (including reaction kinetics); analysis of materials in human or animal biological tissues and fluids.

Since in all countries the pharmacist has responsibility under the law the student should have instruction in pharmaceutical legislation (including an understanding of the organisation of the health service) of his own country and possibly of others. The instruction should be given against a background of awareness of professional responsibility, knowledge of ethics and understanding of the relationship with other professions and with the public. In this connection communication is of vital importance and there should be training in documentation.

Teaching methods

The tuition should include relevant practical courses to illuminate and explain the theoretical aspects of the subjects mentioned above and to inculcate a sense for precision in work and responsibility for its outcome.

Regulations governing admission to pharmaceutical studies

To maintain academic standards and efficiency in teaching and research the admission to pharmaceutical studies should be restricted to students having an adequate motivation and a proper understanding of the responsibilities which are involved in the implementation of their future work. The nature of the upper secondary school leaving certificate should be a criterion for admission.

Examinations

Foreign examiners should be given the opportunity to attend, as members of the examining board, oral, written or practical tests.

Standards of teachers

The quality of the teaching given at a school or faculty of Pharmacy can only be assessed by visits following the example offered by the United Kingdom where visits to schools of Pharmacy are part of the approved procedure of a degree for the purposes of registration. The experts agreed that the content of curricula, the duration of studies etc. cannot by themselves give the exact value of a degree. They suggested to set up a system of visits during which the syllabus and the examination system could be discussed with the head of the school, his staff and the students. An Advisory European Academic Council in Pharmacy might effectively serve this purpose.

Documents: CCC/ESR (73) 69; 93; CCC/ESR (74) 50; 53.

General and Technical Education

La Manga (Spain) *22nd–27th April 1974*

The problems of continuity and co-ordination between compulsory education and forms of upper secondary education
(Symposium)

Having dealt extensively in previous symposia with the problems of primary education and of upper secondary (16–19 age group) education, the Council of Europe has now turned its attention to the intermediate stage. The Symposium accordingly took up the problems of transition from compulsory schooling to upper secondary education. Since the raising of the school leaving age in most countries and the reforms undertaken in the field of education, these problems have some features common to all; as well as some features peculiar to particular countries. The Symposium endeavoured to analyse these problems.

The Symposium was organised by the Spanish Government under the auspices of the Council of Europe's Council for Cultural Co-operation, and was attended by delegates from twenty-one member States and several Spanish observers. It was opened by Mr D. J. Rodriguez-Martinez, Spanish Minister of Education, and the Chair was taken by Mr J. R. Masaguer Fernandez, Director General de Ordenación Educativa, Madrid. The discussions were based on the three following lectures: "The psycho-sociological problems arising upon entry into upper secondary education at the end of compulsory schooling" by Mrs M. Vestin, Stockholm; "Educational problems with reference to adaptability and innovation" by Mr M. Ibanez, Valencia; and "The restructuring of post-compulsory education" by Mr P. Vanbergen, Brussels.

The general rise in the standard of living and the far-reaching changes accompanying it have produced a greater demand for education and obliged the authorities to extend schooling. For the education of the 10/11 to 14/16 age group, all the European countries have adopted the objective of general development with observation and guidance phases. The next stage comprises phases in which decisions and choices have to be made. As the two stages have quite different objectives, problems of transition arise in mid-adolescence.

After an initial period lasting from about 1950 to 1968–70, during which all the reforms attempted to introduce new educational approaches to the extended period of compulsory schooling, similar difficulties have arisen in several countries, but with the emphasis on different aspects. Some are due to differing interpretations within the same country of aims such as the "democratisation" of education. Others are due to the existence of an educational infrastructure which can be changed only gradually. The retraining of teachers for the changed role required of them by new teaching methods is another source of difficulties. Lastly, industry and commerce, manufacturing and other services are not all subject to technological change of the same kind and at the same rate.

Lower secondary education is increasingly tending to put modern pedagogical ideas into practice. There is accordingly a trend in many countries towards an "egalitarian" phase of education. Upper secondary education is inevitably a period of "choice", with differentiated curricula. As a result there is a hiatus at the point of transition from the one to the other. This discontinuity would be better understood and its effects attenuated if sound co-ordination were established between the various partners in the process. This could be achieved by means of contacts between pupils, parents, the educational authorities and teachers in a particular region, vocational guidance counsellors and representatives of local government and business circles.

The problems of guidance and the more individual problem of counselling must be treated with great care in order to ease the transition from lower to upper secondary education. The aim must be primarily to help the pupil to overcome his difficulties at school and to choose

between the course options best suited to his motivation and/or ability. Guidance must be provided towards the end of the lower secondary course in order to show what are the characteristics and prospects of lines of study and what are the subsequent career openings. Throughout lower secondary education the teacher's role is very important. Towards the end of that stage he must be assisted by "outside" advisers familiar with the world of work outside the school.

During upper secondary education, these advisers may or should be there to facilitate changes of course and help with the final choice of studies. It is during this stage of education that these advisers could explain the various areas and levels of recurrent education.

In this way, co-ordinated guidance and counselling could provide a continuous advice system which would help ease the transition from compulsory schooling to upper secondary education.

The problems of guidance and counselling are inseparable from the problem of assessing adolescents' abilities so that they do not feel the advice they are given is an arbitrary constraint. The first aim must be to develop pupils' self-assessment.

In order that assessment and self-assessment of school performance and of pupils' real abilities shall not be grossly inaccurate, lower secondary education must no doubt be able to draw on a range of methods. Independent individual work is very probably good training for self-assessment. The interdisciplinary approach to the study of particular topics also provides a way of discovering the ability of groups or individuals, pupils or teachers, to co-ordinate their thoughts and put them together. In this context, it was emphasised that the composition of lower secondary school curricula is of paramount importance.

The composition of pupil groups is also important. Every way of forming groups – ability groups, mixed groups selected at random, mixed groups of the set type – has its advantages and disadvantages. These questions need to be considered in the light of the type of educational activity concerned and bearing in mind the objective of assessment.

These problems obviously raise the question of teacher training. Teachers need training both in their subject and in teaching techniques and the two must not be provided side by side but combined.

Lower and upper secondary teachers should have contact with each other and, in particular, should be kept informed about each other's activities. A part of their university training both in their own subject and in education should be common to them both or they should at least work together for periods. They must acquire all the various professional techniques which may be required in the educational process.

Documents: DECS/EGT (74) 16, 19, 23.

Florence *20th—25th May 1974*

Teaching innovations in school systems using new methods and media

(Symposium)

Delegates from nineteen member States and a number of Italian teachers present as observers attended this Symposium chaired by Mr E. Petrini, Centro Didattico Nazionale, Florence. The general rapporteur was Mr R. Lefranc, Director of the Audio-Visual Centre of the Ecole Normale Supérieure, St-Cloud. Lectures were given by Professor G. Campedelli (Florence), Professor A. O. Schorb (Munich), Mr H. Mertens (Antwerp), Mr M. Edmundson (Hertfordshire) and Mrs A.-M. Fris (Stockholm).

There was general agreement that the many prospects opened up by educational technology require concerted efforts to work out effective and realistic educational policies. The media should be in the forefront of any innovation. Audio-visual techniques can no longer be superficially grafted on to traditional teaching methods but entail a completely new approach to the teacher's role. The mere superimposition of audio-visual techniques must become a thing of the past.

The wide range of problems discussed at the Symposium included: strategies for innovation by means of educational technology; the implications of pedagogical innovations for the schools, for administrators and planners; and the technico-economic conditions for the introduction of innovations.

The various working parties came to the following conclusions:

As regards the purpose of innovation, a consensus was reached in all the groups, to form, as it were, a pedagogical orthodoxy. If it is accepted that the ultimate aim of education is evolution, not revolution, the essence of innovation must be an aptitude for change, a readiness to review constantly the educational system, which must always be adapted to the needs of the child in society. The ultimate aim is to teach children to learn and to develop. Genuine innovation is not possible without more active participation by pupils in the learning process, and without closer co-operation between the school and the outside world. The media have a central role to play in all innovation and must be integrated into the educational system in order to help ensure the development of the school and of constant, daily contact between the schools and the media ("parallel school").

Accordingly, it is essential for teachers to be familiar with the media. But the media are not synonymous with innovation. Some phases of education do not necessarily need to have recourse to the media, and some categories of pupils may be less receptive than others.

As regards strategies for innovation in education, the problem takes quite different forms in centralised and decentralised systems. However, these differences should not be exaggerated: even in decentralised systems, the initiative often comes from the central authorities; furthermore, in both systems the teachers increasingly have their say in the preparation of reforms and curricula and in the introduction of new methods. In all cases, ways must be found of stimulating and developing contacts between the schools and between the local, regional and, usually, national systems.

The member States should see to it that those responsible for administration and planning are kept informed and made aware of the need for building and equipment standards that are conducive to innovation.

The participants were sceptical about a strategy worked out at international level, although basic ideas and the results of innovations elsewhere could help in the framing of national plans.

It was recommended that innovation should be introduced in certain stages, including:

— a preliminary period during which teachers could familiarise themselves with the philosophy underlying the proposed changes;

— experiment in pilot schools;

— retraining of teachers involved in the extension phase;

— production of suitable media.

Dealing with questions concerning structures, the participants agreed that experimental establishments serving as prototypes for the introduction of innovations should be given special status, a flexible system of financial management and adaptable programmes. Internal school organisation and curricula should also be more flexible so as to meet the needs of each individual pupil. Teaching in different subjects or on a multidisciplinary or interdisciplinary basis should be given by means of teachers. Each school should have learning resources centres and specialised staff for the use of new methods and techniques.

The timetable should be kept under review and constantly adjusted by the teaching teams. Lastly, school design should be adapted to innovatory education.

A distinction was made between planners (responsible for determining objectives) and administrators (responsible for means). The latter must be kept adequately informed about the impact on schools and staff. Those carrying responsibility at all levels must be convinced. They should be made to feel that they are not isolated, but that they can count on the support of teachers' organisations, national and regional committees and congresses in promoting innovation. Administrators should make a special point of not stifling teachers' new ideas. Perhaps intermediaries are needed: in some cases inspectors acting as advisers, in others experienced teachers who have already proved themselves as innovators.

While agreeing on the need for changes in teachers' status, the working parties were not entirely in agreement as to the nature and extent of the changes required.

Admittedly, there should be a fundamental revision of working conditions, so as to cater for group teaching and independent work. The idea of hours of attendance should gradually replace the traditional notion of teaching hours. The idea of the teacher's duties should be reviewed and new salary arrangements introduced. Such reforms are only possible in consultation with the teachers' unions.

There was also agreement on the need to reconsider the role of the teacher as an animator and educator who has to work as part of a team of specialists and non-specialists, comprising documentalists, producers, technicians, etc., as well as teachers.

The in-service and recurrent training of teachers should comprise:

— instruction in the use of equipment;

— introduction to software design and production;

— introduction to software utilisation;

— objective assessment of teaching performance.

This means that in both initial and in-service teacher training, instructors must set an example by integrating the media in their teaching. Training colleges must themselves embrace the innovatory approach.

After retraining some teachers might be granted sabbatical leave, while others could complete their training by means of radio and/or TV broadcasts, periodical seminars, educational journals, etc., all these being systematically co-ordinated if possible.

The discussions also covered the need to produce teaching modules, as well as complete units, to form a common stock of material. However, multi-media material should be produced according to form and content requirements specified by boards made up of teachers and specialists in visual techniques. The material should be distributed by means of a flexible network comprising national (even international), regional and local elements, eventually leading to the individual school's learning resources centre.

The views of the participants on innovation and the introduction of new methods and media may be summed up as follows: gradual change with stability, dominant role of retrained teachers as opposed to techniques, flexibility of staff, methods, finance, buildings and techniques; evolution, not revolution.

The participants also made recommendations to the CCC, urging it to devise methods of facilitating the dissemination of information on outstanding educational innovations in the school systems of different countries. The CCC should promote and encourage systematic research into the specific benefits and weaknesses of innovatory programmes, so as to produce an assessment capable of being applied in other contexts. The proposal for a CCC grants scheme enabling teachers to undergo further training abroad should be pursued and, if possible, expanded.

As regards equipment, the CCC should arrange for the establishment and dissemination of a catalogue of approved types of audio-visual appliances and the main programmes produced in the various countries. It should further the elaboration of standard equipment models suitable for use in the different countries' school systems. It should also try to promote the establishment of a European catalogue of selected learning resources on particular subjects. Lastly, as regards production, the CCC should devise teaching modules.

Document: CCC/EGT (74) 25

Out of School Education

Stockholm *23rd–26th April 1974*

A European unit/credit system for modern language learning by adults

(Group of experts)

Since 1971 the main effort of the group of experts has been devoted to methods of determining needs and the thorough analysis of language learning objectives, which is of primary importance for educational planning in this field. When the specification of objectives is provisionally completed, attention will largely pass to the consideration of the resources to be placed at the disposal of adult learners.

The research and development programme for a European unit/credit system for modern language learning by adults envisages that "given the definition of coherent and articulated learning objectives, learning systems may be developed using the concepts and techniques of educational technology in order to make it possible for substantial numbers of adult learners to reach these objectives".

Prior to the meeting in Stockholm, members of the group and sub-group discussed at two different meetings the various aspects of the system.

The first of these, which was held in Strasbourg in January 1974, was a joint meeting of the group of experts responsible for the implementation of the modern language project and of experts in educational technology. It examined the work in progress with regard to the preparation of an inventory of language functions and notions for use in the definition of units and levels, and the definition of the threshold levels. The meeting also dealt with the contribution of multi-media teaching strategies to the implementation of the unit/credit system.

The second meeting, held in Strasbourg in March 1974, was devoted to the analysis of language needs, and in particular to the definition of ways and means to collect and analyse information on language needs of adults. In this context, it was decided that CILT (Centre for Information on Language Teaching and Research) should exercise a co-ordinating function with regard to information on research on modern languages and should prepare an inventory on use, demands and needs in this field.

The Stockholm meeting was a further step. It enabled members of the group to acquaint themselves directly with relevant Swedish work in this field and at the same time provided an opportunity to have a first exchange of views with leading producers of multi-media language courses for adults.

The meeting proved very valuable as an initiation of a working relationship with producers/organisers of multi-media language programmes. The findings of the group of experts were welcomed as a framework for planning multi-media language programmes with a view to possible co-development and co-production. Particular interest was shown in Dr. van Ek's specification of a general level of basic linguistic ability (threshold level).

In presenting the results of the work carried out so far concerning the unit/credit system, Professor J. L. M. Trim, Project Director, explained that the group was given the task of investigating the feasibility and planning the introduction of a multi-faceted, flexible learning system adapted to the individual needs and objectives of adult language learners. The group had approached this problem with the concept of systems theory derived from educational technology. It had tried to conceive a learner-centred and motivation-based system placing the operational definition of communicative objectives in the centre of its work.

The work of the group, Professor Trim reported, progressed on three fronts:

— Development of instruments and methods for ascertaining in real terms what adult language needs are.

— Establishment of language learning objectives. A detailed specification of learning objectives at the initial general competence level (threshold level) will be completed by the end of the year. The threshold level will represent a first testing bed for the unit/credit concept. Further specifications of different levels and different of specialisations were envisaged. The aim here was to devise a flexible system of options combinable in a number of ways in the light of diversified language needs;

— Survey of the resources which are available for adult language learning on a European scale, emphasis being put on the importance of a multi-media approach and fostering growth of co-operation towards common planning and pooling of efforts. One has only to think of the insufficient provision for adult language learning in Europe to the impact expected from full and co-ordinated use of muli-media educational technology, especially for a most challenging task: to break through to the mass of the educationally underprivileged.

The ensuing discussion centred on questions such as:

— What are the inherent advantages and limitations of the different media?

— What problems arise in the organisation of multi-media systems?

— How can the cost-effectiveness of multi-media systems be increased by international co-operation?

The question was raised whether the group of experts might develop into a language consultant service on a European level.

The group was also requested to clarify the notion of "credit" and consequently questions related to testing and recognition of achievement.

Several important points were raised by producers. The following four topics were considered to be important for future discussions:

- problems of adaptation and transfer;
- analysis criteria for language programmes in relation to curriculum analysis;
- nature and forms of co-development and co-production;
- pacing and loading of material.

It was also decided that informal contacts should be maintained with producers to raise and discuss common problems. This would prove very useful for the Colloquy which is scheduled to take place in 1975. Its general aim will be to establish principles and make recommendations concerning the organisation of multi-media language learning systems in relation to the educational, social and vocational needs of adult language learners in Europe. Some of the major topics to be discussed at the Colloquy would include:

With regard to the further elaboration of the system, the group of experts proposed the following lines of research to be undertaken as from 1974/75:

— application of the specification of the threshold level for English to other languages, e.g. French and Spanish;

— definition of the content of the common core above threshold level;

— specification of a specialised unit presupposing threshold level competence;

— problems of the role of evaluation and testing in relation to the overall scheme;

— definition of the language learning needs of migrant workers;

— investigation on the order of progression between threshold level objectives.

Documents: CCC/EES (73) 26; (74) 3; 10.

Strasbourg *13th-14th May 1974*

Adult education legislation in Europe

(Group of experts)

In the framework of permanent education, during the past few years there has been a growing trend in Europe in favour of legislation giving the State increased responsibility for the education of adults.

The Council of Europe, which has been studying this problem, requested the European Bureau of Adult Education (EBAE) to prepare a report on the adult education legislation in force in ten member States. At their meeting the experts examined this preliminary report, which collates the following data in different fields of adult education covered by legislation: objectives and tasks of education, structure and organisation, staff recruitement and training, finance and inspection.

Using as a basis the conclusions of the Conference on adult education legislation, organised by the EBAE at Oslo in December 1972, the participants sought to formulate guidelines for adult education legislation, and particularly:

— the adoption of the concept of permanent education as a guiding principle in the restructuring of educational systems, especially through recognition of the absolute right of all to avail themselves of every opportunity and means of continuing their education throughout life;

— the integration of vocational and non-vocational education in a system of continuous training for adults;

— the establishment of educational decision-making and programme-planning bodies at the lowest possible level, i.e., where requests are made and analysed.

The participants also indentified the fields requiring particular attention (educational leave, counselling services, new financing methods involving all those concerned, consultation and concerted action).

Proposals have been made for the presentation of the final report. As far as possible, classified data (summaries of existing legislation and description of present tendencies) should be tabulated in two columns, showing both the *aims* of permanent education and cultural development policy, as defined in the various legislative texts, and the *means* provided for their implementation.

The participants expressed the wish that this preliminary study should be followed by a more detailed one comprising the production of national monographs with a view to the preparation of a comparative study of legislation on adult education.

Documents: CCC/EES (73) 43;

Paris *27th-28th February 1974*

Communications policy

(Group of experts)

When the CCC decided to include an audio-visual communications project in its programme it defined as its purpose the gathering of information in a forward-looking spirit in order to help governments draw up their policies in this field.

Following a general exploratory phase, which culminated in the publication, under the aegis of the Council of Europe, of "L'Après-Télévision" by R. Wangermée and H. Lhoest (Hachette, Collection Hachette Littérature, 1973, 268 pp), it was felt desirable, in the interests of co-operation, to devote a second phase to cable television.

Study and research over the next two years will therefore cover three main areas: cable television, video-animation, and conventional radio and television broadcasting.

The aim is to give member States an opportunity to co-ordinate their studies and co-operate in this field. At its last meeting in autumn, the Committee for Out-of-School Education and Cultural Development therefore decided to seek the advice of a group of experts in different disciplines, whom it asked to submit proposals for concrete action.

Experts from eight member States have consequently met in Paris on 27th and 28th February 1974 under the chairmanship of Mr. R. Wangermée, Director General of Belgian Radio and Television. They endorsed the CCC's main objectives and made proposals designed to define in greater detail the activities pursued.

The conclusions of the meeting may be summarised as follows:

Information on techniques

The group acknowledged the value of a rapid, co-ordinated information system which would keep legislators and programme directors abreast of the latest technological advances. Too much information was nowadays kept in the hands of the initiated few. It ought to be circulated in popularised form and thus serve as a broad basis for reflection on applicational possibilities.

There are difficulties in the way of establishing such a system. For one thing, technology advanced very fast. For another, a good deal of information was the prized secret of commercial firms.

Nevertheless, several technical studies had already been undertaken by international organisations: the European Communities had embarked upon a detailed programme of research into cable television; ESRO (in conjunction with EBU) was working on satellites, and EBU on videograms.

The group considered that technical knowledge should be amplified by the systematic study of cultural applications of the new media. Two types of activity were proposed to the Council of Europe:

— Documentary surveys of current projects. This documentation would appear at regular intervals and consist mainly of summaries of studies carried out in Europe and North America.

— Publication of a list of the various possible solutions to the major problems of audio-visual technology. This publication would contain a description of the technical, financial, legal and cultural arrangements adopted by certain states, bodies or groups in order to launch new forms of television.

The objectives which new techniques are designed to achieve

In his work "L'Après-Télévision", the project director had suggested three basic alternatives. Some participants suggested adding a fourth, namely satisfying the needs of visual expression by the systematic teaching of vision handling techniques.

Cable television

Cable television is not developing very quickly in Europe. Experiments are planned in certain countries, but are getting under way only very gradually. Generally speaking, Europe has not progressed beyond the stage of preliminary studies. Frequently however these studies are carried out at a high level by national committees comprising representatives from a variety of backgrounds.

The group suggested that the CCC should assemble all the appropriate documentation straightaway in order to prepare an analysis of national reports emphasising the impact on culture of the installation of cable television.

Lightweight video

The technique of lightweight video is closely related and complementary to cable television. It can, however, be organised on an independent basis and pursue objectives in its own right.

The group considered that governments needed to be made aware of the importance of this technique. Funds should be made available to working parties to pursue all the possibilities open to audio-visual creativity and communication.

Further, the CCC should carry out two types of study:

— Studies on video-animation in informal groups by the method of audience participation.

— Studies on "semi-institutional" video-animation when videograph or videobus facilities for example are being established. (Belgium, France, the Netherlands are already conducting experiments in this field.)

Organisational models: Co-ordinating body

The relevant authorities in a number of countries have taken the initiative of establishing a national audio-visual advisory and supervisory body. This initiative meets the wishes of all concerned, since it would appear undesirable for the political authorities to decide on the organisation of new techniques without first widely consulting producers and users.

A central council for audio-visual media can act simultaneously as a body for collective decision-making, an appeal and control body, and an instigator of studies and discussions in all fields of communication.

The group was unanimous in emphasising the usefulness of a body of this kind. It expressed the hope that the Council of Europe would follow closely the preliminary results of the activities of those councils which had already been created, notably in France, Finland, Germany and Ireland.

Dismantling of monopolies

As far as the institutional organisation of radio and television is concerned, the legitimacy of state monopolies must now be questioned.

The fundamental justification for monopoly situations is shortage of Hertzian frequencies. Since new techniques make it possible to use a great many additional transmission channels, they open the way to new forms of organisation.

These new forms will have to respect certain basic principles, namely:

— The public service must be safeguarded. It is not tied up with the monopoly and can be maintained in any other form of organisation. Fundamentally, it means equality of access to the medium and managerial and functional plurality.

— Decentralisation of cable television.

— A distinction must be drawn between ownership of the technical medium and its socio-cultural management.

— There must be contractual arrangements: contracts between users and the public service, between owners and users, and between people involved in production.

The group proposed that the CCC should approach the practical study of the institutional aspects along two lines:

- Preparation of a preliminary report on the monopoly situation in European countries.
- Organisation of a colloquy on the institutional arrangements which might take the place of monopolies. This colloquy would be attended by lawyers, television executives and future users of the new techniques.

Formation of animateurs

If cable television and video are to function properly, "mediators" will be needed, trained in methods of cultural and educational animation.

Experience shows (in Canada, for example) that it is not enough to draw on students or out-of-work intellectuals to create participation in community television. Cultural animation is a specialised task with its own techniques. The relevant authorities must be aware of this aspect of audio-visual development and prepare the requisite training structures.

This question could be discussed at the Brussels Symposium in November 1974 on "The status and training of socio-cultural animateurs" but should be examined in future in close collaboration with communications experts.

Conventional techniques

A number of the functions assigned to cable television and radio could be assumed immediately by the conventional media.

Television should redefine its functions, and in particular become more outward-looking. The group emphasised the special importance of the search for new forms of participation affording direct dialogue with the public.

As for the *radio*, the group recommended that the CCC should commission a study on the future of sound radio. It would like special attention to be paid to the possibilities of developing community radio in Europe, along the lines already pursued in North America.

Effects of the economic crisis on audio-visual techniques

It is probably too soon to assess the effects of the economic recession on the development of new techniques. It would be wise to wait for at least a year before deciding on the desirability of a detailed study.

Documents: CCC/DC (74) 1; 7; 23.

Educational Documentation and Research

Strasbourg *15th–16th May 1974*

Committee for Educational Documentation and Information

THE EUDISED PROJECT ENTERS ITS EXPERIMENTAL PHASE

The preparatory stage of the EUDISED project (*European Documentation and Information System for Education*) has been completed with the publication of the format and the thesaurus, its two main instruments. The "EUDISED – Standards, Format, Character Representation 1973", published in both English and French by the Documentation Centre for Education in Europe, with a German version in preparation, contains the basic software elements of the system. They will be further developed by technical studies. The "EUDISED Multilingual Thesaurus for information processing in education" appeared in early 1974 in three separate, but concording language versions – English. French and German – published by Mouton (Paris and The Hague). The thesaurus is in two parts: it lists first some 2,600 descriptors by groups in the three languages, each language version beginning with the descriptors in the corresponding language and each descriptor being followed, where appropriate, by its narrower, broader and related terms. The second part contains the alphabetical list of descriptors in the language concerned. An abbreviated English/ Portuguese version of the thesaurus has been published on the initiative of the Brazilian Ministry of Education, and Spanish and Dutch versions are at present being prepared in co-operation between groups of national experts and Mr. J. Viet, Paris, the director of the thesaurus project.

With the completion of the preparatory stage the project has now entered its operational phase, on an experimental basis and in one of the main fields of education – research and development. This was the main result of the meeting of the Committee for Educational Documentation and Information on 15th and 16th May 1974 at Strasbourg in which delegations from 18 member States participated together with observers from UNESCO/ IBE and the Commission of the European Communities.

The Committee's Bureau had submitted a report on proposals for the experimental implementation of EUDISED. In its report the Bureau emphasised that the EUDISED instruments, the format and the thesaurus, could be applied to any field of education – to statistics as well as to legislation, to curriculum matters, to teaching aids and to research and development. Thus an interchange of information between all participating countries was in theory possible. But the following questions arose: were the national centres which collect and disseminate educational information at the national level, already prepared for computer based information exchange with foreign centres? And was educational experience as such transferable from one country to another, or, in other words, was educational information generated in one country relevant to a broader public in another country, apart from those who specialise in comparative education? Without these two elements – an advanced national infrastructure and developed international user needs – no European information exchange system would be viable. The Bureau therefore proposed to limit, for the time being, the experimental implementation of EUDISED to the field of educational research and development where the pre-conditions for an information exchange system already existed in a number of member States.

The Committee followed the Bureau's proposals and decided to carry out the following experiments in the field of educational research and development (EUDISED R & D):

— information on on-going educational research, exemplified by some 30 projects to be selected by each of five countries: France, Federal Republic of Germany, Netherlands, Sweden and the United Kingdom;

— information on completed educational research, exemplified by some 15 projects to be selected each by five countries: Belgium, Denmark, Netherlands, Norway and Switzerland;

— information on national pilot projects of educational reform, exemplified by some 10 projects from the Federal Republic of Germany in pre-school and primary education, France in secondary education, and Austria in the field of training of various categories of teachers.

Information on all these projects will be collected on the basis of contracts between the Council of Europe and the national research organisations concerned and will be systematised in accordance with the common work sheet to be prepared by Mr J. Viet, Paris, and Mr J. E. Linford, London. All projects will be indexed and/or abstracted with the EUDISED Thesaurus. Computer processing will be carried out by the British Library under contract with the Council of Europe. The computer printouts will be published in experimental EUDISED R & D bulletins. Where national organisations decide to prepare more detailed reports on individual projects, their reports will be appended to the bulletins.

Furthermore, the Committee decided to carry out case studies on national R & D information and communication systems in education. These case studies will describe the present systems, their achievements and deficiencies and outline the various trends of development. An analysis of the information needs which national systems should be able to meet was prepared by Dr. B. Gran, Malmö, and Professor S. Marklund, Stockholm. It will serve as a check-list for the preparation of the case studies which will be undertaken by Finland, France, Switzerland and the United Kingdom.

Finally, the Committee discussed the EUDISED work programme for 1975 and gave guidelines to the Bureau for its preparation. It will be centred on the study of bridging software for exchange of tapes between national centres and on the feasibility of the extension of EUDISED to non-book material suitable for use in education. It is intended, furthermore, to undertake an analysis of the cost-benefit aspects of EUDISED. Thus the Committee hopes to demonstrate to national and international decision-makers the potentialities of EUDISED as an information exchange system for education.

On completion of the experimental phase the EUDISED project should reach the stage at which it could become part of the education policies of member governments interested in the improvement of educational documentation and information and wishing to co-operate in this field with other countries under the technical assistance offered by one of the international organisations concerned.

Documents: DECS/Doc (74) 8; 12; 14.

Strasbourg *18th—19th June 1974*

Committee for Educational Research

NEW FORMS OF INTENSIFIED CO-OPERATION IN EDUCATIONAL RESEARCH AND DEVELOPMENT

Since its creation in 1968 the committee has been confronted with two major questions: how can the researcher fulfil his new roles both as an adviser to the decision-maker and as an agent of innovation in the classroom? These questions concern primarily national problems on which an international committee can only give advice and exchange experience, but they touch also on European problems in so far as convergent approaches to the main issues of national education policies have developed. Confronted with these questions the committee conceived its activities on the lines of a three-stage policy. In the

first instance it tried to improve information on educational research and development in Europe. This was done by carrying out the European Surveys of 1968 and 1970 which have been continued since then as national surveys by 15 member States, and by commissioning European Trend Reports on educational research in key areas. In a second stage the committee launched a series of educational research symposia on priority themes, to serve as discussion forums for researchers and administrators – five have been held so far, two more are presently in preparation – and a series of colloquies of directors of educational research organisations, which have been held every second year since 1971. The committee assumed that improved information and closer personal contacts would automatically promote a considerable amount of spontaneous co-ordination. Thus the committee hoped to prepare the ground for the third stage, in which new forms of intensified co-operation should be developed – as far as is both possible and necessary in the domain of educational research and development.

How should these new forms of intensified co-operation be conceived? This was the main question at the annual meeting of the committee which was chaired by Professor S. Marklund, Stockholm, and which delegations from nineteen states attended together with the authors of studies and reports commissioned. A Working Party set up by the committee in 1973, had outlined in its report the issues of such co-operation and had proposed two main activities on which the future work programme of the committee should be centred.

The first of these activities, the report suggested, should be concerned with establishing a system of continuous contacts between the various national pilot projects of educational reform in member States. As a rule these projects are financed by member governments with considerable means. However, the pilot projects are carried out, as experience has proved, in national isolation. It would therefore be in the interests of member governments that the researchers involved, from different member States, in pilot projects in one and the same field should regularly meet to discuss their hypotheses, methods and results and to draw conclusions, as far as appropriate, for research and for policy in their fields. Such co-operation could take the form of "European Contact Workshops". The workshops would comprise some 15–20 researchers, would last four or five days and all papers would thereafter be published by the Council of Europe, – the background papers, the lectures, the reports by the discussion groups and the conclusions reached. Thus the fruits grown on national ground which are almost inaccessible to foreigners would become available to all concerned in a common European market.

The second group of activities should be centred on the European Trend Reports and their follow-up. The report by the Working Party emphasised the importance of the trend reports: any information system which does not want to become self-defeating by adding to the already existing overinformation, must comprise, in addition to information on selected individual projects, a series of reports on the state of the art in the main fields. Such trend reports would in re-drawing the ever changing map of knowledge and ignorance, also generate proposals for combining future efforts on priority issues of research, and even in some cases, recommendations for common action in those fields where the data are unambiguous and the values uncontested. The proposals for further research and the recommendations for common action would as a rule lead to "European Co-operative Studies" by researchers from different member States.

The Committee, after having discussed the report in great detail, accepted the new work programme in principle. It emphasised that the European Contact Workshops could only be organised on the basis of national pilot projects selected by member governments for this purpose, and that the researchers preparing and participating in the workshops must be nominated by member governments. The committee invited member governments to indicate by the end of the year the pilot projects for which workshops should be arranged in 1975 and 1976. It instructed the Secretariat to see to it that the other Council of Europe committees which might be interested in the themes concerned were kept informed so that they could be represented at the workshops if they so wished. It requested its bureau to submit to its next annual meeting proposals on the workshops to be held. As for the commissioning of further trend reports and the European Co-operative Studies, the

committee decided to wait for the publication of the reports at present in preparation and to shape its future policy in this field according to the experience gained with the first series of trend reports.

Another main item on the committee's agenda was the publication in English of the report of its working party on The Training and Career Structures of Educational Researchers (Documentation Centre for Education in Europe, 94 pages; French version in preparation). The report is based on conclusions and recommendations which were finalised by the working party after a preliminary version had been submitted for comments to some 60 researchers in member states. It contains furthermore a general survey of the problem area by Professor K. Härnqvist, Gothenburg University, the Chairman of the working party; a study on the introduction of educational research into the training of teachers by Professor G. de Landsheere, Liège University; proposals for European co-operation in the training of educational researchers by Dr. W. B. Dockrell, Director, Scottish Council for Research in Education, and a synopsis of the comments received from other researchers. The committee discussed main issues of the report and asked its members representing the education ministries or their equivalents to distribute it in their countries to all concerned, in particular in the universities and colleges. The committee also recommended that the conclusions and recommendations be translated into the national language where necessary. The committee was of the opinion that this matter might need to be taken up again in the years to come to review any new developments.

Finally the committee approved the two workshops to be held in 1974: the workshop to be chaired by Professor K.-G. Stukát, Gothenburg University, on evaluation variables for pre-school experiments (Paris, September), and the workshop to be chaired by Professor W. de Coster, Ghent University, on compensatory education for socio-economically disadvantaged children in pre-school and primary education (Strasbourg, October). The committee also agreed to hold the third colloquy of directors of educational research organisations in Sweden in 1975 under the chairmanship of Professor S. Marklund and to centre it on oral reports by the authors of the six trend reports so far commissioned.

Professor G. de Landsheere was unanimously elected chairman for the 1975—76 period.

Documents: DECS/Rech (74) 20; 25.

Second Part

EDUCATIONAL RESEARCH AND DEVELOPMENT

THE SECOND COLLOQUIUM OF DIRECTORS OF EDUCATIONAL RESEARCH ORGANISATIONS

Paris, 7th-9th November 1973

The second colloquium of directors of educational research organisations was held in Paris on 7th-9th November 1973. Like the first colloquium in London in 1971, it brought together some forty directors of educational research organisations. Discussion was centred on two main themes: the role of the researcher as an adviser to the educational policy maker, and the role of the researcher as an agent of innovation in the classroom.

We publish below the opening address of Mr. L. Géminard, representative of the Inspectorate at the Ministry of Education, Paris, the lectures given by Professor J. S. Bruner, Professor H. Becker, Mr. R. A. Becher and Professor S. Marklund, and the summing up by Mr. L. Legrand.

Introductory address

by L. GEMINARD,
Permanent Representative of the State Education General Inspectorate, Ministry of Education, Paris

It is a great honour and pleasure to me to welcome you and wish you a pleasant and fruitful stay in Paris, on behalf of the Minister for Education and the Secretary of State, and to assure you of the great importance and value which the French education authorities attach to your work.

The subject you have chosen to discuss, that of the relationship between educational research and the choices which have to be made in defining an educational policy which can develop effectively within the teacher-pupil-knowledge relationship, will undoubtedly be a major issue in the years to come.
It is a commonplace to say that a society gets the education system it deserves. Where there is a broad social consensus on the values which lend significance to individual activities and to the activities of various classes, it appears obvious that society will adopt an education system implicitly designed to perpetuate that same society, while at the same time providing an education for its children, developing skills and furthering knowledge.

In a such a situation, once the institutions which have been set up become generally accepted, educational research then seeks ways of improving educational processes within the system, without questioning its objectives. The development of research tends to be shaped by the methodological constraints inherent in attempts to extend specialised knowledge in order to discover laws or constants. This being so, it is natural that educational research become identified with relevant work in the various fields of psychology, and sometimes of sociology and economics. At the same time, research is conducted into teaching methods in various disciplines.

But in times of transition, and still more in times of radical change, the traditional code of values disintegrates, so that it sometimes appears as if society is breaking down into enemy or rival social factions, whilst economic imperatives are openly asserted and often prove contradictory. At the same time, labour market forecasts can only be short-term ones, whereas any educational forecast must cover the medium and long-term. Finally, changing life styles and the new skills required for various occupations further complicate a trend which, as far as education is concerned, seems to be characterised by wide divergencies, both in respect of social needs and as regards family aspirations and the attitudes of the various parties involved.

At this point the authorities have to face the problem of the aims of education. These aims are always a matter of political, human and moral direction. They represent the choice of "a desirable future from among all possible futures". Primarily, therefore, they are educational policy objectives and consequently to some extent imply a certain ethical view. The latter implication may be rejected by those who nowadays maintain that values derive from action and action alone. But over and above this philosophy of "immediacy", social and political leaders must assert the conditions for life in society, which in some respects resemble the fundamental nature of the perpetuation of life, which is always the negation of the law of growing entropy. For political leaders, change and destruction are not the same and not necessarily even related.

Can research help the authorities? If so, how and in what fields? What kind of research do we mean?

Once educational policy objectives are determined, they can only be achieved through a series of operational objectives which remain to be defined. The experience of the last 20 years or so suggests that no change in the aims (or general objectives of educational policy) can be achieved except by simultaneous action at three levels: the structures of the education system, the educational processes (curricula, methods and equipment) within these structures, and the professional skills and teachers' attitudes.

This being so, operational objectives and plans for achieving them must be determined through systematic studies — applied research designed to elucidate the complex phenomena which influence change and to indicate what action should be taken.

The problem then arises of research applied to the choice of innovations, at the level of implementation, development and assessment of the results obtained. The determination and pursuit of operational objectives depend on the solution to this problem. It comprises various aspects, the most important being:

— relations between the educational sub-system and the various trends and forces at work in the social system;

— communication, and in more general terms, the information flow to be established between applied research and the central and regional authorities;

— information and working and research relations between teachers and research institutes;

— the problem of time, that is the length of an experiment in relation to intervals between decisions;

— finally, as regards the research itself, the attempt to take into account a general phenomenon, involving a large number of variables of different types, without abandoning scientific methods.

We are now facing all these difficult problems. The answers to them will undoubtedly have a tremendous influence on future developments and the means for their control.

In such a delicate matter, where ideologies are always present, where emotions are very much involved, where sometimes the teacher feels that a particular change represents a challege to his whole personality, great lucidity is surely required. We must also be receptive to new ideas. We must be open-minded, otherwise research may atrophy. But also, together with the necessary firmness and constancy, we need that generosity of heart and mind which will lead us to a fuller understanding of the reactions of the teachers and children involved in this as yet dimly understood adventure — the physical, intellectual, moral and emotional education of man.

Who could be better placed than you and your collaborators to combine these qualities and in uniting them, to transcend differences of languages and organisation?

The role of the researcher as an adviser to the educational policy maker

by J. S. BRUNER,
Watts Professor of Psychology, University of Oxford

At first glance, the topic we have been set appears to be principally technical, indeed rather politically and socially innocent. But this impression is based, I think, on an incorrect interpretation of the role of expertise, one that traces its origin to that patron saint of technocrats, Saint-Simon. For him, as for his contemporary followers, the role of the expert was that of a neutral party who, in the light of reason, advised as to the best course to be followed in achieving the implicit objectives of the State. The political process, by this dispensation, was regarded as something of a nuisance. The important thing was to get on with the rational organisation of the enterprise. "Imagine", said Saint-Simon, "that the nation loses Monsieur, the king's brother ... all its princes, cardinals, bishops, judges and. in addition, the ten thousand richest property owners among those who consume but produce nothing? What would be the result? This loss would be felt by the French only on the emotional plane, for no political harm to the State would result." But if France lost its "three thousand leading scientists, artists and artisans, it would become a body without soul ... and it would need a whole generation to repair the damage."

But the world has changed, not only politically, but even with respect to our understanding of the physical universe in which we live. One rightly wonders whether the Saint-Simonian expert provides a proper model. As Robert Oppenheimer put it:

"In a important sense this world of ours is a new world, in which the unit of knowledge, the nature of human communities, the order of society, the order of ideas, the very notions of society and culture have changed and will not return to what they have been in the past. What is new is new not because it has never been there before, but because it has changed in quality. One thing that is new is the prevalence of newness, the changing scale and scope of change itself, so that the world alters as we walk in it, so that the years of man's life measure not some small growth or rearrangement or moderation of what he learned in childhood, but a great upheaval. What is new is that in one generation our knowledge of the natural world engulfs, upsets, and complements all knowledge of the natural world before."

One is reminded of the dictum of Lord Keynes. He noted that once an economy can be brought back into equilibrium, the laws of classical economics will generally apply. But the deep question is whether economies can ever be brought back into equilibrium. So George Kelly distinguishes two types of expertise, reflecting the distinction made by Keynes. One of them is *microexpertise* in which one derives the advice one gives from a body of theory about known situations, about "classical conditions". But the contrast is *macroexpertise.*

"Macroexpertise", he notes, "is a constellation of particular types of advice given to the secular authority to meet situations of crisis without any implication that its application shall become universal. It will perhaps not endure into calmer times nor be relevant to the next crisis." Under crisis conditions, then, the expert is less a neutral adviser than an historical actor involved in guiding the ship of state much as a pilot might guide a real ship in a storm through dangerous and uncharted waters, decidedly non-classic conditions. The expert's hold on power slackens only as the crisis recedes, though that power is in principle at all times politically revocable, however much the expert may covet power for himself and devise ways for increasing his hold on it. Yet, it always remains a moot question, given the expert's role in such crisis management, whether he is or will remain an historical actor or, rather, whether he is there merely to help arrange the props on the stage of history, perhaps to help the actors through their lines from the prompt box.

You will be quite correct if you infer from my introduction that I believe the field of education to be in a state of crisis, crisis in the deepest sense, reflecting changes much as those expressed in the dark words of Robert Oppenheimer. Under these patently non-classic conditions, it is quite plain that educational innovation will not and cannot come from the efforts of the educational researcher operating solely within the constraints of classically defined educational objectives. The researcher's advice, where educational innovation is concerned, must take into account that the nature of the crisis, the new demands and pressures that shape our educational system, forces us far beyond those that are

classically considered to influence the "effectiveness" of schools. The new forces reflect at least four unpredictable areas of change:

— skill requirements in the maintenance of a labour force for the future;

— changing conceptions of class structure and mobility;

— changing presuppositions about the perfectibility of men, our implicit theory of human growth and development;

— transformations in our implicit notions about the ways in which rare resources should be allocated.

Efforts to reform the educational system, to introduce innovation, most often fail or become diluted because they fail to take full account of these radically changed conditions and how they affect educational decisions. I believe that these changes have produced a highly unstable state, one that requires the educational researcher to become an historical actor rather than merely a neutral adviser. Before developing this point, let me first run briefly over the four destabilising factors mentioned, better to assess them.

With respect to the requirements of the labour force of the future there are several obvious, if "non-classic", conditions to be noted. The first, of course, is acceleration in the technological revolution that places major emphasis on control and information in a highly automated production network. It is not simply that new modes of production and distribution require a more highly skilled and technically fluent work force. Such a work force could easily be produced by slight modifications in our systems of education. Rather, the result of the shift to capital intensive economies is that wealth is produced in a new way without a corresponding redefinition of human work. The confusion is deep. A high official in the Nigerian Federal Government told me that the effect on his country of the new highly automated petrochemical industry in Nigeria would be nil, since it would require so few workers that Nigerian education would have no problem. But what happens to conceptions of work in Nigeria when capital intensification transforms a few of its industries, while the rest of the economy staggers along in its traditional labour intensive way?

In Europe, increases in capital intensification has already produced the image of the bimodal work force, with increasing technical skill at one end for a few, and dull almost unskilled work at the other, often carried out by acquiescent "guest workers", with all that implies in social problems. It is an image, and because it fails to comprise the "service" enterprises, a very faulty one. But it is an image that is having a powerful effect, particularly on the young, who see work as either a rat race or as deadly dull. Because of this view of work, there is increasing resistance to participating in a system that is seen as humanly destroying. The capital intensive economies we are constructing, rather than being seen as freeing man's energies for new enterprises, are seen as a source of degradation. And perhaps that is what they are — until such a time as we can face the consequences more directly. We cannot expect the young to go about the process of education with anything less than rebelliousness and dissatisfaction, if they cannot have a fuller sense of what it is they are preparing for. No surprise that students at Glasgow elect Jimmy Reid their chancellor for voicing the sentiment that "The rat race is for rats, not for men".

Our failure to reflect the changing requirements of work in our schooling is a result neither of callousness nor of stupidity. It comes rather from the fragmented pattern of planning that too sharply separates educational planning from social and economic planning and, most importantly, from social and economic debate.

With respect to issues of social class, I think again there have been some major changes that have shaken our conception of the school as a major instrument of mobility and opportunity. I think it is now plain that schools by themselves cannot be a major instrument of egalitarianism. They are effective only when opportunities for mobility are present in the social and economic fabric of the country in which they exist. Critics like Bernstein and Illich and Coleman have documented the fact that schools and their dominant teaching methods, strongly middle-class orientated, often end up by creating or deepening the felt powerlessness of the working class child, the immigrant, the underprivileged. Schools, as the saying goes, are part of the problem of social class, not the solution. When social class is combined with ethnic prejudices the problem is compounded. It is a problem that cannot be solved at the educational level; if it can be solved at all, it will have to be at a more embracing social, political, economic level.

The third point relates to a culture's presuppositions about perfectibility, its implicit theory of growth and development. We have all noted with dismay the emergence of a new and covert hereditarianism, based on presumed genetic differences in intelligence

and educability between races and between social classes, most often supported by highly controversial interpretations of statistical correlations presented by Jensen, Herrnstein, Eysenck, and others. This is not the occasion for re-examining the evidence, nor do I wish to urge that there are no genetic components in intelligence. It suffices to note that only a few years ago two distinguished geneticists, W. F. Bodmer and L. L. Cavalli-Sforza, in assessing the evidence of genetic and environmental influences on race-IQ differences, came to the not very startling conclusion that current techniques and data could not resolve the question.

But the issue goes deeper than that. Whatever the sources are that produce IQ differences, what educational action flows from the knowledge of their existence? This has yet to be debated openly, either in educational circles or in the general community. After all, Jencks has recently reported that there are many factors involved in the determination of economic and social success in our society and measured IQ is only a small part of the story. In the crowded conditions of the contemporary world, the persistence of hereditarianism has a powerful and explosive potential as never before. Until we bring these issues into the open, they will constrain and distort efforts to change and refresh educational policy. One need only take the example of Head Start in America, killed before ever it had a chance to become stabilised, with a hereditarian bias shaping the denunciation of the critics.

Finally, there is the allocation of rare resources in our societies. Education is costly. There are other demands on our national treasuries by way of social services, national security, etc. So goes the classical argument. But are we now operating under classic conditions? I believe again that there is a profound change stirring, one that questions the very idea of education as exclusively a "launching" exercise.

There are many voices questioning whether education of the young should be separated from the task of aiding human beings through all the critical periods of the life cycle, before and after school. Is education a launching, or might it be a support system from cradle to rocking-chair? What are we to make of the emergence of "further education" and educational television?

The questions we have examined are beyond the competence of conventional educational research, whose principal task is to evaluate practices as they exist. It has little or no hand in the planning function, and even if it did, it would be too narrowly conceived to deal with the crisis that faces us. What I would propose, rather, is the creation of a new type of educational research, research that seeks not evaluation of present practice, but rather the formulation of alternative plans for dealing with our deeper problems. Such an effort must involve the collaboration of the educational researcher with the psychologist, the anthropologist, the sociologist, the economist and the politician. This is the range of experts I see being joined together in a task force involved in the planning of alternatives. Such an effort is required if we are to put our educational problems into the perspective they require for manageable solution. But even at that, I would urge that the task force not be viewed in Saint-Simonian terms — for its function goes beyond that, a matter to which we will turn later.

Let it be clear that what faces our task force is a series of structured contradictions. These are contradictions inherent in the aims of education, for there are at least three objectives in any democratic educational system that, in the nature of things, are inherently at odds with each other. They are the following:

— education as a means of providing skills and knowledge useful for servicing the society and its economy;

— education as a means of assuring equal opportunity to its citizens;

— education as a means of assuring self-realisation and fullness in life.

Consider these in ensemble.

A corollary of our increasing technological mode of production is that skill to be useful must be general. The same rule holds for the acquisition of skill in a world where change is rapid, and where the only guarantee that skill will not be obsolete is to assure that it will be general. That is to say, it must consist of a set of component skills or subroutines that can be recombined in a fashion to be appropriate to a wide variety of tasks, many unforeseeable. This is as true in the distribution industries or in social service pursuits as it is in the technical fields of production. Neither the social worker nor the engineer can be adequately trained during a period of change either by reference to old routines or standardised requirements. We have moved toward an era which places greater emphasis upon the generalist, whatever his occupational affiliation, and less upon the craftsman. This is a truism, but its implications for education and its planning are enormous.

What characterises the training of general skills? First, they depend upon linkage of the human operator with powerful techniques for amplifying his powers. Typical is the use of mathematics, a means whereby thinking about order is made much more powerful by the use of culturally transmitted languages for describing and analysing order. But the same holds for disciplines dealing with the social world. One trains a more effective manager by assuring mastery of powerful ideas in economics and the management sciences. Secondly, general skills depend upon an attitude, a point of view, a willingness to try out abstractions. The cultivation of the "abstract attitude" begins early in life and is furthered enormously by the typical regimen of middle-class homes. Work by Hess and Shipman, and by Schoggen and Schoggen indicates that right from the start, in the form of questions asked at home, in the form of how tasks are set, the middle-class child has much more opportunity for and encouragement in abstract thinking than his working-class brother. Early on, the gap begins to open between the middle-class child and the child not favoured by a supporting environment at home.

Make no mistake about it. What this implies inexorably is that early opportunity will constrain later opportunity. The hidden curriculum of the middle-class home, with its covert training in and rewards for abstraction and decontextualised problem solving almost assures that the potentially able child with the "wrong" background will not find equal opportunity in our present school systems.

It will be a formidable task for our task force to find ways of broadening the base of early ability in a manner to assure recruitment of skillful leaders from all social backgrounds through schooling. If they cannot, then we shall have to learn to live with an explosive contradiction in our midst. So too in reconciling the narrow aims of "getting ahead" with the broader ones, of "finding" oneself, cultivating oneself, and so on. These are the contradictions to which I alluded. How best to proceed? How shall our task force work?

Decisions about educational objectives (as other objectives of the society) have usually been made by separate organs of the society, usually without reference to overall social aims or overall impact. As Jacques Ellul has noted, each profession has its own aims and seeks to emerge with a technical solution to its problems that is *the* best solution for *that* kind of problem. I believe this approach only deepens the contradictions within our educational enterprise and makes the manageable solutions more difficult to achieve. Can our task force overcome this danger?

Can such task forces succeed as "professionals", advising the State in the sense of Saint-Simon? I do not believe so. I think, rather, that the task force, whether at the level of the local community, at the level of the nation state, or even at the Council of Europe must "go public", must do something akin to "consciousness raising". By "consciousness raising", a term I borrow from Women's Lib, I mean enlivening the public sense of alternatives, stirring the debate, bringing issues into the open. It is in this sense that the educational researcher via the educational research task force, acts not as an "expert" in the narrow sense, but as an actor on the historical stage. It is only *after* such debate that we can move toward the compromises and the reformulations that are required.

The failure of educational research to innovate has been precisely by virtue of the absence of such public debate, for educational research operates poorly "from the inside", has no leverage in the way that the development by medical researchers of penicillin, say, could alter the practice of medicine from the inside.

A few examples of recent failures make the case clearer. Take the curriculum reform movement in America. Its success was marginal despite the unprecedented work of distinguished scholars and teachers in preparing new and often brilliant teaching materials, as well as new approaches to teacher education. Its modest impact stems principally, I think, from the fact that its underlying assumptions were never aired publicly. The assumptions were too narrow. They related only to such matters as the capacity of the young to understand theoretical issues in far more depth than was supposed, that human beings could be given a far better grasp of their world than was previously believed, etc. But many of these curriculum efforts soon became trivialised. Their broader implications were never publicly developed, never related to the debates by which a culture comes to decisions about the deployment of its resources. If at all, the issue was presented as if it were a matter of catching up with the Russians in scientific know-how in order to close a knowledge gap. There is nothing so dead as a closed gap.

I am sure, to take another contemporary example, that the importance of early childhood as a forming ground for basic skills and attitudes will not be discussed until they tap concerns within the culture beyond those ordinarily reached by discussions of education. Nursery education is not the issue. What is at stake is the idea of the family, the extent to which child rearing is a private option exclusively, etc.

It is for these reasons that much of the impact on education in the last decades has come from outside, from social critics like Basil Bernstein who accuse formal education and the schools of creating an exploitable working class, or writers like Ivan Illich, who have proposed the radical alternatives of deschooling, A. S. Neill, whose writings strike at the crisis of authority in conventional school practice.

It will be a tragedy if educational enquiry continues to be divided between those who operate from within with well designed research dictated by our present educational presuppositions and those, on the other hand, who are critics on the outside working intuitively on central issues beyond the school, but crucial to it. Perhaps the educational research task force can bring them together, can bring before the community for scrutiny the powerful factors that shape our decisions about schooling — economic, social, political, cultural, as well as the technical requirements of education itself.

One last note. Some will say that to open such debate, such controversy over basic issues will only serve to divide the community and make education a political football. I would wish to argue the contrary. Our constituency as educators is each new generation. It is each new generation, each time, that would most take heart from such debate. I am not proposing that the debate be handed over to the young, for that would surely defeat the purpose. It would surely serve the public interest if, to take a grim analogy, we refreshed our educational practices to meet new conditions at least as intelligently as we changed our concepts of national defence to meet the new realities of our changing world.

The role of the researcher as an agent of educational innovation

by Professor H. Becker,
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I. POINT OF DEPARTURE

Research can produce innovation in different ways. In the past it often happened through the direct linking of research with practice. But the accelerating change in modern society has thrust education policy to the forefront of innovation strategies. So I would like to look at the relationship between research and innovation primarily by considering the question of research and politics.

In the 1964 election campaign in the Federal Republic, the Social Democratic opposition party claimed that it was advised by 36 professors, and these professors were all mentioned by name. The federal government, led at that time by a Christian Democratic majority, responded with the even more astounding claim that it was advised by 471 professors. No one bothered to mention, of course, that some of these professorial advisers served both parties.

Apart from the dubious proposition that 471 professors are better than 36, what is striking about this story is the surrender of the politicians to the experts — in the campaign propaganda at any rate. The relationship between research and politics and between theory and practice has clearly undergone a fundamental change. Max Weber propagated the belief that political decisions are the responsibility of the politician alone. The persistence of this view in Germany is evident in the fact that the scholar, in theory at least, is still allowed only an advisory capacity in government. In government ministries today, contact between academics and politicians in innumerable advisory committees is still governed by this principle. In 1963, for example, a law was introduced in which it was laid down that the members of the Advisory Committee on Economic Development were merely to present analyses and point out economic trends that could be dangerous and that should be avoided, but these same experts were not allowed to recommend any specific economic measures. The legislators were afraid of the experts' power to influence politics. Of course analytical reports can be couched in such a way as to imply political decisions. At all events it is clear that such counselling is no longer of the sort advocated by Weber.

We have two main planning bodies in Germany in the field of education and research: The National Council of Science (Wissenschaftsrat) and the Education Council (Bildungsrat). Both are concerned with the problem of how to combine expert knowledge and policy making. Both operate with two chambers — one a chamber of experts, the other a chamber of policy makers and administrators. In the Wissenschaftsrat both chambers vote together and decisions require a $^2/_3$ majority. In the Bildungsrat the experts vote alone but have to listen to the policy-makers before they publish their recommendations. After listening and reflecting, they are free to make recommendations as they like. As a result of these two different constitutions the recommendations on university affairs and research policy tend to lack fantasy, in fact to conform with government policy, and are generally implemented very quickly. The Bildungsrat recommendations have a higher degree of conceptualisation, call for more change, but are generally modified — to a greater or lesser degree — before being implemented. A current issue in Germany is whether the Wissenschaftsrat should be remodelled on the lines of the Bildungsrat — or vice versa. Counselling is clearly of use only if it is genuinely independent, but if it is genuinely independent it may well be uncomfortable or inconvenient. So the political parties continually shift in their attitude towards it. The Bildungsrat is its own master in deciding on which topics to make recommendations. So far it has produced reports on terminal examinations in secondary education, on comprehensive school experiments, on vocational training, on the structure of the country's education system, on special schools for the mentally handicapped, and a variety of other subjects. It might not be a bad idea if it were to turn its attention to examining the extent to which its own proposals are implemented. It might, for example, publish a biennial progress report on educational reform including a critical review of the work of the educational administration and regional education authorities. This, of course, would mean that the Bildungsrat would cease to have merely an advisory function and would take on a form of quality control.

We have to realise that our contemporary European constitutions were framed at a time when the importance of scientific expertise in policy making was not yet perceived as a threat to traditional forms of parliamentary representation. Who — we must ask — is to advise the legislative, and who the executive? To whom is the expert accountable in situations where his superior knowledge is such that political decisions become merely the corollaries of his preparatory spadework? It is increasingly evident that expert consultative bodies are in fact taking what amounts to political decisions without, though, the legitimation that a democratic system requires. But in an age when politics themselves are becoming an expertise, can expert insight alone perhaps provide sufficient legitimation for policy decisions? The public is confused by thoughts such as these. In fact, the difference between the role of expert opinion and that of political acumen makes the process of decision making increasingly obscure. When divergence between experts derives from the different premises they have adopted, politicians cannot simply assert their charismatic right to settle the issue, without making excessive demands both on themselves and on their public. This is, after all, the very reason why consultative bodies of experts have become established. Their existence is designed to prevent contemporary society from splitting into two classes, the social engineers and the inmates of padded cells — a danger pointed out by the German philosopher, Jürgen Habermas. Such bodies should, in fact, allow contentions between experts to be welded into consensus — a consensus which can then, of course, no longer be directly attributed to scientific method.

The following example illustrates just how difficult it is for an unprepared public to come to terms with divergent views amongst experts. The difficulties encountered in America with large-scale curriculum projects have prompted the view in Germany that the State should produce framework curricula for the various subjects taught at school, but that the creation of actual curriculum sequences should occur more on a regional or local level. The first of these framework curricula have provoked bitter controversy amongst German academics. Scores of professors have come out pro and contra. The public, hitherto accustomed to taking the prescribed syllabus for granted, is totally bewildered now that it finds itself required to judge between opposing factions of experts. Linguists of varying origin have unleashed an extensive public debate on the influence of social class on verbal skills. The "new" mathematics versus traditional mathematics controversy has become a political issue, and academic arguments for and against different types of social studies have drawn these, too, into the arena of controversy.

II. THE AMBIGUITY OF SCIENTIFIC NEUTRALITY

We realise by now that a science cannot be totally divorced from value judgements. A distinction can still be made, though, between the scientist who

openly declares his premises and the value judgements underlying his work, and the implementation of value judgements by unscientific political decisions. The answer to John Gardner's well known question "Can we be equal and excellent too?" will differ according to the values of the respondent. And as the values held by different researchers are often public knowledge, the very selection of specific research workers for consultancy projects implies an initial decision as to the results or advice that are to be produced. Even the allocation of funds to various research priorities will have political implications, since the promotion of a given line of research automatically provides justification for pursuing certain policies and refraining from others.

An interesting case in point is that of education reform in Sweden over the last 30 years. A popular myth has it that this reform was based at each stage on relevant research findings. On the contrary, it was based on highly conscious social and political decisions and facilitated by the long spell in office enjoyed by the political party originally responsible for initiating the reform. In crucial phases where there were political difficulties, the government was able to fall back on certain research findings to justify its decisions. But at many points it had to act, although it had no conclusive research findings or was even confronted by research findings which appeared to undermine its assumptions. Nevertheless, Swedish education policy could have met with disaster at several points had it not been for the legitimacy provided by research.

The famous debate on the predominance of environment versus heredity in determining ability has produced two opposing factions in the sciences whose differences ultimately stem from distinct sets of values. Thus the "community of scientists" no longer has any mutual yardstick or rationale with which to settle its differences. Such a situation can persist as long as academic factions do not ally with competing political groups.

Here the way research is organised assumes great importance. In educational research there is an increasing dichotomisation into independent research on the one hand and research by government departments and agencies on the other. Under these circumstances the researcher is constantly tempted to present implicit value judgements in the guise of objective science. And it becomes all the more difficult for him to be open about his value judgements when his research is directly linked with government objectives.

III. THE RELATIONSHIP OF SCIENCE TO POLITICS

In their relationship to politics the sciences have five major functions. They can provide:

- criticism of illusions,
- aid in policy implementation,
- a basis for the formulation of reform strategies,
- alternative strategies,
- the legitimation of political decisions.

The criticism of illusions

Perhaps the most common example of this is the abundance of critical studies throughout the world, showing the lack of educational opportunity in our education systems and the class character of our educational institutions. Another equally striking example is the studies on the injustice and irrelevance of traditional assessment in education, whether they expose the subjective nature of teachers' attitudes or criticise latent class factors in established tests.

Critical analysis of this sort is particularly important for the position of scientific research as a whole. Local investigations can become components of big science. Indeed, it is often unrealistic to demand an optimal model from scientists. On the other hand, critical examination of educational institutions as measured in terms of their own immanent criteria is precisely the contribution that science can offer policy makers.

An aid in policy implementation

Here one thinks of statistics and survey material of various kinds, quantitative prognoses of the school population or the effects of the pill on population trends, but also — on a more immediate level — the systematic planning of school architecture, the exploration of prefabrication techniques in building, etc. These are tasks for which scientific techniques are required, but which need not be executed by independent researchers. Indeed, if we recall that in its infancy modern administration was heavily influenced by the pursuit of scientific rationalisation, the idea that tasks such as these can be tackled by scientists employed in the administration or in government agencies has a certain logic.

A basis for reform strategies

Possibly the most intriguing example here is the controversy I referred to earlier, between environment and heredity as the key determinant of ability. The substantiated claim that environmental factors predominate gave rise to the whole idea of educational support and opportunity as opposed to selection, the demand for pre-school education and more appropriate forms of differentiation in school, indeed the very idea of comprehensive education and the principle of continuous education. Without the findings of educational psychology and the sociology of education over the last quarter of a century, the strategies underlying comprehensive education and educational opportunity in industrialised nations would be unthinkable.

The provision of alternative strategies

Scientific research can produce alternative findings. These may stem from a different choice of premises or from differences between disciplines — indeed the two are possibly connected. It is conceivable, say, that a psycho-medical approach may deduce from medical data that the age of school entrance should be raised to seven, while a socio-psychological study in which importance is attached to equality of opportunity in the attainment of verbal skills as a point of departure may call for an entrance age of four or five. Similarly, research into educational assessment may prompt a plea for admission tests in individual subjects to regulate entrance to university, while other investigations may demonstrate the adequacy of school-leaving examinations. One investigator may prefer the objectivity of standardised tests, another may opt for reducing assessment to a diagnosis of performance in the individual learning situation or group. In earlier days, the provision of policy alternatives was often seen as a peculiar obligation of scientists towards politicians. The politician was not required to understand the reasoning behind scientists' recommendations in order to choose between the alternatives he was offered. In fact, a choice between alternative recommendations can be meaningful only if these spell out the premises on which they are based. The politician can then at least decide for himself as to the respective merits of the premises adopted. Alternatively the choices offered can themselves be deliberated in consultative bodies where scientists participate directly in deciding which alternative to adopt.

The legitimation of political descisions

This is above all necessary with major reform concepts. The whole reform effort in the Federal Republic of Germany in recent years was made possible only thanks to research into human ability which showed to what extent ability is dependent on a conducive environment. Educational institutions could thus be reoriented to providing a wide range of circumstances more appropriate to individual needs. Comprehensive education, the novel emphasis in the Federal Republic of Germany on extra-curricular education (for instance in the 'Ganztagsschule') and notably the orientation stage between primary and secondary education have all needed legitimation by educational research. It is a feature of modern politics that purely political legitimation is often inadequate to ensure support in breadth for a given decision. Hence a concerted body of scientific findings was needed to overcome Germany's traditional tripartism in schooling (the 'Gymnasium' for the highly able, the 'Mittelschule' for technical ability, and the 'Volksschule' for the mass of less able pupils).

There is a special difficulty in the field of curriculum development when it comes to finding a consensus to serve as a basis for educational policy, for here the term "consensus" would at first appear irreconcilable with the dictates of science. But consensus is inevitable, if the social implications of curriculum sequences are to be compatible with the structure of their parent disciplines.

The legitimising role of research acquires added significance in federal states such as the Federal Republic of Germany, Switzerland or the United States. In these, educational planning can attain a minimum of conceptual unity only if the various planning and policy-making bodies in the federal sub-units are given a common scientific basis on which to build.

In education policy the question of legitimation is particularly important, because the implementation of decisions in this area is highly dependent on the support of those affected, particularly the teachers. Legitimation by expert opinion can sometimes lead to the concealment of political motives in a manner which is politically reprehensible. In addition, there is the danger of scientific expertise being corrupted, as when local studies are paraded as global verdicts in order to justify political goals. Great care has thus to be exercised in legitimising politics by scientific expertise — the same care that is necessary if politics, like science, is to preserve its integrity.

IV. THE RELATIONSHIP OF POLITICS TO SCIENCE

In its relationship to the sciences politics have two main functions:

— to establish the political relevance of research;

— to guarantee freedom of research, so that research can be politically effective without falling prey to the constant threat of corruption by politics.

Political relevance

The following examples show something of the political relevance research can have:

(a) In both the inter-war years and the period following the second World War education policy in Germany was faced with the demand for equality of opportunity. But all attempts at reform were frustrated by the widespread prejudice that mankind consisted of a small gifted minority and a large untalented mass. Some time after its inception the Bildungsrat put forward a recommendation, based on the publication "Begabung und Lernen" (Aptitude and Learning) concerning the educational structure. In it the expert opinion of 14 of the best German psychologists, sociologists and educationalists offer a new perspective. Aptitude is seen not so much as a prerequisite of learning but as the consequence of learning, as being not so much dependent on hereditary factors as on the challenge which develops aptitude. Schools should therefore not so much select as develop aptitude. This summary of modern psychological and sociological research of course provides the basis for a complete change of school structure. If most people's aptitudes can be developed, everybody could be given the constitutional right to this opportunity. Thus modern research has given us the basis for a total reform of the school system — against selection and in favour of comprehensiveness. The individual studies on which the volume is based existed before but it was in response to a political need that they were published in this form.

(b) An anxious question is currently echoing from the United States to the Federal Republic of Germany, namely whether all educational reform isn't doomed to fail. Educational bestsellers, such as Christopher Jencks' "Inequality — A Reassessment of the Effect to Family and Schooling in America", would seem to show that school reforms cannot possibly achieve equality of opportunity. Obviously, the process of socialisation is more important than mere schooling. What do I mean by "socialisation": a person's "second birth" as a member of social groups. Little light has been shed on this field, although there are plenty of empirical studies on the theme. But such studies are almost exclusively devoted to aspects of developmental processes which have been narrowly limited and considered in isolation. How, for example, are we to interpret, in terms of the working class child, the "language barriers" which Bernstein and Oevermann have reliably shown to exist? Has the child not managed to acquire enough middle class language patterns and consequently failed, or has it learnt a language of its own, which is different from middle class language but which fully meets the daily needs of his social milieu? The answer to this question would entail other practical consequences for any compensatory learning programmes. To enable us to answer questions like these, we need a research programme which includes in their entirety the manifold factors bearing on the socialisation process so that the mutual effects which for a long time have been unclarified, can be unravelled. If such research into socialisation is successful, we shall have empirical material available to evaluate the attainment which the schools demand of the pupil. We shall also be able to diagnose much better than before — and ultimately compensate for — social deprivation amongst schoolchildren. This study of socialisation is the beginning of a research process which must be carried out, if educational research is not to be frustrated by mere symptoms masking the problem. Radical and accelerating change in the world makes educational arrangements senseless, if they are not based on a accurate knowledge of socialisation, i. e. the incorporation of man into his social environment. Without this knowledge education is pushing out into a void, and teaching will come to grief on account of the fact that it cannot build upon a knowledge of man's social behaviour in human groups. The role of the school, the relationship between schooling and deschooling will thus depend to a great extent on the progress of research into socialisation.

(c) Around us we see discontented students, anxious for their future, demonstrating on urban thoroughfares

— because they have not been admitted to university,

— because they see no sure prospect of employment,

— because of the deficiencies of the university.

All over the world a new discussion has started on the relationship between the education system and the occupational system. The manpower approach to educational planning in the late 1950s and early 1960s is no longer accepted as the basis for educational planning. The forecasting problem is so multifactorial that neither in western countries nor in the socialist world do results of manpower forecasting offer more than a superficial approach to reality. On the other hand, we have to accept something approaching a legally guaranteed right to education as part of fundamental rights to personal development. Hence we have seen the expansion of education systems in all industrialised countries. This expansion will partly overcome our traditional class structure by furnishing a similar provision for education to an ever increasing proportion of a given age group. As a consequence, many people will no longer find jobs which seem appropriate to the education they have received. The obvious question for researchers, educators, politicians and industrialists, therefore, will be how the character of work is to change, if there are more highly qualified people available.

The question raised by Karl Marx as to the alienating character of work cannot be answered by merely proving that Marx's answers were unsatisfactory. Modern research has shown that work satisfaction depends primarily on the degree of participation in decisions affecting work organisation. The link between participation, education and work organisation is self-evident. The degree to which better education will change traditional forms of work organisation, i. e. how far the assembly line can be replaced by more creative forms of work organisation, will have to be studied. It may well be that the reform of work organisation will not make work more expensive but improve its quality. Already strikes are more often in protest against the assembly line than for higher wages.

Our expanded education system produces or will produce over-qualification. This will change not only the character of work and work organisation. We have to consider that in the society of the future most people will know more than they need for their professional life, which will give them greater and freer choice between different professions. If vocational success (including economic advancement) can no longer be the main avenue to human fulfilment, then every citizen will be confronted with the choice between orienting his life more to the personal, the political or the professional sphere. Unless public attitudes toward work are somehow altered, these social changes will result in frustration for individuals as well as groups. Therefore, in the years to come a continuing public debate will have to be initiated, if we want to overcome frustrations which could have severe political consequences. Only such a debate can create the kind of climate necessary for the research and planning involved.

In the period ahead we are going to be compelled by sheer political necessity to conduct research into the relationship between vocational training and liberal studies, between the occupational system and the education system — i. e. sociological micro- and macrostudies. Vocational training, the major backwater of the education system, is at last attracting political attention. Research workers will thus have to turn to this area so long neglected by educationalists.

(d) The fundamental right to education also creates the need for detailed research into its administrative and legal implications. If examinations are to decide on the future of a human being in society, they must be subject to legal scrutiny. If systems analysis shows that complex systems cannot be successfully organised as mere hierarchies, then studies on the possibility and forms of decentralisation and autonomy are necessary. If participation in decision making by students, teachers and parents is part of the learning process, then studies on the different forms of participation are needed.

Educational research is not only a pre-requisite for educational planning, but it can investigate the theory and techniques of planning itself. In Berlin we are, for example, investigating constitutional aspects of planning because of the importance of the thorny relationships between democracy, science and planning. Legal and constitutional problems of the greatest consequence will certainly arise from the extensive and intensive studies necessary for educational research, from the collection of sets of data on individuals, the availability of stored information and access to it — for the simple reason that entirely novel instruments of state control can be fashioned from them. In the United States and in the Federal Republic of Germany the question of education statistics has brought up crucial problems arising from a federal structure.

Educators are generally inclined to neglect administrative problems. Many good plans for educational reforms fail because they are not translated into new forms of education. To realize a new educational concept one often has to contemplate financial and administrative reform at the same time. Demands for participation and democratisation are political demands, but the question of their realisa-

tion will often call for scientific expertise, for ineffective democratisation can do more harm than good to the ideal it professes. Hence the politician interested in administrative reform is forced to cooperate closely with the scientists. Administration is not normally regarded as within the province of educational research, but the educationalist who neglects matters of organisation and money does so to his own cost.

V. RESEARCH AND PRACTICE

Politicians and educational administrators often view themselves as practitioners vis-à-vis educational researchers. But the real practitioner you find in the classroom, the workshop and the lecture room. Research, politics and administration all constitute forms of alienation from the daily grind of education. All three operate best in mutual consultative bodies, where the research worker is required, like the others, to recognise his political responsibility. Even if the scientist tries to observe relatively strict rules of conduct — i. e. the requirements of scientific method — his behaviour remains ultimately p· litical.

The reciprocity of research, politics, administration and practice make special forms of co-operation indispensable. The language barriers between the scientist and the politician, the scientist and the administrator, and between all three of them, must be bridged. We need a mutual flow of information between teacher and researcher, politician and administrator. For dissemination is a two-way affair. In the United States the attempt has been made to solve the problem by setting up 'laboratories'. The result was not convincing. I believe regional and local centres are needed to mediate between the abstract vocabulary of science, the vocabulary of politics, the language of abstract programmes, the abstract procedures of administration and the pulsing concourse of the classroom. Such regional centres could give teachers the chance to participate in research, in school administrations and supervision, interspersed between periods of service in the classroom. These centres could participate in the development of curriculum sequences appropriate to the individual school, for the researcher must keep in touch with the daily despair of the school practitioner. And the teacher cannot be expected automatically to understand the necessarily complex vocabulary of specialised research. Mediators are essential. Regional centres of the sort I have described are a possible solution. In our discussion we may find other solutions. At all events the quality of mediation between research, politics, administration and practice will determine whether each of these four can live up to its task.

In my remarks today I have been able to say only a little about a topic which, I suppose, constitutes the major preoccupation of our professional lives. For the educational researcher is often politically motivated, yet the temporary suspension of political commitment is the basis of his work. And if he is propelled by a scientific interest, he cannot close his eyes to the fact that in a modern world science often dictates politics.

The role of the researcher as an agent of innovation in the classroom

by R. A. BECHER,
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Many lectures start by making some striking claim, and then substantiating it with detailed arguments. I propose to depart from this pattern by beginning with two disclaimers.

My first disclaimer is one about my own expertise. I am neither a professional in educational research, nor a practising school teacher, nor even that august figure, an educational policy maker. I have never been any of these things. The work I have done with the Nuffield Foundation over the past twelve years has indeed been concerned with education: but it has consisted mainly in the management of a series of educational development programmes. I cannot claim to discuss the topic of today's session — the relationships between the re-

searcher and the practitioner — from a position of inside knowledge. If I am not to pretend to qualifications which I do not possess I must necessarily adopt an external perspective. However, I hope that this perspective may be of some help in your subsequent consideration of how best the researcher can act as an agent of innovation in the classroom.

My second disclaimer is about the definition of educational research. There is, of course, a wide spectrum of different types of activity which might be described by this term. At one end of the spectrum, it could be claimed that the neurophysiologist, carrying out fundamental studies on the nature of the human brain, is helping us to understand the mysteries of the learning process and is in that sense engaged in educational research. At the other, it might be said that the intelligent and conscientious teacher, who sets out to improve his professional competence by a systematic process of trial and error, is also engaged in a form of research into the process of education. But I do not think it helpful for our present purpose to adopt such a liberal interpretation. I shall confine myself instead to what seems to have been the dominant post-war tradition of the major educational research institutes in Western Europe and North America. The mainstream of this tradition derives historically from the psychometric testing movement of the pre-war years, and from the influence of statisticians such as Fisher on the social sciences in general. It is with educational research of this specific and specialised type that my remarks will be concerned.

With these two disclaimers out of the way, I want to open today's discussion by posing a question. Why is it that we are all coming together to consider how to strengthen the connections between research and practice? The very topic which we are assembled to discuss implies a sense of common concern. If we are to be honest, we may as well begin by admitting that very little of the educational research that is done turns out to have any noticeable impact on the ordinary teacher and his work. It is not easy to get round this difficulty by saying that research consists in the pursuit of knowledge for its own sake. In the long term, if it is not to be seen as an expensive self-indulgence, there must be a pay-off of some kind. So it is, I think, right for all of us — teachers, policy makers, and the tax-paying public, as well as the researchers themselves — to look for ways in which the present situation can be improved.

Many of you, to your credit, have already taken active steps to make your work more relevant to innovation in the classroom. The major difficulty has been seen as one of communication. As a result, researchers have looked for new and more effective ways of passing on to the practitioner the wisdom and the insights generated by their investigations. Simple guides have been written for teachers on how to interpret research findings, and the findings themselves have often been published in a form more readily understandable to the layman. When this approach has been seen to give disappointing results, the researchers have gone further. In the last two decades there has been increasing emphasis on development projects and action research programmes, some of which have themselves been based on the results of research. The expectation behind such programmes has been a reasonable one: namely that once the relevant research findings could be translated into specific practical recommendations, and once the results could be diffused into the educational system, the communication gap could at last be bridged.

But even this imaginative strategy has not so far paid off. Major action programmes — such as Operation Head Start in the USA, or the Educational Priority Areas Project in Britain — have been found, on investigation, to make much less impact than at first been hoped. Major research-based development schemes — such as the IMU Mathematics Project in Sweden or the Individually Programmed Instruction Project in the USA — have not clearly shown themselves to justify the substantial costs involved. Nobody yet knows the answer to this new, and unexpected dilemma. The optimists may be inclined to blame faulty techniques, and to put increasing efforts into improving the available dissemination procedures. The pessimists may want to blame the inherent conservatism of the teachers, and give up in despair. But there is another alternative which I believe we should be prepared to consider.

If a particular malady fails to yield to treatment, it may be because the patient refuses to take his medicine. Or it may be because the medicine itself is not sufficiently powerful or effective. But it may also be because the original diagnosis was mistaken. Perhaps we should look again at how our own problem has been formulated, rather than at why the attempted solutions have not so far produced the results we hoped for.

Consider the following hypothesis. The difficulty is not that the teacher wilfully refuses to listen to the researcher, but that however carefully he listens the researcher has little of interest to tell him. The fault lies not with the practitioner, not with the

communication system, but with our current conceptions of educational research itself. I want to pursue this hypothesis by considering some of the dominant assumptions of the research community, and to conclude by suggesting some ways in which these assumptions may need to be modified, if the work of the researcher is to achieve a greater relevance to both professional decisions and public policy.

Let me reiterate, first, that I am not now concerned with the wider definition of educational research. My remarks are not relevant to the specialised work of the clinical psychologists, or of those philosophers or sociologists or economists who happen to take a broad general interest in educational problems. I am focussing attention on those specialists in learning theory, aptitude testing, curriculum evaluation, interaction analysis, and the like who form the main body of the educational research profession today.

The main assumption shared by most of them is that different learning situations are sufficiently alike in certain significant respects to justify the search for the general laws which govern them. The study of education is, in this tradition, modelled predominantly on the study of physical science. I want to look at some of the implications of this view, and to contrast them with the implications of the converse assumption. I mean, of course, the assumption that learning situations are sufficiently different in certain significant ways to invalidate the search for the general laws which govern them. In making this contrast, I shall be arguing the case for a different tradition, namely one which regards the study of education as a branch of the human, rather than the physical, sciences.

It may be helpful if I can draw out the contrasts to which I would like to direct attention in a number of different ways. First, let us consider the process of innovation itself — a process which has been studied in a variety of contexts. One helpful set of distinctions is made by Donald Schon, in his book *Beyond the Stable State*. He describes the differences between what he calls centre-periphery models of innovation and periphery-periphery models. The former — the centre-periphery models — represent situations in which innovative ideas are generated at some central controlling point in the system, and are then delivered to practitioners engaged at its periphery. New weapon systems developed under wartime conditions provide one example of this process. The latter — periphery-periphery models — cover situations in which an innovation occurs at some point of practice, and then spreads along the periphery to other practitioners. An example here might be some new surgical technique worked out not in a medical research centre but in a general hospital. There is also a third possibility, which Schon does not discuss so fully as either of these — namely periphery-centre models. These cover the cases in which innovative messages are generated at the periphery of the system, but then pass for processing to the centre. Market-oriented industries represent one instance of this process, where the demands of the consumer are carefully studied, and in large part determine the nature of the goods or services supplied.

In terms of these models, the majority of current educational research and development assumes the appropriateness of a centre-periphery pattern of innovation. The researchers and the developers do their work at the centre, where they are relatively remote from the everyday concerns of the practitioner. They then try to find ways of disseminating their results to the periphery of the system, much as if they were operating an oil refinery and working out the best means of delivering their products to the expectant customers. Their approach seems to suggest that what is really important is to get the logistic structures right. If only they can change the framework of the system in the appropriate ways, it is assumed that the actual processes of teaching and learning will look after themselves.

Unfortunately, there are now a large number of examples which suggest that this assumption is too tidy-minded to match the complexity of human activities in general and education in particular. It is true that people's attitudes and expectations are to some extent shaped by the structure of the institutions in which they work. It is also true, however, that human institutions are themselves to some extent shaped by the attitudes and expectations of those who work in them. So a structural innovation — one which is formulated at the centre but has to be implemented at the periphery — can take on a surprising variety of different forms, according to how it is perceived or interpreted by those who are required to carry it out. Consider, for example, the reorganisation of secondary schools along comprehensive lines. The happy political myth is often sadly matched by the practical reality, in which pupils remain segregated by ability within the framework of a school which is itself designated as non-selective. Or consider the bewildering variety of different forms which an innovation such as team teaching may take, ranging from schools where teachers in different subjects genuinely plan and work together to those in which they have a

formal meeting once a term to exchange information on their respective syllabuses. Or consider, again, how very diversely a given curriculum programme may be applied in practice, depending on the presuppositions of the teacher concerned and the procedures with which he feels comfortably familiar.

These examples suggest that the processes in education — that is, the actual transactions between teachers and students — are more important, because more basic and fundamental, than the structures. Unless careful attention is given to them, before modifying the surrounding framework, what very often results is superficial change without fundamental innovation. This is only another way of saying that the initial focus should be at the periphery, rather than at the centre, of the system. To put it more specifically, the problems on which educational research and development should engage should be those which are defined by a close study of educational practice.

I want now to come at the point another way, by considering what role the educational researcher should see himself as performing in relation to the teacher. The issue is closely related to questions about the sources of recruitment and methods of training for educational research, but I do not want to go into such questions here, important though they undoubtedly are. Instead, let me simply remark that the majority of research workers, whether or not they have had any experience as practising teachers, tend to see themselves as operating outside the education system itself and as possessing some external and independent expertise. This expertise, whatever its nature may be, and from whatever specialist discipline it may derive, powerfully conditions the range of interests which the researcher is prepared to pursue. It also, of course, provides a professional context for the knowledge which he generates and helps to preserve his status with his fellow researchers.

Typically, I suggest, the educational researcher begins by selecting a particular aspect of education which lends itself to study in terms of the approach dictated by his own specialism. He goes on to conduct his study within the limits which that specialism imposes. If questions arise which are not regarded as falling within the legitimate boundaries of his discipline, he ignores them — for they are not his affair. He bends his subject-matter to his professional requirements, not his requirements to his subject-matter. If his disciplinary loyalties are to experimental psychology, he may set up an artificial laboratory-type investigation. If he is statistically inclined, he may try to create some kind of controlled situation in the field. What he very seldom does is to explore the environment as it occurs in ordinary everyday educational practice. That is much too unsatisfactory a business for anyone who sees himself as a man of science, for human concerns (and let me remind you again that education is one of them) are too uncomfortably messy to be equated with the tidy certainties of classical physics. So the researcher, all too often, contents himself with the hope that he can find the right way of abstracting the hard nuggets of truth from the shifting sands of reality, and thus transform the craft of teaching into the engineering of the learning process.

What, though, might be the consequences of abandoning the pursuit of certainties, the search for general laws, the notion that education is a regrettably unsatisfactory kind of physical science in which the universal truth persists in wearing a heavy disguise? Suppose that the researcher were no longer to insist on dividing up the field of educational practice into colonial territories yielding to different types of expertise, and adopted instead a more holistic approach. In that case, I suggest, he would begin to place himself in a very different tradition. He would find himself embarking on a complex exercise in which he would be constrained to look at the learning milieu as a totality, to put the educational process in its wider social environment, and to try and make some sense of what was actually taking place in that environment.

This alternative way of identifying research issues — through a study of educational practice, rather than by following the prior dictates of some specialised expertise — would have major implications for the researcher's role. He could no longer see himself as the outside expert coming in to investigate some carefully bounded topic of his own choosing, and then trying to find ways of communicating to the teacher the benefits of his wisdom. His function would more closely resemble that of a consultant, working alongside the teacher. His concern would be to help the practitioner first identify, and eventually to resolve, the actual problems which arise in the course of the educational process itself.

Such an approach would not, of course, deny the researcher the exercise of any expertise. But it would demand in him a readiness to venture beyond the limits of a single disciplinary specialism and to draw wherever necessary on the insights and findings of other research fields. He

would often find himself in unfamiliar and uncertain territory where — like the teachers he aimed to help — he would be in the position of a seeker after new understanding. His skill would lie in the task of translating that understanding into terms meaningful to the practitioner — terms which could help unravel the tangled complexities of the classroom world and show its problems in a new and illuminating light.

The alternative research tradition which I want to describe can be approached, as I have already tried to do, through considering the process of innovation itself, or through a discussion of possible changes in the researcher's role. But it can also be approached more directly by looking at methodological issues. As long as educational research is seen as a search for the general laws governing a variety of educational situations, it is likely to put a considerable emphasis on quantitative techniques. For it is of the essence of an exact science that its results must be objective, capable of replication by independent investigators, and expressible in numerical or probabilistic terms.

One typical strategy in current educational research is to take large samples of the population to be investigated; to apply to them some standardised instrument, measure or procedure; to record the results as far as possible in quantitative form; and then to subject these results to elaborate statistical manipulation. Considering how seldom this strategy has paid off, it is surprising how long it has managed to survive as part of the researcher's normal repertoire. Its deficiencies are familiar enough. In the first place, the devices available to measure the aptitudes, skills or other relevant characteristics of the sample population are extremely crude, and likely to remain so. They are in no sense comparable with those of the quantitative scientist. For scientific instruments apply to the phenomena of the material world, which are considerably simpler than those of human behaviour. Moreover, the number of variables which may need to be taken into account in any educational situation is very much larger, and very much less amenable to control, than those which normally obtain in any exact science. However technically impressive the researcher's statistical analysis of his results may be, there is no disguising the inadequacies of his methods of deriving his basic data. It is not surprising that, in consequence, the findings of most studies which adopt this quasi-numerical approach are insignificant, unenlightening, and of little interest to anyone but the research community itself. In this situation, the researchers have at least the consolation of calling for further research to resolve the inconsistencies in their successive investigations, but no one else is left any the better off.

An alternative methodology which seems to me worth serious attention is one which models itself on the approaches of the historian, the anthropologist and the interpretative critic. It places its emphasis on the exercise of informed judgement and illuminative understanding, and seeks an objectivity of a less mechanistic kind than that which underlies the clinical trials of a new drug or the field testing of a new brand of wheat. The small but growing number of researchers in this more humane, less scientistic tradition have not necessarily abandoned quantitative techniques. They see these, however, as being of relatively limited usefulness, and do not expect them to remain valid in every situation. Their work is carried out largely through observational case studies rather than through batteries of questionnaires or standardised tests. They attend as carefully to the varied contexts and processes of learning as to its discernable products. An airline pilot's training concentrates more on how to function in a disastrous or unexpected situation than on how to operate when all is going according to plan. So too, researchers in this tradition have learnt to interest themselves in those aberrations from the norm — those cases where something atypical has happened — which tend to be given little emphasis in any statistically-based approach.

Research in this alternative style, then, looks for the particularly significant differences, as well as the general similarities, between different learning milieux. But in abandoning the search for universal certainties and infallible laws, it does not — any more than does historical or anthropological study — abandon all attempts at generality. It is rather that the generalisations for which it seeks are of the kind expressed in novels, plays or works of art, not of the kind expressed in scientific texts. They are designed to throw into relief, and make more readily understandable, the basic underlying features of those human interrelationships that typify the educational process. And above all, the researchers who work within this tradition attempt to present their findings in ways which will be both informative and illuminating for practitioners and policy makers, and not just technically impressive for their fellow researchers.

Let me attempt at this stage to summarise what has already been a compressed, and perhaps at times over-categorical argument. I have tried to sketch out an approach to educational research which would demand a radical change in the cur-

rent assumptions held by many of its practitioners. The persistent gulf between the researcher and the teacher in the classroom cannot, I believe, be bridged by any less radical measures. I am not proposing the abandonment of scholarly standards, but only the abandonment of an inappropriate and unproductive tradition. If the educational researcher ceases to adopt the camouflage of the quantitative scientist, and turns from trying to create artificial laboratory models to a study of the natural phenomena of learning, he is more likely to make intelligible the actual transactions which take place in a variety of educational environments. If he adopts a holistic approach to learning situations, he is better placed to unravel their complex reality than he is by distorting what he sees in terms of his own disciplinary preconceptions. If his role becomes that of a consultant and problem-solver rather than that of an expert in some narrow specialism, he is more likely to gain a sympathetic understanding of the human world of the teacher and the taught. If he concentrates his attention on the process rather than the structure of education, he will help to meet the actual needs at the periphery of practice rather than merely to fulfil the inbred requirements at the centre of the research domain.

I would suggest, finally, that if the researcher were to change his style of work in these directions, the problem of communication would solve itself. In addressing his attention to educational realities, the researcher would reach common ground with both the practitioner and the policy maker. In learning to derive his results from a study not only of the similarities but also of the differences between one context and another, he would become a skilled and authoritative interpreter of the language of experience. And I can think of no better formula than this for an agent of innovation in the classroom.

The role of educational research and development

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Educational research is sometimes dismissed as futile, not only by practising teachers but also by educational policy makers. The researcher himself defends his work by saying that it yields knowledge, and that this knowledge both can and should be used. To this the sceptic retorts: "Knowledge, for whom?" Knowledge always belongs to somebody! It is therefore up to the researcher to show that sooner or later somebody will require or can be expected to require this knowledge, and that this somebody is not invariably a researcher. The sceptic rests content with this rebuttal for a while but then rejoins: "What is this somebody going to use the knowledge for? Is it his private concern what he does with this knowledge or is it a matter of concern to several others, perhaps to the whole of society? And if so, who speaks for the society?"

The moral of this dialogue is simple: educational research must have a buyer and a goal. Here we are mainly interested in two sorts of buyer: policy makers and practitioners. These buyers can usually be identified. They can either be active politicians or ordinary citizens who express their opinions. But how do we identify the goals of educational research? To do this, we must first of all identify the goals of education. These goals may be established centrally, but they can also be determined locally. The fact that they are established centrally need not imply that they are imperiously dictated to subordinates. They may have evolved quite democratically through the participation of local and regional as well as central bodies. Similarly, a locally stated goal is not necessarily based on the participation of everybody at grassroots level. In principle, the degree of "democracy" and participation in the definition of the goals of the school system is independent of the central-local dimension.

A study of goal formulations and documents reveals that similar goals are to be found in practically all school systems. These goals are enshrined in school legislation, local regulations, regulations concerning finance and external organisation. If we disregard differences of phraseology and of mode of presentation, we can with a certain amount of generalisation identify four types of goal in the European cultural sphere:

— One group of goals says that school is to promote the development of the individual student. He is to achieve self-realisation according to his inherent aptitudes and regardless of external conditions.

— A second group of goals puts society at the centre. School is to educate the individual for participation in the affairs of society, for productivity and for social usefulness.

— A third group of goals has equality as its main theme. Justice is to be done to everybody, irrespective of social, economic and geographical restrictions.

— The fourth group of educational goals is perhaps the most heterogeneous and concerns the handing on from the older to the younger generation of traditions and values, i.e. what we generally term the cultural heritage.

A major task of the researcher is to support both policy makers and practitioners in studying the circumstances bearing on goal fulfilment. What alternative interpretations are possible, how they are related to one another, where goal conflicts arise, in what way goal fulfilment is dependent on variations in the apparent organisation of student grouping, on knowledge of social psychology, developmental psychology and learning psychology — there is indeed no shortage of problems awaiting investigation. What problems is the researcher to concentrate on, and whom should he consult on this point? Is he — in the name of autonomy — to be guided only by his intuition and cut himself off from the wishes of the buyer, or is he to confer with policy makers and practitioners?

It seems obvious that the researcher cannot cut himself off from his buyers, though of course this does not mean that he lacks opinions of his own. We have just defined the purchasers as being of two kinds, the policy maker and the practitioner. Is he to co-operate with one or the other of these or with both? My experience and conviction is that the researcher should co-operate with both as far as possible. But this is far from always possible. If he is forced to choose between them, he should give priority to the policy maker. Naturally this does not mean that he is to disregard the practitioner. As a rule his research will be concerned with the practical problems of teaching, but this in itself can mean that the researcher must tackle things in a different order from that expected by the practitioner. Indeed, he should perhaps investigate problems which the practitioner regards as secondary and pass over or postpone the matters which the practitioner would have wished him to elucidate. Of course this detachment from everyday school problems must not go so far as to put the researcher and the practitioner in opposing camps.

The reason for this order of priority in school problems is that educational research can never be pursued independently of educational policy, if it is to have breadth and relevance and be something more than simple description. Educational policy should be both centrally and locally anchored. Experience to date has shown that a local policy alone is not enough, if one wants to change the overall structure of the educational system.

At the same time, it has proved difficult to transmit a central policy all the way into the classroom unless local involvement is aroused in favour of innovations. Thus local and central educational policy are preconditions and consequences of each other.

The terms "educational innovation" and "educational improvement" here refer to changes in schools and teaching which are supposed to bring us closer to the goals defined by educational policy and by the practitioners' needs and to give a better knowledge of goal conflicts.

How are such changes brought about? Here one can distinguish between two schools of thought. One of these contends that changes must focus on the processes in schools and teaching. The other says that innovations and improvements are above all promoted by changes made in the outward structure of schools and teaching.

My presentation is based on the latter of these theories: innovations are mainly promoted by changing the framework of school activities. At present, the planning of teaching and studies takes the existing units of planning for granted, that is the school, the class, the lesson, the subject, the teacher and the textbook. These "frames" do a great deal to determine what happens in schools nowadays in the sense that they delimit the possibilities for certain kinds of student activity and student interaction, and correspondingly promote other kinds of activity and interaction. Alterations to processes within these established frames can have certain marginal innovatory effects, but the great changes, the real improvements, do not materialise unless these frames are also changed, broken up and made more flexible. They are rigid "squares" within a system, which is in a desperate need of more flexibility. True, the frames do not decide which

processes take place, but they do decide which processes can or cannot take place. We know this, but it is a neglected knowledge. The reason for this neglect is that the true conclusions of this knowledge contradict so many of the system's short-term goals.

Earlier I mentioned that there were four kinds of educational goal: individual self-realisation, the social usefulness and productivity of the individual, equality with respect to education and "chances in life" and the transmission of cultural values and traditions. The achievement of these goals is often inhibited by the rigidity of the existing structure. Goal attainment, regardless of whether these goals have inbuilt conflicts or contradictions, presupposes new processes in the classroom, which in turn presuppose changes in the structure of schools. A revision of the working methods of schools and of teaching with the four above mentioned goals in mind therefore also presupposes a deliberate educational policy. It would be asking too much of teachers if they were expected by their own unaided efforts or on their own initiative to break up the frames of their own activities. They do not request the aid of the researcher to show that their goals are incomplete or that the means at their disposal are out of date, that the content of their subject should be revised, that they should teach new groups of students and so forth. Of course teachers want to make innovations and improvements, but in doing so they almost invariably have to act within given frames. It is only in exceptional cases that teachers themselves transfer time and resources from one subject to another, from one school to another, that they introduce a free choice of subjects, transfer decision making powers on central matters concerning teaching and the choice of teaching materials, etc. to students and parents. Accordingly research questions concerning such forms of "de-institutionalisation" or "de-squaring" do not very often come from teachers. But often it is the very need for such changes in the main structure than can be revealed by the researcher, not least in the light of the goals referred to previously. He can also analyse the new processes to which this changed structure will lead. He can participate in the analysis and evaluation of the effects of the changes made.

Insistent demands have been made recently for such a de-institutionalisation of school. There are those who would "de-school" society. Others again would like to convert society itself into one big school. From various points of departure they converge on the same goal, namely the breaking up of the institutional frames to make possible new processes, new experiences and new learning.

The researcher must not reduce his role to that of a consultant dealing exclusively with situations where help is required from inside school institutions. True, he should not shirk this responsibility, but it is only a part of his role as a researcher, perhaps the secondary part at that.

One can distinguish various strategies regarding the improvement of schools and teaching. The strategy most frequently applied hitherto maintains that improvements are brought about by changing what is termed the process. This change concerns:

— content of courses

— learning aids

— teaching methods and

— evaluation procedures.

But these changes presuppose corresponding changes with regard to structure, i. e. in policy making at central level (government and parliament) concerning the relation between primary and secondary education, compulsory and non-compulsory education, selection for (or free choice of) higher studies, student financial support, etc. They also presuppose structural changes in central and local school administration. Furthermore, they depend on action through student unions, parent-teacher associations and teacher unions.

Collaboration between policy makers and researchers has to be strengthened and developed. In my opinion it is still far too weak. One way of strengthening the co-operation is to give it more of a structure. It can be institutionalised in various ways. This might, by many researchers, be perceived as a reduction of their professional autonomy. This autonomy, however, should be used where it is of importance, and not where it is just a defence for reluctance to tackle today's educational problems. The following forms of institutionalisation will influence the extent to which innovatory activities extend all the way to procedures in the classroom:

1. Researchers should participate in decision-making concerning the allocation of resources for educational research and development work (in, for instance, parliamentary, governmental and institutional bodies).

2. Researchers should contribute with ad hoc research to the work of educational committees (political and administrative).

3. Researchers should participate in consultative reference groups (for specific research and development projects).

4. Researchers should have a say in a remittance system, a formal administrative procedure whereby any advisory report is remitted to all the institutions or organisations affected for their comments and opinions.

5. Researchers should give service as research consultants to central educational authorities with responsibility for educational research and development.

6. Researchers should give service as research consultants to local development groups.

The main forms of collaboration between researchers, policy makers, administrators and practitioners should be the establishment and analysis of educational research and development needs, the choice of an order of priority for research projects, and the dissemination of research results.

This sort of collaboration also implies a change in the role of the researcher as regards his choice of problems and research methods, and will require more detailed work on social and economic variables in educational research.

On the question of how collaboration between policy makers and researchers can promote development work in the classroom, we may conclude that

— changes are not brought about by policy decisions alone, nor by research alone but by a combination of the two;

— changes cannot be brought about by concentrating exclusively on processes or structures in schools: the need is for a co-ordination of process and structural changes.

Let us return, then, to the starting point of this paper, the question of whether educational research does any good at all. Do the results get to the classroom? Do they help to promote the social and personal development of the individual student? Do they help schools to further the aim of equality, and so on? I shall try to give an account of some experience of educational research and development work over a period of 20 years, mainly with reference to innovation activities in the Swedish school system.

Probably the true effects of educational research are greater than is generally supposed. There should be no doubt that investment in educational research and its connection with goal-oriented development work have yielded valuable results. Where teaching materials are concerned, it is now standard practice for the pupil's study material to be combined with teachers' guides, work books, diagnostic material, etc. to form systems of the kind evolved in the course of teaching material projects. But the question remains whether changes of this kind or other effects such as new syllabi, new pupil groupings, new types of test and so forth are felt to be improvements, or whether they are simply thought of as disruptions of school work. Problems in school cannot normally be "solved" by results of this kind. They can only lead to subsidiary effects and auxiliary measures, the effect of which is often very much dependent on the general overall aims, aims which are not always shared by teachers with a traditional academic schooling. If the development of new means and methods makes new demands in respect of teacher collaboration and pupil groupings (e.g. large groups, small groups and individual work), and if at the same time the teachers oppose these demands, it is hard for them to see the so-called "usefulness" of the results. Perhaps the complaint sometimes heard that research and development results are impracticable springs from the existence of mutually contradictory demands. At all events, experience during the past few years should have produced something of a reappraisal concerning the attainability of clear and rapid results in educational research.

One difficulty lies in the unreasonable demands that are the result of the failure to define the problems which it has been thought the business of research and development to solve. Thus the demand which has occasionally been voiced that research should solve "the discipline problem" is as unreasonable as a demand that research eliminate road accidents, disease or unemployment.

Preparedness for and the acceptance of change are a prime condition for the useful implementation of educational research and development work. Decision makers and "recipients", insofar as they are not the same person or group, may come to different evaluative conclusions here. For instance, the decision maker may be of the opinion that teaching aids replacing the teacher are conducive to better goal attainment, while the recipient-teacher sees his security of employment in jeopardy and is sceptical. In goal conflicts of this kind, a comprehensive approach and the assessment of both long-term and short-term effects are vitally impor-

tant. It should be a long term interest on the part of teachers to safeguard their truly professional teaching tasks and to relinquish functions which can easily be taken over by assistants or even by teaching aids.

Research and development work has a long-term aim. The short-term requirements are usually catered for by means of direct administrative measures. This is another reason why research and development has sometimes been considered less "useful". The Swedish mathematics project contributed towards the design of the structure of mathematics teaching in the 1969 comprehensive school curriculum. The effects of this are long-term. Similarly, other projects have contributed to the design of comprehensive school syllabi e.g. in scientific and social subjects. Of course, the direct "usefulness" of research can always be queried, but questions of this kind are secondary. Instead one should inquire about the long-term effects on pupils and teachers.

As a rule results are indirect. The direct effects, e.g. new teaching materials, evaluation instruments, forms of organisation, etc., emerge as applications of the knowledge provided by research although not directly by research itself.

Another reason for the usefulness of educational research being queried is that results and effects are often not obvious but concealed in changes in sectors which one does not directly relate to the activities in question. Educational research has provided knowledge which has helped to break down a view of humanity based on prejudice and convention. Sexual and racial discrimination are shown up for what they are. More knowledge is provided concerning the effects of different social and economic backgrounds. More light is shed on phenomena such as criminality and mental illness. Research makes social problems such as poverty, violence and maladjustment something more than clichés or epithets of character. The problems of urbanisation, the design of work places, the importance of partnership and joint influence, the conditions promoting protests, alienation and defeatism on the part of teacher and pupils — all of these things are brought into the open. The results of educational research have their allotted part to play side by side with other research in the behavioural sciences, even if that part is played behind the scenes. One might well ask what course would have been taken by the debate on education if there had been no such thing as research and development.

Given reasonable demands for visible effects of educational research, one also finds that results often appear in the guise of small, modest pieces of knowledge in a large and complex problem picture. One should therefore inquire not so much after the usefulness of individual projects as the usefulness of research in combination with other measures. Thus the total usefulness can be expected to exceed the mere aggregate of isolated initiatives. Added together, to quote one instance, a number of follow-up projects conducted among others by the educational research institutes in Gothenburg and Örebro provided valuable knowledge concerning the condition of young people in Sweden. A penetrating study has been made here of problems concerning the social bias in recruitment for different kinds of education and occupations and the process of attitude formation.

Another example of collective effect is to be found in language teaching. For instance, as a result of this research and the ensuing debate, the new standardised achievement tests in modern languages used in Swedish secondary schools devote far more attention to grammatical structures than previously. The implications of this for the teaching of languages in schools should not be underrated, for among other things changes of this kind have a definite influence on the design of teaching materials. A further example of collective measures which have produced results concerns new mathematics. Here research projects, curriculum development projects, inter-Nordic co-ordination projects and in-service teacher training projects have combined to produce a total effect which is unparalleled in earlier Swedish curriculum change.

Another completely different problem is the extent to which we benefit from and utilise results. In the frequently vigorous struggle in schools and education between different interests and values, research and development results often come off second best. Knowledge is not utilised; people act as though it did not exist. Time and time again educational research has shown that under-achievement in school is due more to methods and external conditions generally than to lack of ability on the part of the students. And yet we go on teaching as though the latter were the case. Students' ability and results are still judged according to quite one-sided intellectual criteria, despite the proven importance of other yardsticks.

Educational research and development is not primarily what is termed academic research but rather policy research. This might sound provocative

to some researchers, but we should not lose sight of the second half of the term — research. This means that solutions to problems are not sought in direct administrative measures. Practical problems must be redefined as scientific problems when subjected to research. When the results eventually become available, the question is "redefined" in practical and administrative terms. This might appear circuitous, but with its focus on fundamental knowledge it is often a short cut. In other words, one again finds that a good theory is the most practical proposition.

Innovation, research and policy in the educational field: summing up

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As I said at the beginning of this colloquium, the acknowledged unsuitability of European educational systems in relation to the requirements of modern society is leading educational policy makers to look to innovation for solutions to these problems. However, the ways in which innovations are studied and conceived, decided and distributed, and the ways in which they are received by teachers and parents as well as the true results they produce are matters of uncertainty and therefore need to be investigated. It has become essential for educational policy makers to have technical studies at their disposal to assist them in their decision making. Is educational research capable of meeting the demands made upon it? Are the authorities fully informed of the possibilities offered by research? What are the most suitable methods of informing them, and of defining and promoting innovation? Such was the wide subject set for this colloquium. As the discussion group reports show, the subject has undoubtedly been clarified, thanks to the competence and experience of the participants, and the diversity of the situations encountered in the various member States. A contribution by an American expert of the eminence of Professor Bruner has served to supplement those of such knowledgeable European experts as Professor Becker, Mr. Becher and Professor Marklund. It would therefore be highly presumptuous to attempt to summarise the proceedings. I shall, however, try to pick out the main threads, while asking you to excuse the various omissions and distortions there are bound to be.

I.

To begin with, it became apparent that some light needed to be thrown on the meaning of *innovation*. This is a long-standing question, but it seems to me that the colloquium has improved our understanding of it.

First of all, innovation can relate to various things, viz.:

— Structures: levels of education, forms of school organisation, examinations and guidance arrangements, relationships between the education system and the economic system, administration, etc.;

— Contents: choice of activities and subjects;

— Methods: teacher-pupil relationships, teaching facilities, etc.

A second basic distinction was made by Mr. Becher in his statement when he took up and supplemented the Schon analyses. Three types of innovation may be identified according to the processes by which it is elaborated and disseminated, viz.:

— Innovation which is produced at the centre and disseminated at the periphery. This is mainly the case when innovation results from policy decisions in a hierarchical system;

— Innovation which is produced at the periphery and spreads spontaneously through the social system (from periphery to periphery). This is the case with spontaneous innovation which originates in the classroom and spreads autonomously through various channels (specialist societies, teachers' associations, for example);

— Finally, the type of innovation proposed by Mr. Becher, which goes from the periphery to the centre, then from the centre back to the periphery. This is what I call "controlled innovation".

It should be emphasised that the aim of innovation is not unconnected with the process used. It was no accident that Professor Marklund, a representative of a centralised country as is Sweden, stressed the advantages of a centre-periphery process for structural innovation, while Mr. Becher, representing a basically decentralised country as is the United Kingdom, gave emphasis to controlled innovation, a process that is more suited to innovation in contents and methods.

II.

However, whatever the aim or process of innovation, the basic questions are: How can subjective empiricism be avoided in the selection of innovations? How can innovation be produced rationally so that it is effective in solving the problems arising? How should it be disseminated? How should the results be assessed?

These questions have been considered in relation to the two main themes of the colloquium, viz.:

— The relationship between research and policy decisions in regard to innovation,

— Methods of innovation research at the practical level of the classroom.

As far as the first theme is concerned, the following points of agreement seem to have emerged from the papers and discussions.

A distinction must be made between the policy field and the educational research field. The former is concerned with action, i. e., with the choosing of aims and the application of means. Research, on the other hand, is, and must remain, concerned with knowledge, whether it be theoretical research or active research. This is obvious in the case of the theoretical research into education systems. Research may relate either to macro-systems, such as in a study of inputs and outputs in relation to economic requirements, or to micro-systems, as in the case of a scientific description of what goes on in the classroom and the various effects of the different possible forms of behaviour. However, studies of this kind may also be accompanied by intervention in the education system. This is known as *action research*. But here, too, it must be stressed that research presupposes knowledge, a knowledge of the mechanisms of the action and of its consequences.

There should therefore be no difficulty in demarcating the respective areas of policy matters and educational research. However, a problem arises from the fact that research cannot be carried on without financial support, and the financing of a research project is a policy decision. A policy maker will not give financial backing to a research project unless it is going to be of some use to him.

This presupposes first of all that the policy maker is aware of the existence of a possible line of educational research and may expect it to yield useful information. However, research often uses an obscure language which is not easily made intelligible to the uninitiated. But, above all, the very relationship between academic research and active policy-making raises difficult institutional problems.

It is possible for research to be placed directly at the service of a policy. Such is the case when decisions are being taken by the policy-making body and research is given the task of exploring the processes and effects of those decisions. In these circumstances there is a considerable danger of unconscious complicity between the research worker and the policy maker, with the result that the former's findings are necessarily favourable to the decisions taken. On the other hand, there is also a danger of a contradiction between the researcher's findings and the effects hoped for by the policy maker. That is why, from this standpoint, research must be free — free in its methods, its conclusions and its publications.

But the research worker must also be able to intervene at the actual decision-making level, since he alone is in a position to challenge subjective evidence and stereotypes which cause the education system to lag behind general social developments. Innovatory solutions conceived by educational policy makers or administrators are usually conditioned by mental habits inherited from the past. There are numerous examples of innovations suggested by research workers which were rejected at

the time but came to be considered necessary a few years later. Fundamental research, like systems research, must therefore be allowed to produce deviant models and test them in a real situation. Research must be able to form part of a system which tolerates variety, even when short-term decisions are being taken. Thus freedom of research is a vital necessity. Research must be allowed to challenge coherently the system which is financing it.

These demands may, of course, appear extravagant in many respects. But they are essential if research is to be of value to decision makers. Moreover, they entail a number of institutional measures to which I shall return later.

III.

The second theme dealt with related to the other side of innovation: the one concerning teachers themselves. Here, there are two sets of questions that arise. To what extent and in what way should teachers be allowed to participate in innovation? How can an innovation be effectively introduced on a general scale once it has been evaluated?

The answers to the second question would appear to dictate the answers to the first. The central problem of innovation so far as educational policies are concerned would indeed seem to be the relative ineffectiveness of innovation when it comes to be applied on a general scale; this is the case in all European countries, irrespective of their institutional characteristics. In the light of the statements by Mr. Becher and Professor Marklund, the colloquium had an opportunity to discuss this disturbing point, and it seems possible to draw some conclusions from the information given and the ensuing exchanges of views.

Reference should be made first of all to the distinctions drawn by Mr. Becher concerning the processes of production and dissemination. It is not immaterial to the effectiveness of an innovation whether it goes from the centre to the periphery, from the periphery straight to the periphery or from the periphery to the periphery via the centre. It is significant that, in countries with centralised systems, decisions in matters concerning innovation tend to be ineffective whenever there is no voluntary participation or autonomous decision-making at school level. It is no less significant that decentralised countries are trying to establish centres to combat by encouragement and stimulation the apathy of attitudes and autonomous local structures towards innovation. A balance must therefore be sought between, on the one hand, autonomy and creativity at the local level, and on the other, centralised conception, co-ordination and stimulation. From this point of view, the statements by Mr. Becher and Professor Marklund seemed to complement each other.

In the first place, structural changes need to be initiated at the centre if the right conditions are to be created for innovation, but they are insufficient in themselves to bring about a change in attitudes. Secondly, participation by teachers in innovatory activities from the outset appears essential, if the usual hazards are to be avoided. An innovation produced outside the actual conditions in which it is to be applied is liable to be completely unsuitable. Thus the micro-system represented by a school or a classroom is essential to the study of an innovation. An idea cannot be put into practice straight from the drawing-board.

Moreover, only if an innovation is produced in actual conditions is it possible to observe how it has developed and what changes it entails in the behaviour of teachers and pupils. These observations are of the utmost value in informing the authorities about the institutional conditions in which an innovation will have some chance of being applied on a general scale. In this way the peripheral centres where controlled innovation has developed can become growth poles.

Action research, which establishes a close partnership between teachers and research workers at local level, can thus be seen to be the most efficient means of producing innovation, studying the way in which it develops, and establishing decentralised poles for future generalisation. Centres providing initial and further training would, therefore, appear to be the best places for controlled innovation.

IV.

From these methodological considerations we may go on to examine what institutional conditions are most conducive to the study and application of innovations. Widely differing educational policy-making structures are to be observed in European countries. Some are highly centralised, teaching being strictly controlled by curricula and national instructions, applied hierarchically and supervised by means of national examinations and inspectorates. Others, by contrast, are highly decentralised and allow schools maximum freedom of choice as

regards their structures, curricula, teaching methods and examination arrangements. But, whatever the institutional structure, the same problem arises, viz. how to reconcile local autonomy in conception and decision-making with the necessary central stimulation, co-ordination, planning and assessment.

It is important that central institutions should enjoy total autonomy in their study, conception and assessment activities without being isolated either from policy-making centres, or from local dissemination centres. In this respect a body for co-ordination and stimulation on the lines of the Schools Council in the United Kingdom struck many as being a noteworthy institution, as it enables teachers to participate in all stages of the innovation: planning, financing, division of labour, execution of the project, and general application through information and stimulation. A combination of this type of arrangement and structures of a more centralised kind, such as those in Sweden or France, enabling training centres to be organically associated with innovation, would seem to offer maximum effectiveness. Account should also be taken of Professor Becker's remarks regarding the need for complementarity between autonomous national centres, concerned especially with fundamental research, and regional centres in conjunction with training centres, concerned with action research.

The colloquium has unanimously agreed that it would be useful to have a European centre to co-ordinate and encourage research and innovation of mutual interest. The suggestion made by the first colloquium of directors of educational research organisations is not regarded by us as just a nice idea. It is a serious proposal. The present meeting has proved that even if European unity is only a pious hope at institutional level, it is already a reality if we consider educational problems and the attitudes, interests and methods of teachers and research workers. It is also a reality in terms of the friendships and personal contacts made during these few days and the cordial exchanges of views that have taken place despite the language barrier, thanks to the skill of the interpreters and the goodwill of everyone. Such an institution would only be a culmination of what has gradually been built up through the company of ideas and the pooling of information.

THE 1973 SURVEY OF EDUCATIONAL RESEARCH POLICY IN EUROPEAN COUNTRIES

The Committee for Educational Research carried out in 1973 a survey of educational research policy in the member States of the Council for Cultural Co-operation. The survey was based on a common questionnaire drawn up by the Committee. Replies were received from 16 countries and were published together with a prologue and an epilogue: Mr. L. Legrand, Paris, the Committee's Chairman for the 1971/72 period, analysed the replies and Professor S. Marklund, Stockholm, the actual Chairman, summarised the general issues of European co-operation in educational research and development. We reprint below these two chapters of the survey. (Documentation Centre for Education in Europe. — Educational Research Policy in European Countries, 1973 Survey. — English version, 169 p.; French version with the printers.)

The 1973 Survey is part of a series launched by the Committee to improve information on the educational research projects carried out in member States and on the research policies promoting and co-ordinating such projects. Two European Surveys of Educational Research were published in 1968 and 1970 (Documentation Centre for Education in Europe, 4 and 5 volumes respectively; out of print). However, owing to the considerable expansion of educational research in many countries, the surveys had become extremely voluminous, while the difficulties in collecting the necessary information by one centre imposed severe delays on publication. For these reasons the Committee decided that the two main elements in the surveys, research policies and research projects, should each become the subject of a separate publication. Thus the 1973 Survey was devoted to research policies while information on completed and on-going research projects became the responsibility of national agencies in member States. To date thirteen national surveys have been published and distributed on the basis of a common mailing list. We give the bibliographical details at the end.

The national surveys may be obtained from the editors and the 1973 Survey from the Council of Europe's Documentation Centre for Education in Europe.

European research policies

Analysis of the sixteen country reports

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CONTEMPORARY EDUCATIONAL PROBLEMS IN EUROPE

In Europe the last two decades have been characterised by a general transformation of educational systems. Changes have varied in extent from one country to another, and they date from different periods. But all the member states of the Council for Cultural Co-operation are currently engaged in reforms, whose general features are broadly similar despite differences in institutions and policies.

The school-leaving age is being raised to 16 years or over everywhere and an increasing number of pupils are continuing their schooling up to the age of 18 years and beyond. The reason for this is obviously to be found in European technological and urban development, the rate of which largely determines the extent of the changes made in the various educational systems.

Extension of the period of compulsory schooling is generally accompanied by some degree of structural reorganisation aimed at unifying school education by substituting the comprehensive type of school for the former system of separate schools. A largely selective and segregative system is tending to be replaced by an egalitarian and democratized system. Admittedly, this development is more marked in some countries than in others. Whereas Sweden introduced a fully comprehensive system in 1962 after a 12-year trial period, many European countries continue to have separate schools catering for selected pupils, while conducting more or less numerous experiments in comprehensive education. The comprehensive system is still very often challenged, but there is now no European country which is not trying it out to some extent at least; whether by decision of local authorities or by a general policy decision, whether they introduce it only at primary level or whether they are, as in France, half-way to a universal comprehensive system at lower secondary level (11 to 16 years).

At the same time there has been an increase throughout Europe in the number of nursery schools, designed as day-care institutions in urban areas where the employment of women is tending to eliminate the hitherto preponderant role of the family in education. Nursery schooling is also encouraged as a way of providing equal opportunities for all by neutralising — so it is hoped — socio-cultural disparities. But here again, despite this general trend, they are considerable differences between those countries where, as in France, almost all children of four and five years of age attend nursery school, and other countries which are only now realising the need for such schooling.

Finally, the whole of Europe is confronted by the acute problems associated with schooling for the 16—19 age-group and with those of permanent education. The need to adapt the training of pupils in this age-group to rapidly changing employment structures, and the equally urgent need to adapt both subject-matter and teaching methods to the new psychology of adolescents and young adults and to the new roles they are called upon to play in an urban industrial society led the European Ministers of Education to give their attention to these crucial problems in 1973 (1).

To this general survey could be added such problems as those relating to the schooling of migrant workers' children, to so-called maladjusted children and so on. However, it is not my purpose to describe in detail the various problems at present facing the leaders of all European countries, but to emphasize that current educational research is being conducted in the midst of dramatic events such as our predecessors never experienced in their society founded on stable socio-economic structures. Up to the last war, educational research might have been viewed as a pleasant occupation for a number of eccentrics, most of them seeking to attain largely Utopian and esoteric aims. Owing to the urgent social and political problems of our time, however, it has come to be looked upon as a possible source of enlightenment in a world evolving towards an uncertain future in the midst of pressing and formidable problems whose solution brooks no delay, and at a time when our leaders are very often compelled to make decisions without full knowledge of the facts and with only a vague idea of the possible consequences of their decisions.

In addition, changes in the subject-matter taught (mathematics, natural sciences and linguistics) and clearer insight into learning processes and mental development cannot but have repercussions in the classroom, whether by making it necessary to draw up new syllabuses or by increasing our knowledge about optimum teaching conditions. That is why mathematics and science syllabuses in particular have undergone changes in all European countries, and similar trends towards a change in the teaching of the mother-tongue and foreign languages are also apparent.

SOURCES FOR THIS PAPER

To what extent have these changes in structure and subject-matter been — or are still — conditioned by educational research in Europe? How are they generally studied and how does research influence the decision-making processes? These are the questions we shall try to answer. This survey, for which I crave indulgence in advance in view of the impossibility of being completely objective, is based on the following documents·

— Firstly, the European survey of educational research policies in member states, requested by the Council of Europe's Committee for Educational Research, to which the authorities of fifteen states offered substantial replies.

— Secondly, the European surveys of educational research in 1968 and 1970 and the subsequent national surveys in 1971 and 1972 ([2], [3]).

— Thirdly, the reports of visits made by experts in the course of the Committee's work.

— Finally, the "case studies" made by various specialists in preparation for the Second colloquium of Directors of Educational Research Organisations in Paris in November 1973.

These various sources being interrelated and complementary, they would appear to provide an adequate basis for the present report.

PURE RESEARCH AND APPLIED RESEARCH

It seems to me necessary, before going into detail, to define what is meant by "educational research" and to consider the relations that exist between research on the one hand and, on the other, the policy-makers and administrators in education and the teachers ultimately responsible for putting reforms into effect.

In education the term "research" has various meanings. A distinction is normally drawn between research aiming to reach conclusions and research aiming to reach decisions ([4]). In the former case, that of pure research, the researcher's work is motivated simply by the desire for knowledge — and is a strictly scientific activity whose aim is to establish the laws governing the educational phenomenon he is studying: descriptive sociological studies, aetiological studies of a sociological or economic nature, historical studies, etc. All educational studies classed as "system studies" belong to this category. Changes in educational institutions resulting from socio-economic changes; changes in attitudes or in intakes, resulting from changes in institutions; adjustment of pupil intake to economic and technological demand, etc.... all such studies, essential for a coherent educational policy, are of this type. They may be commissioned to meet the immediate needs of decision-makers, but they are almost invariably conducted on the fringe of educational policy. For various reasons — the purely theoretical motivations of researchers, the uncertain duration of the studies, the scientific maturation necessary, the gradual creation of instruments for theoretical analysis completely independent of practical political considerations — the researcher in this scientific sector, as in any other, needs to be completely free and wholly independent of the authorities. With such prerequisites, it will be immediately obvious how difficult it is to obtain the necessary funds for such research, which can only come from public or private patrons.

We shall include psychological and sociological research on mental development and learning in the same category. Here, too, researchers must be completely free from any sense of urgency and from the practical preocupations of decision-makers and teachers. Theirs is a laboratory activity. When the field of study is the classroom, pupils and teachers are observed objectively and without reference to their own immediate technical concerns. Such research naturally raises funding problems since it never appears to be immediately useful or profitable.

Research with a view to decisions, or applied research, falls into an entirely different category. It is designed to achieve specific effects — lowering of costs, better adaptation of curricula to the requirements of the different branches of study, improvement in teaching methods, inculcation of new attitudes considered desirable, and so forth. Such research necessarily involves teachers and is designed to answer their problems or to associate them in efforts to solve these. Action-research comes under this heading: the teacher at grips with the difficulties is closely associated in their solution with the researcher who is able to apply his theoretical knowledge to them with a certain objectivity and detachment. It may also be called "supervised innovation" when it is initiated by the teachers themselves in an attempt, with the help of the researcher, to solve a problem which they have encountered in their own work and are endeavouring to overcome by trying out new techniques.

Such research is always connected with innovation, whereas, in the case of the first category, innovation may be one application of the research but is fundamentally independent of it. In applied research, there are two possibilities, depending on the origin of, and responsibility for, the project. Such research may begin as laboratory research involving only a small number of pupils and teachers, and subsequently be transposed to a larger scale by transmission of the instruments or methods devised to other teachers; researchers will try to determine the best conditions for transmission and assess the results obtained from their experiments on this new scale.

An alternative method is to associate a large number of teachers with the innovation from the very beginning and enlist their collaboration in a joint project. The development and creative phases are thus closely interrelated.

Whatever the method used, such research always requires multidisciplinary teams and necessitates informing and training teachers; thus it invariably foreshadows the problems and needs that wider application will bring forth.

In what sort of context are the two types of research which we have just described conducted and what kind of researchers are capable of carrying it out? Obviously pure research must be done by specialists: sociologists, psychologists, economists and historians. Such studies will be carried out in universities or specialised university institutes. By contrast, applied research, since it necessarily involves teachers and pupils, is generally conducted in training centres (where it is a subsidiary activity), associated either with permanently experimental classes, or with classes specially selected for the experiment in normal schools. Alternatively the academic component of the research may be based in an institute specialising in applied research, or benefit from the part-time assistance of an individual academic.

What may be the links between research of these two kinds and the decisions of local or national authorities?

As already stated, pure research is highly important for decisions affecting schools. Unfortunately, it cannot generally be commissioned with a view to immediate application. Moreover, the findings often appear abstruse and unusable as they stand: they need to be translated into a language that can be understood by administrators and policy-makers. That is why such research, despite its outstanding usefulness, is often unknown to decision-makers or ignored by them.

Applied research, and supervised innovation in particular, is better known to decision-makers because it is more directly usable. But they often expect it to produce immediate results and fail to take due account of the need to train and inform teachers, which is always a lengthy and costly process.

Teachers on the other hand, often consider research, when they do not initiate it themselves, an interference or even a waste of time, especially if it demands readaptation and extra effort on their part, which naturally no one welcomes.

These analyses being necessarily of a very summary nature, the reader is referred to the specialised works mentioned in the bibliography for fuller details. The theoretical distinctions are essential, however, to a proper understanding of the problems of educational research in the framing of European educational policies.

INSTITUTIONAL FRAMEWORK FOR EDUCATIONAL RESEARCH IN EUROPE

It would be trite to point out the diversity of administrative systems and policies in education in the various European countries. One would expect to find similar diversity in the sphere of research. But we shall see that in fact this is not so and that the same problems arise in contexts which are apparently very different. Probably there is a set of underlying factors that are independent of the administrative systems, the latter being known to be conditioned by accident and history.

From an administrative and legislative point of view, the various European educational systems may be classed in three basic categories, depending on whether they are centralised or otherwise.

Most European states have a centralised system. The Minister, who expresses the political will, gives effect through his ministry to the state's educational policy, as determined by the national parliament. Educational policy can only be broadly outlined, so that the administrative authorities are left a considerable margin for manoeuvre as regards both planning and execution. Structures and programmes are worked out in detail by these administrative authorities and submitted to the political authorities for approval — at least where the general institutional framework is concerned: aim of studies, structures of the educational system and of its elements, financing arrangements. Content is usually decided by experts. The decisions taken constitute a set of regulations (curricula, syllabuses, teaching instructions) applicable to the whole educational system and implemented through the training institutes and inspectorates. In the hierarchy, the inspectorate plays a major part as an institution for guidance and information. This system of administration is practised by many European states including France, Italy, Sweden, Finland, Spain, Turkey and Cyprus.

In contrast to the centralised system there is a more or less decentralised system, of which the United Kingdom affords a typical example. Jack Wrigley of the London Schools Council writes:

"Traditionally the Secretary of State for Education is excluded from direct influence in the school curriculum. In practice, control of what is taught and the way in which it is taught is almost entirely the responsibility of individual head teachers"(6). In such a system there can be no question of defining a detailed educational policy at national level and even less of making its implementation compulsory. All that the central authority and policy-making bodies can do is define the main lines and general framework of educational policy, indicating, for instance, the direction reforms might take. The central authority has funds of its own for financing the studies and research it commissions, but it "delegates substantial responsibility to research councils and other bodies with specialist functions". Such a system is fairly exceptional in Europe and is particularly characteristic of the Anglo-Saxon world. Nevertheless similar liberal trends are to be seen in countries like Denmark and the Netherlands.

Between these two types, there is a third, apparently intermediate, type in which the federal nature of the state places the central authority in the same situation in relation to the regional authorities as the British Government occupies vis-à-vis the local education authorities. But despite this liberalism, or division of power, the educational policies applied in the individual federated states are often very centralised. This is the case, for instance, in the Federal Republic of Germany, Switzerland and Belgium. In these countries each state in the federation defines and pursues its educational policy in an independent and very centralised way, whilst federal policy is defined only in broad terms and is not binding on the member states. The federal authorities nevertheless have resources of their own for studies and research, thus creating conditions favouring liberalism and also a fair degree of autonomy at this level.

These very different types of structure must inevitably condition the nature of the influence exercised by research and its institutional framework.

It should nevertheless be added that these two opposed structures may — or may not — foster abundant and effective educational research. Both Italy and Sweden are among the countries with a markedly hierarchical educational system. Whilst, in the opinion of many observers, Sweden provides a remarkable example of co-ordination between research, innovation and policy decisions, Italy, according to the report sent in by its authorities, appears to be far less favourably placed: "So far co-operation between specialists and official bodies has produced good results as regards analyses of situations and the drafting of documents. On the other hand, their influence on the basic decisions, that is to say on policy choices and parliamentary bills, has been fairly limited." Hitherto, the situation in France has been similar, at least as far as the influence of pure research is concerned. Conversely, the United Kingdom, which is a prime example of decentralisation, is the scene of intense research activity, from which a number of European countries might well take a lead; this research has had, and continues to have, an undoubted influence on the development of the educational system.

We must therefore analyse the varied conditions of European educational systems in greater detail in order to identify the common features which are discernible.

EDUCATIONAL POLICY AND RESEARCH IN CENTRALISED STATES

In centralised systems decisions on reforms are generally made after parliamentary debates, preceded and followed by technical studies commissioned by the government from permanent or temporary advisory bodies: these are the major advisory commissions, investigating the overall scene or particular issues. This system is practised in such countries as Sweden, Italy, France and Turkey. These commissions have no power of decision; their function is to carry out studies and make proposals to governments. Their membership is decisive in determining how much weight is given to educational research in the policies of these states. Traditionally, and until quite recently, in most centralised European countries, research had a very limited place in these committees. They are generally composed of eminent persons from university circles (professors and administrators), who bring to the debates and conclusions the fruits of their experience and personal knowledge of the problems considered. Thus the influence exerted by educational research in these committees depends on how well informed the members are of its conclusions on the subject and, unfortunately, their information is often extremely slight. The reason for this is to be found in the opinion of educational research currently held in teaching circles.

The Italian report is particularly revealing on this point: "For a long time — let us say, up to the beginning of the fifties — no one would consider pedagogics as a science, not even a science of education dealing with teaching techniques (and now

with technology). It was felt that the teacher needed, above all, to know the subject he was teaching, and insufficient stress was placed on his need for technical preparation for his profession." Until recently the situation in France was fairly similar: "Previously the need for research was undoubtedly felt, but only marginally, as those responsible seemed to consider that research would not be of much use to them in matters requiring immediate action." A little further on, in the same report on educational research from the French delegation, we read: "The place occupied by educational research in decision-making over the last twenty years seems very small if judged solely by administrative criteria. For example, whereas the large-scale reorganisation of the education system between 1945 and 1970 — the main aspects of which were of course the 1959 reform of school education and 1968 Higher Education Act (Loi d'orientation) — led to the publication of a great many regulations, research problems have been made the subject of only three or four fairly minor circulars."

It should nevertheless be added that the major structural changes — raising of the school-leaving age, introduction of middle schools, development of the teaching of technical subjects, organisation of higher education — were decided on by the authorities in response to economic planning needs and that the major education committees had less say in these matters than the planners. The latter obviously relied on basic economic studies, generally unknown to educationists or rejected by them in the name of theoretical and axiological purity of teaching ("Teaching is not an industry").

The parallel situation in Sweden is extremely illuminating. The same system of having committees prepare decisions has been in operation since 1940, but these committees have always explicitly based their investigations on the findings of research carried out before or at the same time and, increasingly frequently, at their instigation. The parliamentary decision in 1962 instituting comprehensive schools was preceded by a twelve-year trial period, during which "educational research was built into the educational system as a whole. It (this research) includes discipline-oriented as well as policy-oriented research" (5). This twelve-year development period made it possible to study and evaluate the new system (6).

It is noteworthy that the Swedish method seems to be being adopted increasingly in the centralised European countries. This is the case in France, for instance, where the major national committees have recently taken to inquiring into current research at home and abroad, and to requesting (and obtaining) considerable appropriations for carrying out the surveys and research which they need to inform their conclusions. The recent establishment of central research institutes in most centralised European countries is evidence of this new awareness of the importance of educational research — I shall come back to this later. Similarly, the authorities appear increasingly anxious to assess the effects of their decisions and to use educational research to do so after innovations have been introduced.

One characteristic of centralised education systems is the influence of public opinion on decision-making and advisory bodies. The latter may exert their influence, whether positive or negative, on all reforms under study or begun. Educational research may find in this a back door more effective than the institutional channels, at least when the public's interest has been aroused and they have been correctly informed about the results of research at home and abroad. Educational problems are in fact debated by trade-unions, professional societies, political parties and parents associations. But these debates may or may not draw on the results of educational research just as the decision-making bodies may or may not favour the accuracy of the discussions depending on whether or not they are systematic in the study and application of reforms.

There is an obvious danger of these debates remaining on a purely emotional plane and of research data being used only for polemical purposes if indeed the results are actually known, which is only rarely the case. But where the political authorities have taken care, as in Sweden, to associate the public closely with the successive phases in the preparation of reforms, misunderstandings and the risks of obstruction are minimized, as are the risks of unilateral decisions dictated by political fervour rather than the wise implementation of democratically defined aims based on research findings.

Although, in very hierarchical systems, the pressure exerted by public opinion, or by associations of teachers or parents is the major moving factor there is a grave risk in such conditions from unreasoning conservatism or its opposite, ill-founded reforming radicalism. Wherever decisions are made without the public being sufficiently informed and involved, there are serious dangers of breakdowns: society, teachers and parents may reject technocratic political decisions; or curricular

changes obtained, for instance, through pressure from some professional association may be rejected by teachers who have not been consulted or by parents confronted with a fait accompli. There is no lack of examples in Europe of reforms pushed through in this way failing partially or completely, even when technically sound, because there has been insufficient preparation for the change.

In fact in centralised systems decision-making seems easy — whatever the importance accorded to research in the preliminary studies — but the major difficulty lies in giving effect to the decisions and translating laws and regulations into new institutions and attitudes. This is where decision-oriented research, supervised innovation and development come into play. In highly centralised countries it is customary, in general, to minimise the distance separating a legal decision and its execution. There is a tendency to think that texts alone can change an institution and that the influence of the inspectorate and the pressures it brings to bear should suffice to ensure general implementation. Thus reforms are introduced without prior trial, simply by changing the regulations governing organisation, curricula and syllabuses, or instructions. As the various reports confirm, this is illusory: such methods prove ineffective everywhere.

Hierarchical and centralised systems are characterised by extreme rigidity; spontaneous innovation by the school or the individual teacher is frowned on: it is invariably regarded as a deviation from the normal and generally considered suspect. Moreover a centralised and generalised examination system is largely responsible for maintaining conformism, which is transmitted through stereo-typed initial teacher-training and inspectoral fiats.

The states, increasingly aware of this major problem, have generally got round it by instituting experimental schools, where innovations approved in principle can be tried out and followed by specialised research institutes. As a rule, these schools, which are generally attached to centres for initial and in-service teacher-training, volunteer for this experimental work and additional resources are made available to them (funds, equipment, staff). They play a major part in reforms in Sweden and France, and a more modest one, it would appear, in Italy. But the step from isolation to general application continues to pose so far unsolved problems. This last remains dependent, in a centralised system, upon regulations and involves compulsion, whereas the experiment is voluntary. General implementation therefore implies a considerable sum of training and information work, which national budgets cannot always afford. Training courses are indeed organised and information is circulated or televised. But almost everywhere the impact is less than was hoped for and less than the minimum necessary for real effectiveness.

Once again, Sweden provides us with an outstanding example. Most centralised countries have apparently failed to grasp the essential interplay between conception and application in the process of innovation. The technological model is that which seems usually to apply: study by committees, proposals, decisions, small scale experiment, general implementation. While this may be a suitable enough process for the developing and selling of a car engine, it hardly seems appropriate for the dissemination of new educational methods demanding a change of attitude on the part of teachers. The answer would appear to lie in the greatest possible degree of participation by all parties in the decision-making and experimentation processes. If it is to be effective, educational research, whether pure or applied, should involve as many people as possible — specialists, teachers, parents, administrators — in the various stages of the reform process. In centralised systems, generalised action-research appears to be the only effective way of avoiding the obstructions inevitable in any progressive hierarchical system; it must afford scope for initiative and voluntary commitment within a general context defined by the democratic authority. Passive reception and mere obedience can never generalise an innovation, which is, by definition, creative.

EDUCATIONAL POLICY AND RESEARCH IN DECENTRALISED STATES

Study of the decentralised systems and their problems as regards innovation ultimately leads to the same conclusions. The United Kingdom is obviously a very special case in Europe, from the point of view of educational policy. To a certain extent countries like Denmark and the Netherlands are similar, as are some of the states belonging to federations, which we shall deal with later. In the United Kingdom, in the words of their report, "control over school curricula, for instance, is assigned in law to local education authorities, and delegated by them in large measure to schools". The same is true of Denmark where, "the administration and organisation of the 'folkeskolen' is decentralised, which means that each municipality is

comparatively free to plan in accordance with local wishes and possibilities. This applies mainly to the organisation of the local school structure but also to regulations governing instruction itself, including the weight and extent of a single subject". The same applies to the Netherlands.

In these circumstances, the function of the central government is simply to encourage and advise. It has to define general guidelines in educational policy and propose that the local authorities adhere to them. But they are not bound to do so and interpretations vary considerably.

In this kind of political system, pure and applied research assume some rather special characteristics. Pure research, which demands considerable financial resources, cannot be developed at local level. It is commissioned nationally, either by the central government to help it formulate its policy guidelines, or by private foundations operating on a national scale. In all these cases the results of research are deprived of any hierarchic or institutional authority. The researchers' function is simply to provide information, since decisions are made at local or even school level and there is consequently no question of imposing or dictating. This non-involvement is conducive to freedom in research with regard to both the subjects investigated and to the way in which research is conducted, although it is only possible where the funding bodies — and the state in particular — consider educational research to be of value for its own sake and worth financing. Hence, the attitude is really more important than its administrative context.

As to applied research, obviously a highly decentralised system is logically propitious to innovation, the origin of all practical research. Any local initiative is permitted by the law. Consequently, relations between experimental schools and applied research institutes are necessarily based on free contract and lack any hierarchic character whether restrictive or incentive. In centralised systems the legal texts authorising the establishment of experimental sectors are ambiguous. The very fact of calling a school 'experimental' places it in a hierarchic situation in relation to the institute to which it is attached, but above all seems to set it apart from the system and consequently renders it suspect in the eyes of local authorities. This leads to friction since this freedom can never be absolute, particularly because of examinations and administrative funds. In a decentralised system, the school makes a free contract with the research institute. This is probably the explanation for the development of supervised innovation in the United Kingdom, where there has been a notable increase in research activity, hitherto financed chiefly by private foundations and teachers' associations.

Nevertheless, it seems that this freedom of innovation rapidly reaches its limits and that the central authorities feel tempted to intervene on account of the relative rigidity of the English educational system. The recent institution of the Schools Council is the direct response to the concern felt by the national authorities. "The Schools Council for the Curriculum and Examinations grew out of a recognition by all branches of the education service that co-operative machinery was needed to organise a more rapid, and more effective, response to these changes" (in knowledge and in society) (5). Freedom of decision at the lowest levels undoubtedly means freedom to change, but it also means freedom not to change. When social development renders educational development necessary, such freedom may become a hindrance, particularly when there is evidence that information from research institutes is not reaching teachers. However, there can be no recourse to compulsion under the English system and for that reason the Schools Council is confronted with the following problems:

— "how to provide an acceptable impetus for an increased rate of change in the curriculum;

— how to persuade teachers that curricular changes should be based on careful research and development;

— how to communicate new ideas, new content, new methods, new ways of organising schools, and especially, new aims to teachers." (6) .

At about the time when the Schools Council was set up and at the instigation of the Nuffield Foundation and the Schools Council itself, Teachers Centres came into being. These are meeting places and permanent training centres with which the Council maintains contacts through its team of Field Officers. At present there are about five hundred of these centres in England and Wales.

The Schools Council is a basically democratic institution with a majority representation of teachers, which systematically decentralises the research it sponsors. Nevertheless, in the words of Jack Wrigley, the Schools Council "remains a central agency in a decentralised system" (6). It was the difficulties of development in a decentralised system which led to its establishment, and its problem, like that of the central development agencies in centralised countries, remains the dissemination of innovation and how to make this effective.

EDUCATIONAL POLICY AND RESEARCH IN FEDERAL STATES

Federal European countries make up a third group, typified by the Federal Republic of Germany but also comprising Switzerland and Belgium. The situation in these countries is comparable at national level to that in the United Kingdom; while the individual federated states have either a centralised or a decentralised system. In other words, the federal government may issue only directives and recommendations — often the outcome of hard negotiation and compromise — but these are not binding on the federated states, which have exclusive jurisdiction as regards their own educational policy. This situation involves the same advantages and disadvantages for basic research as in the case of decentralised countries: freedom of research but a relative absence of responsibility.

Independent research institutes, like the Max-Planck Institute for Educational Research, may be set up and engage in high-level theoretical research with the help of untied grants from the federal government or the Länder. Highly qualified researchers sit on, or indeed chair the main federal committees. National private foundations set up independent educational research institutes (e. g., Volkswagenwerk). Unfortunately, the counterpart to the high level and disinterested nature of the research is fairly general ignorance, at executive level, of the nature and significance of the research, viewed with admiration by some but usually, by the rest, with a certain scorn.

The research commissioned at federal level is motivated largely by the need for co-ordination between the federated states, a need which grows with the increasing mobility of the population. Thus comparative educational studies are considered essential by leaders anxious to co-ordinate curricula, examinations and methods and also to adapt local education systems to the needs of a society in the throes of technological development. Switzerland has lately started setting up inter-cantonal institutes to perform these two functions.

The situation in the individual federated states is generally similar to that existing in centralised European states. The difference — a significant one — lies in the smaller size of these states, which naturally have far smaller populations than countries such as France, Italy, or Spain, and are thus closer to Sweden. In these demographic conditions, the administrators are much closer to the public, information is more easily communicated and reception is less likely to be inhibited by latent hostility towards a distant and impersonal central authority. In addition, each state has set up research and development institutes of its own, so that there is an extraordinary number of these. In Federal Germany, every Land has a research institute similar to the one French national institute for educational research and documentation (the INRDP) although the latter's regional offices could play the same role as the institutes of the German Länder. But the independent local authorities of the Länder are prepared to finance regional institutes of this kind whereas the central French authorities see no need for them. The situation in Switzerland and Belgium is the same as in Germany.

Consequently, research-innovation in the federated states is expanding quite exceptionally although it is still too early to be able to assess the results. The situation in the individual Länder, as described by the German report, is the same as that observed by the Italian and French reports in their respective countries, namely: "(In the first place) co-operation between researchers and teachers, administrators and parents is institutionalised at the Land level in the form of the school advisory councils set up by the Ministries of Education and comprising representatives of all groups and associations concerned with school education. The task of these advisory councils is to assist the education authorities in the preparation of legislation, to discuss matters of fundamental importance, and to make proposals. Research still plays only a minor role in this process, however."

As in the centralised countries, the situation is developing rapidly and the concern to observe and assess innovations objectively is reflected in the increasingly numerous tasks assigned to local institutes. In the classroom, however, prejudice against research is still very strong. The problem is the same everywhere: the wide dissemination of results, for this entails not only informing teachers, but also, and above all, modifying their attitudes. Faith in educational research and its findings presupposes an awareness of the importance of empiricism in teaching, something still quite rare in Europe, where teachers continue to cling to a strictly academic conception of their role and still view teaching as an individual art serving to impart social values. We should ask ourselves in what respects such an attitude is valid and to what extent it is really incompatible with an empirical approach to teaching and to the distribution of responsibility in education. The harmonisation of these two approaches, if it could be achieved, might be the unique contribution of European educational research.

Let us complete the picture with data on research institutes, the financing of research, the communication of information and finally, the priority sectors of research.

THE VARIOUS RESEARCH INSTITUTES

There are several kinds of educational research institutes in European countries.

The Schools Council for England and Wales is an original body which has an equivalent in Scotland and a more recent one in Denmark. It is a national body whose chief function is to co-ordinate and sponsor applied research immediately usable in the classroom. It is democratic in composition — decisions on the choice and financing of research projects are made independently by its committees, on which teachers' representatives sit side by side with administrators, the former having a majority of the seats. The research financed by the Council is entrusted to outside institutions or persons appointed as project directors. The financial means at its disposal are mainly government funds. It disseminates research findings to regional centres set up by teachers or local authorities. It has a number of field officers responsible for disseminating information, but they have no powers of decision or assessment.

Such bodies also exist in centralised countries, but they are more closely dependent on ministries and generally take the form of ad hoc committees or national centres. This is the case in Sweden, Finland, Spain and quite recently in France, where the activities of the CNRS (National Scientific Research Centre) have been extended to the field of education. The INRDP (French National Institute for Educational Research and Documentation) is also trying to channel part of its activity into sponsoring and co-ordinating research carried out in universities. But the thoroughly democratic nature of the Schools Council seems to be unmatched in any of the centralised countries.

Secondly, there is a number of large institutions engaged exclusively on pure research: the National Foundation for Educational Research in Great Britain, the Max-Planck Institute in Berlin, the Deutsches Institut für Internationale Pädagogische Forschung in Frankfurt, the Institut National pour l'Orientation Professionelle in Paris, and the Laboratoire de Pédagogie Expérimentale de l'Université de Liège. These bodies are financed by state subsidies, by private funds, or by both.

FINANCE

What proportion of their budget do the various countries spend on educational research? The replies to this indiscreet question were unusable. Some said they were unable to give a precise figure for educational research as distinct from general administration or education as a whole; others gave figures which it is impossible to compare. We can safely assume from this lack of precision that in many countries educational research has not yet achieved a degree of autonomy justifying a separate budget entry; far from it. Only national bodies and the large institutes are able to state the cost of research and the amounts spent in the individual sectors. But these sums represent only a part of the total actually spent on educational research, on diverse and often spontaneous projects. Proper planning and budgeting are the concomitants of a concerted educational research policy and the absence of a separate budget is a sure indication of the absence of a coherent policy. Very few states in Europe have an independent budget for educational research and for that reason it is regrettably impossible to give a general picture of the situation in this regard.

It should be noted that a substantial part of research in the United Kingdom, and a lesser part in the Federal Republic of Germany, is financed from private funds: foundations or sponsoring associations. This does not happen in centralised states.

Thirdly, there are, as a rule, national institutes for applied research in all states; these are responsible for recording spontaneous experiments, preparing new curricula, syllabuses and teaching materials, disseminating new methods and assessing results achieved. These centres are financed by the state, or more rarely private foundations, and have experimental schools. They are also responsible for disseminating information and sometimes, though less frequently, for training.

Fourthly, research is occasionally carried out by teacher-training centres, whether university centres or specialised training colleges. The research carried out in this way is always applied research.

Finally, in all European countries, universities carry out research, primarily for doctoral theses dealing mostly with educational doctrine and history; empirical research is generally done in psychology or sociology departments.

COMMUNICATION OF INFORMATION

The importance of information for the exploitation of educational research has already been stressed.

This information is transmitted both to administrators and policy-makers and to teachers. All the reports stress communication difficulties and the inadequacy of communication methods. The Swedish authorities themselves refer to shortcomings in the dissemination of information in their country and we saw that the English Schools Council was set up specifically to improve dissemination.

The traditional information channels are public or private publications. Institutes and universities publish their research findings in specialised journals with a very small circulation, which are read only by specialists and have no direct influence on the general public, not even on teachers, as enquiries carried out by the Schools Council (6), for instance, or the French INRDP (7) have shown.

The journals of unions or of professional associations do, however, mention research findings. Though not insignificant, these journals are not really very effective either, for they, too, have only a small readership. Publications issued by parents associations have also started to publish information about research. The leading newspapers mention research occasionally in connection with controversial or sensational topics. The French press, for instance, entered into the controversy concerning research on the teaching of French but, though this controversy helped to publicise the matter, it does not seem to have brought us any nearer to its solution.

Authors of reports were unanimous in stressing the slender impact of written information. The use of television to keep teachers informed is increasing but this too cannot be fully effective unless accompanied by individualised permanent training. All the European states are making an effort in this direction: one-day teach-ins and other courses of varying length are being instituted, but, everywhere, the action taken is still considered inadequate. Permanent training continues to be voluntary: this is the rule in decentralised countries and the small sums spent on it in centralised countries lead to the same result. But the conventional methods employed everywhere in these training schemes raise the question of their effectiveness. The voluntary system is necessary to avoid rejection of compulsory retraining, but the didactic nature of permanent education and its frequently "academic" character often discourage participants who expect instant solutions rather than general theoretical discussions, inappropriate to their knowledge and desires. Applied research in necessary in this field together with exact assessments by way of guidance for the authorities.

As to information on basic research, or at least that part of it which could be useful to policy-makers, we have already pointed out its inadequacy. Teachers consider the studies to be inaccessible and of little interest. Only economists seem to know of them, and the American studies on the adaption of educational systems to industrial societies, sociological studies on obstacles to democratisation, psychological studies on the contemporary adolescent and on teacher-pupil relationships have undoubtedly had some effect, albeit indirect, on the conclusions of the major committees and, above all, on the decisions made by administrators and policy-makers. Remember, however, that these decisions, usually made in a technocratic fashion, are unpopular with teachers and the public who, because they are completely unfamiliar with such studies and tend to adopt conservative and emotional attitudes, regard these decisions as unnecessary and obstructive.

Once again Sweden sets an example which should be copied by all European countries. The close association of teachers, researchers, parents, policy-makers and administrators with every stage of the reformatory process reduces risks of obstruction to the minimum. Supervised innovation and general participation seem to be the most effective methods for any progressive educational policy.

TENTATIVE CONCLUSIONS

Is it possible to draw any conclusions from this attempted survey of national reports?

Despite the considerable diversity in existing conditions and rates of development, a number of common trends and characteristics are apparent in educational research in Europe.

First of all, we are witnessing an undoubted explosion of initiatives in this field. Whereas ten years ago only a few European countries such as Sweden and the United Kingdom attached any importance to educational research in their policy-making, today, all countries without exception have now set up central bodies to sponsor and co-ordinate research and disseminate information. The Council of Europe's notable efforts to improve the circulation of information among member countries are not unconnected with this gratifying development. The requirements to carry out the major surveys of 1968 and 1970, and the joint decision taken in 1972/73 to bring our information up to date every year or every two years through national surveys have obviously drawn the attention of

ministry officials to the existence of educational research in their own countries and encouraged them to compare it with that of their neighbours. Some have even learned, in this way, of the flourishing educational research across the Atlantic. The American ERIC system has undoubtedly served as an example. Researchers and innovators, accustomed to working with scant means amidst general indifference, have at last emerged from the shadows. The role of educational research in determining educational policy is still far from being universally accepted. Continental countries in general and the Latin countries in particular are still very sceptical about empirical research in a field considered by most teachers to be one of values, philosophy and religion, and of freedom of choice for parents and teachers. The need to relate political, and hence ethical, choices to empirical knowledge is not yet recognised by everyone, not by a long way. But educational research has come in from the cold. Funds are provided for it, even if this is still felt to be expenditure for the sake of prestige, serving no real purpose but necessary to the country's international "image".

Moreover, it is noteworthy that applied research, that is, innovation in the structure of the educational system and in the classroom, has so far been the main beneficiary of this growing interest. There is evidence of this in the growing number of applied research institutes, which are required more and more to prepare curricula (content and methods) and assess the effects of changes in structure. This development has its counterpart in the still rather hesitant but more or less general steps being taken to organise permanent education. The present situation regarding what are considered by the various European countries to be priority areas of research is highly revealing. It shows that there is a certain constancy in the development of research, a process which all countries pass through, the more advanced having themselves traversed the same stages as the less advanced are going through now.

Applied research generally begins with curricular innovation, changes in mathematics, science and modern language syllabuses. Basically these innovations make no vital changes in the system; they are designed to meet new needs in university teaching and do not reflect any sociological, economic or psychological change in education. Educational technology, i. e., films, tape-recorders and television, represents a second advanced sector of innovation, which has its origins outside the educational system itself, for instance in the concern of planners to reduce staffing costs in education or of manufacturers to find new markets. Generally speaking, such innovations are slow to be accepted because they represent a change of role for teachers, who therefore resist them. These innovations no longer occupy the forefront in the countries leading in this field.

The second series of initiatives concerns the observation and assessment of major structural reforms in compulsory education decreed or proposed by governments: institution of middle schools, comprehensive schools and guidance systems, reform of examinations. This kind of applied research results from policy decisions made for ideological or economic reasons at the instigation of planners relying on the findings of basic economic research, and without the teachers being consulted.

Finally, and much later, the basic problems are raised: those of higher education, the adaptation of student intake to the needs of the economy, the retroactive effects on subject-matter, teaching methods and structures of changes in job qualifications and attitudes. Here pure research appears to be essential, to submit piecemeal curriculum innovations to a thorough examination. Most European countries have only just reached this stage, but the movement seems to be gaining ground and gathering momentum.

It becomes obvious, in these conditions, that the funds provided for pure research, which at one time seemed to serve so little purpose, are inadequate. Admittedly, there are, as we have seen, a few large pure research institutes in the educational system: The Max-Planck Institute in Berlin, the Paris Centre d'études sociologiques and the National Foundation for Educational Research in Slough, to give some well-known examples. But most research is done in universities, which are still ill-prepared for empirical research and are limited by their resources to doctoral studies by individuals, these being clearly inappropriate to subjects which require team-work that is both lengthy and costly.

The situation would seem to call for a bold policy and, above all, for a liberal policy, enabling considerable sums to be invested in research which, when proposed, may appear to be of little use but whose findings may later prove essential to decision-making. Centralised systems appear to be unfavourable to seemingly unnecessary research of this kind and so it would seem desirable to set up institutions with a large degree of scientific autonomy, yet financed by public funds. A European framework might be suitable for this sort of joint venture, modelled on European scientific founda-

tions such as CERN or the European Science Foundation now being set up (8). This seems to be absolutely essential if Europe wishes to put an end to its de facto subordination to American research.

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General issues of european co-operation in educational research and development

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BACKGROUND

Premises

This paper sets out to discuss the possibilities and terms of educational research and development within the European cultural community. Schools and education are profoundly influenced by national and local idiosyncrasies, but there are nonetheless certain features which are common to the educational systems of the various countries. As a result those countries are often confronted by similar problems. This in turn implies that an investigation should be made to see how different countries can benefit from each other's experience and how they can co-operate in order to concentrate or distribute joint efforts.

The following is not really a plan to show how educational research and development common to the European cultural community should be ordered. Rather it is to be seen as a probability assessment of urgently needed measures, an outline sketch based on general characteristics and trends. The longer the period it covers, the more general an assessment of this kind becomes. In the present case a period of some ten years is involved.

The term "school" is used here in its broadest sense, so that apart from primary and secondary education it also includes nursery school, adult education and higher education up to the research and post-graduate stage. In certain respects the assessments made below are also relevant to post-graduate research training.

Basic assumptions

Any assessment of the future is bound to proceed on certain basic assumptions if it is to be more than a concatenation of speculation and guesswork.

One such assumption made here is that the countries in question will not be affected by wars or equally revolutionary events. Another is that there will be no radical changes in the financial circumstances of education. It should be borne in mind, however, that many assessments in recent years have indicated that educational investment and running costs are unlikely to increase at the same rate during the 1970s as during the preceding decade. If we ought thus to bargain for the possibility of there being no increase in the proportion of social resources allotted to education as a whole, this should not be taken to apply to each individual sector of education. Nursery school and adult education may require a larger proportion, in which case there will have to be a relative reduction of the resources channelled into other sectors. In other words, there may be occasion for a revision of priorities.

Another assumption is that the overall goals and values expressed by schools and education will not be fundamentally transformed over the next ten years. These goals are dealt with in greater detail later on.

Effects of previous decisions

To the assumptions of the kind mentioned above can be added facts and circumstances of a more palpable nature. The school system is in a constant process of reform. Certain decisions of educational policy have not yet been put into effect but can be expected to come into force during the next ten years. This may apply to decisions concerning the duration of compulsory schooling, school organisation, the dimensions of higher education, etc.

Even where no such political decisions have as yet been taken, there may still be cause to adopt them as a basis for assessment. This may be the case with matters which have been the subject of discussions and planning or which have been raised by international, national or government committees and commissions.

The development of society at large

Decisions and plans of the kind indicated above can influence schools and their activities even if they are not directly concerned with schools but with other social matters. Progressive urbanisation and increasing migration are two such factors. Others include technical development, structural change in industry, the automation of work processes, computer techniques, electronics, etc. The growth of communications, the increased supply of information, the activities of the mass media, etc., are as active a force as industrial and vocational changes in the transformation of education. Improved living standards and increased leisure are increasing educational opportunities at the same time as the unintentional environmental effects they produce may increase the need for education, and so on.

Long-term assessment: methods

Trend description

Obviously factors of the kind mentioned above are difficult to interpret, so that an assessment of the future is always open to discussion. This paper is therefore to be seen mainly as a description of development trends in schools in recent years. Any extrapolation into the future of events during the past few years is uncertain, however, even if, as in the present case, it is based on definite assumptions and on definite scheduled and planned changes in schools and in the community.

Inventory of problems

As can be seen below, a description of development trends leads directly to an inventory of presumptive problems. Although the changes expected to take place in school are designed to solve existing problems, this does not preclude their resulting in new demands and therefore in new problems. The identification of such presumptive problems must also be based on certain general evaluations, e. g., of relations between the individual and the community, questions on which no forecast or plan can be absolutely neutral. Thus assessments of the future which include trend descriptions and forecasts concerning problems are also bound to be dependent on the view of humanity, the image of society and the "Weltanschauung" from which they proceed.

Assessment of the current situation

Thus the trend assessment automatically leads to a problem assessment. Certain problems may then appear particularly important. The order of priority

for measures to solve such problems should then form the basis of a school development plan. The various links in this chain of action are interlinked and cannnot in practice be separated.

If a long-term assessment is to be realistic it must begin with reliable knowledge of the initial situation within the activities to which it refers. A description of the current situation is therefore also a necessary ingredient of a long-term assessment. A series of surveys of educational research to form the basis of a description of the current situation in different educational sectors has in fact begun under the auspices of European cultural co-operation.

THE GENERAL TASKS AND FUNCTIONS OF SCHOOL

The goals of school

We have already assumed that the overall goals and values of school and education will remain essentially unaltered during the ten-year period. What then are these goals and values?

If we begin with the definitions included in the educational legislation and regulations of the European countries, we find goals which are quite similar in content even though the phraseology may vary. Briefly these goals may be said to fall into three categories.

The first category concerns the task of school to help the individual pupil achieve a favourable personal and individual development. In other words, the *self-realisation of the individual* is to be promoted. His inherent ability must be brought out regardless of external conditions and demands.

Another category of goals emphasises efficiency, professional skill and productivity, in short *usefulness to the community.*

A third category of goals refers to *equality* and fairness between pupils striving for the preceding goals. Equality here refers to "life chances" in a broad sense and is thus not restricted to success in education. This third category of goals can also be regarded as a means.

To these three goals can be added a series of secondary goals, e. g., the task of school to take care of pupils and keep them occupied during a certain period of time, to provide work for teachers and other personnel, etc.

Does school attain the goals specified?

Thus the overall goals of school define the framework for a long-term assessment. If school does not completely attain its goals, what can and should be done to increase goal attainment?

As was mentioned earlier an assessment of the future is invariably dependent on certain valuations made by the assessor. Accordingly the answers to the above question regarding goal attainment in school will also depend on the values of the respondent. Here we shall only consider two principal questions on which value judgments can be expected from school and education or indeed can be demanded from school by others.

One of these questions of values concerns the external human environment and the human situation in general. Industrial development in our cultural sphere is now thought to be consuming natural resources to an extent which threatens man's existence. Left to itself this industrial development, together with the market forces allied to it, can make the goals of school as defined above more difficult, if not impossible, to attain. The responsibility of school for the individual as an individual and as a member of society must be emphasised and respected. The concepts of living standard and welfare can be expected to form the subject of a lively discussion during the coming ten years and they may be reassessed. This will affect the organisation, content and working methods of school, even if the overall objectives of school as defined above remain unaltered.

Another question of values concerns individual responsibility for and participation in an active cultural life. The present dissemination of an established culture can reduce the individual to a mere passive recipient of information. This in turn can lead to cultural alienation in the form of drop-out cultures, mysticism, drug addition, etc. The role of school in raising social problems of this kind more directly than at present may lead to new tasks and working methods.

Attention has for a long time been drawn to the tendency of school to institutionalise itself and to live apart from the rest of society. The deschooling debate of recent years has been concerned among other things with provisions for the co-ordination of social and educational measures and for better provision in school and teaching for the needs and interests of different groups.

Similar values and attitudes have prompted the growing demand for adult education and recurrent education. A far-reaching co-ordination of education and work also forms the basis of ideas put forward in various connections regarding "life-long education", "éducation permanente" and suchlike. Educational systems of this kind are fundamentally different from the present school system. They transform child and youth education as well as adult education and the relationships between education and working life. School becomes a more flexible and open system and its institutional peculiarities diminish.

DEVELOPMENT TRENDS

Disposition of the assessments

The development trends outlined below are based on a collective assessment in accordance with deliberations of the kind mentioned above, i. e.

- assumptions concerning developments during a coming period of time with regard to fundamental economic, social and educational conditions,
- the extrapolation of present development tendencies in school and education,
- observation of scheduled or planned changes of importance to school and education,
- assessments based on certain valuations concerning the responsibility of school in relation to society at large.

The assessments composing this section have been arranged in five groups. The first three of these, pre-compulsory education, compulsory education and post-compulsory education look at the educational system from the standpoint of the individual in a future system. It should be noted that this triad, covering the total span of education, diverges from the traditional sequence of pre-primary, primary, secondary, vocational, higher and adult education. It is not possible, however, to exclude these traditional concepts in a presentation of assessments. Some aspects of school and education, which are not easily handled under these three headings, are presented separately, namely teacher education and general and overall educational questions. It should be emphasised, however, that a division of this kind can only be used as long as it serves the purposes of the long-term assessment and of a development of school and education within the European cultural community on the basis of that assessment. Thus the assessments comprise both development tendencies and presumptive educational problems.

Pre-compulsory education

Universal pre-compulsory school

The introduction of universal pre-compulsory school is a topic of discussion everywhere in Europe. In all countries great hopes are being attached to the possible achievements of universal pre-compulsory school, which above all is seen as a means of helping children from homes offering less stimulating social and cultural environments to an optimum of social and individual development. In other words, pre-compulsory schools are expected to promote greater social equality. Educational development work should include an investigation of the real possibilities of an expanded pre-compulsory school in these respects. The problems confronting universal pre-compulsory school are related not least to finance and organisation. Complete universal pre-compulsory school facilities are at present only available in limited areas. The expansion now in progress provides an excellent opportunity for countries to support and assist one another.

A universal pre-compulsory school also requires closer co-ordination between pre-compulsory school and compulsory school. The strong emphasis placed on the social tasks of pre-compulsory school also implies co-ordination between pre-compulsory school and leisure centres, day care centres and similar social amenities.

The goals of pre-compulsory education

Two camps often crystallise out of debates on the goals of pre-compulsory education. One of these stresses the role of pre-compulsory school in caring for the children, especially when their parents are gainfully employed or need help with the supervision of their children for other reasons. The other camp stresses the educational tasks of pre-compulsory school, according to which children should acquire and practise certain skills. Sometimes the conflict of opinion between these goals is rendered more acute by recriminations alleging on the one hand that pre-compulsory school is no more than a child-minding institution and on the other hand that it is merely an anticipation of regular school-

ing. The next ten years will probably be characterised by experiments with different forms of pre-compulsory schooling. These experiments should be backed up with educational research and evaluation, which can be made common to several countries.

Development programme

Prior to the establishment of universal pre-compulsory school there should be every opportunity of drawing up an integral programme for its activities. The important task here will be to devise a synthesis of the dual goal which the pre-compulsory school is said to have, combining care and supervision with measures to stimulate social, emotional and intellectual development. Modern developmental psychology and new theories of concept formation and communication training will probably lead to a series of different pre-compulsory school programmes. The important task here will be to clarify the goals of the activities and to follow up and evaluate processes and resources.

Organisation

Organisation questions are often unclear, e. g., as regards who is to be administratively, financially, socially and educationally responsible for activities. Groups of different sizes and composition should be tested, as should different kinds of daily programmes. One important question concerns the personnel categories to take charge of activities. Pre-compulsory school teachers, nursing personnel and auxiliary personnel can be used. The training of these personnel groups is another matter in need of attention.

Compulsory education

The commencement of schooling

The question of children starting school at an earlier age has long been discussed, particularly in countries where compulsory schooling does not begin until the children are seven years old. Universal pre-compulsory school places this question in a new light. Regardless of whether children aged between three to seven years attend pre-compulsory school or compulsory school, the activities provided for them should be studied and scrutinised very closely. Comparative studies may have to be made of a flexible school starting age. Other forms of collaboration between pre-compulsory school and primary school may entail giving a more specifically educational content to pre-compulsory school activities or, at least in the case of certain children, allowing the freer working procedures of pre-compulsory school to be continued in compulsory school.

A more consistent co-ordination of pre-compulsory school and compulsory school programmes should form an important feature of joint European development work. The results of such a co-ordination can influence compulsory schooling as a whole, not merely the age at which children start school.

The duration of schooling

Within two decades compulsory schooling has been prolonged in the majority of European countries and now covers eight to ten years. Will this trend continue? Probably it will be broken. There are many signs of an inclination to stop at this eight to ten years, which does not prevent more and more pupils going on to post-compulsory education. On the contrary, one is perhaps entitled to expect that a greater variety of forms will need to be given to the termination of compulsory schooling than at present. Thus the question may arise of pupils who are considered to be in need of other occupations than schooling, be it on account of adjustment difficulties or for other reasons, being found regular employment through the good offices of the school, which however may still be responsible for them until the end of their period of compulsory schooling. Various combinations of study and work may have to be tested. It should also be noted that no small proportion of pupils may be prejudiced in their development and adjustment during their compulsory schooling if school work is given a predominantly intellectual slant. Problems of this kind extend beyond the confines of the individual country and school system and should be investigated more thoroughly.

Range of subjects

The basic skills of speech, reading, writing and arithmetic will continue to form the nucleus of the programme of the compulsory school. To these will now be added at least one foreign language.

Changes may occur, however, in the working and learning methods used for these skills, above all perhaps through a stricter adjustment of activities to the ability and speed of development of the individual pupil. The concepts of class and grade will probably lose some of their significance, at least

where subjects predominantly concerned with skills are concerned. It is important here for each learning task to be related to a better diagnosed starting point. The training of skills thus requires co-ordination between the individual and his curriculum throughout school. This should in other words be more "vertical" than at present. Close attention should also be given to following up and evaluating different forms of individualization and of pupil preparation for the differentiation on which they have to decide when going on to education in post-compulsory schools.

Even now the content of scientific and social subjects is often grouped on an interdisciplinary basis. This trend will probably continue, but various forms of subject integration will have to be tried here, and integration must not be allowed to petrify into interdisciplinary structures which are as rigid as the traditional division into subjects. There is also a great deal to suggest that subjects connected with practical aesthetical and physical education will come to occupy a more prominent position than hitherto in compulsory education.

Free options

To the above range of general and compulsory subjects can be added a free sector in which pupils can choose the subjects or occupations of their preference. This sector too will probably acquire greater importance, particularly as compulsory schooling in the majority of countries now includes lower secondary schools with specialised subject teachers. Hitherto the problem in this secondary instruction has often been that the pupils' free choice within this sector has not significantly helped to eliminate the social bias of recruitment for further studies. Various measures should be considered and tested during the coming decade to decide the extent to which free options are compatible with even recruitment for further studies.

Special instruction

One far-reaching problem concerns the best way of offering pupils with physical, mental and intellectual handicaps the instruction and schooling best calculated to promote their individual and social development. Teaching and other measures on behalf of these pupils vary according to the nature and extent of their handicaps. There is an outward organisational structure of teaching which varies both within and between different countries. At an earlier stage of school history, when the main task was to discover these problems and focus attention of them, teaching often acquired the character of special instruction separated from school in general. Since then it has been found that special instruction both can and should be conducted within the regular school system, often within regular classes. How far one can and should go in this respect is a matter on which the international exchange of experience should be further reinforced. The time seems to have come for a thorough-going investigation not only of the goals, structure and forms of special instruction but also of relations in general between what is now regarded as ordinary instruction and special instruction.

In this way continuing thorough observation of matters concerning special instruction will constitute an indirect form of development work for education generally. It should be noted that these matters do not only concern compulsory schooling. To an increasing extent the same problems recur in upper secondary school, especially in educational systems where continued education is no longer reserved for a select minority. These matters are also relevant to pre-compulsory schools and adult education, so that they are more general than specific in nature.

Post-compulsory education

The concept of post-compulsory education

The concept of post-compulsory education is given a very wide meaning in this context. It includes all kinds of regular education which follow the compulsory period of school attendance, i. e., not only upper secondary school (including academic, vocational and technical education) but also education at universities, colleges and other institutions of higher education. It also includes the nowadays rapidly expanding area of so-called adult education. This does not constitute just one type of education or stage of training. In terms of content it can include courses of compulsory school level, upper secondary level and post-secondary level. In terms of external structure it can be given as courses in schools, universities and other institutes for education and training. It can also be attained through study circles or wholly individual studies. It can aim at retraining and refreshment as well as further education. One common trait for all kinds of adult education, is that not only are the students grown-up people, but they also come to studies after a more or less long period of work experience. This trait, however, will in future probably become

common to all kinds of post-compulsory education. The borderline between different kinds of school and different kinds of education will probably become less distinct than now. As a consequence universities and corresponding institutions for higher education, will work side by side with institutions whose status has traditionally been lower. University courses will be combined with vocational or other non-academic courses into different programmes corresponding to the varying needs of individual students and of society. Education programmes of this type will probably be directed more than hitherto towards jobs and activities beyond school.

The role of the universities (and corresponding institutions) in combining higher education and research in one unit will probably be preserved; and the training of researchers will continue to be a bridge between education and research. These functions of the universities will not be discussed further here.

The structure of post-compulsory education

The need for a general restructuring of the educational system, as in the form of recurrent education, will probably lead to sweeping changes in the school system at post-compulsory level. The efforts, referred to above, to bring about a more integral school structure may very soon be supplemented or succeeded by efforts to break up a fixed structure of lines of study into smaller courses which are interchangeable and can be built up into various combinations. Rationalisation gains can be effected by integrating one and the same course (e. g. in foreign languages) into various kinds of educational combinations. It should also be possible for certain courses to be studied at an individual's pace, beginning and concluding in such a way as to simplify co-ordination with other courses or with gainful employment.

Development trends of this kind might make traditional faculties and schools obsolete and make way for experimental activities of different kinds in different countries. Such changes will make secondary education, higher education and so-called adult education more interrelated and interdependent than now. And post-compulsory education as a whole will become closer related to labour and leisure activities.

At present it is hard to say how far one can go in this fragmentation of a line-based system of studies. A system of this kind is already partially operative in labour market education. The coming ten-year period will probably see attempts of various kinds to put these ideas into practice. A more regular international exchange of experience is called for here.

The comprehensive school

Many reforms of compulsory schooling in recent years have been aimed among other things at bringing what were formerly separate schools and courses of studies at primary and lower secondary school level together into one and the same organisation. The realisation of the same comprehensive principle is now being extended to upper secondary school, i. e. to gymnasium and lycées, technical schools and vocational schools of various kinds. The comprehensive principle also forms a basis for structural changes in universities, colleges and other kinds of higher education. The circumstances governing the co-ordination of schools at this level are very different in different European countries. Solutions may vary, but they are all motivated by a common effort to bring academic and practical education closer together and to reduce or eliminate the difference of status which has hitherto existed between different types of schools and forms of education.

The establishment of a more integrated organisation of secondary schools can — at least during a transitional period — result in a reduction in the number of parallel courses of studies. Education will acquire a broader common basis, becoming more sector-oriented and less specialised. There is a great deal of subject congestion at this level, due often to the students' desire to have access to as many courses of further studies as possible when they leave school.

Courses of studies, choice of line, choice of subjects

Efforts to bring about a more integrated organisation of post-compulsory education create new problems, however. There are certain demands on a school organisation of this kind which are difficult to reconcile. The comprehensive idea can lead to large and administratively unwieldy school units. The desire to be able to combine academic and practical subjects or to be able to change subject and line without difficulty can only be catered for insofar as these subjects and lines are gathered together in one place. This desire comes into conflict with the demand for an increased diffusion of post-compulsory education to thinly populated areas so that everybody can have access to these amenities without having to undertake tiresome journeys

or live away from home. An international exchange of experience can be of value not least with regard to the practical solution of goal conflicts of this kind.

Vocational education

The boundary in secondary education of today between general and vocational education will probably grow less distinct. Elements of preparatory vocational education may be called for in traditional upper secondary education as well. If the goal of recurrent education is to be realised, everybody should be able to proceed to gainful employment, at whatever level they conclude their studies. At the same time demands for professional qualifications at the post-compulsory level will remain or may even increase. The question of how a broadly based sector-oriented vocational education (and general secondary education) can be linked up with a system of special courses giving professional qualifications is another field in which it should be possible for European efforts to be co-ordinated to a greater extent than has hitherto been the case. Parallel to the realisation of the desire for social equality, there will probably be an increasing drift from the more general and theoretical courses of studies within certain spheres and certain sectors of education to courses for technical and vocational training.

Pedagogical questions

Research and development in the field of post-compulsory education is still in its infancy, especially learning and teaching in higher education and adult education. This means that there is every possibility of co-operation being established between the European countries. Teacher education and in-service training of teachers have so far been very little focussed on the teaching of adults. Very little has been done to find out the efficiency and applicability of different methods of teaching and examining at universities and colleges in labour market training and in popular education. The same applies to the development and production of teaching materials, audiovisual aids, programmed instruction etc. Curricula and syllabi for post-compulsory education will probably differ from their counterparts within compulsory education. Among other things they should be "modular" and interchangeable in such a way as to facilitate a link-up between studies and work or studies and leisure. All measures of this kind for the promotion of post-compulsory education are urgently needed. This in turn may necessitate a certain steering of development work. The forms and content of such development work can be expected to become the subject of intensified joint efforts during the next few years.

Access to post-compulsory education

One of the most powerful control mechanisms in secondary education is that formed by the rules governing *admission to higher studies*. There is everything to suggest that in future these rules will no longer be concerned solely or even primarily with academic secondary education. Vocational education or other forms of education parallel to academic secondary schooling can be expected to serve as a general qualification for the pursuit of so-called higher studies. Special qualification requirements may then be added to this general qualification according to the nature of the studies to be undertaken. These requirements may also include work experience. The system applied hitherto whereby completion of secondary school studies (studentexamen, Abitur, baccalauréat, matriculation) generally entitles the student to admission to higher studies regardless of line and subjects is gradually being replaced by a new system of rules. The design of this system is of the utmost importance for international understanding and co-operation. Another common problem is that different courses of study in secondary school exercise different degrees of attraction, due among other things to the different opportunities for continued studies which they afford. Co-operation should be aimed at making different courses of studies more accessible and more comparable between different countries. A problem, shared by most countries, is the social bias concerning recruitment to post-compulsory education. Not only higher academic studies but also so-called adult education displays this bias. Experience has shown that the mere establishment of an educational system which is open to all those who are interested does not lead to the social equalisation that was hoped for. One important task during the coming ten-year period will therefore be to devise and test new forms of recruitment featuring more active recruitment and direct contacts at personal level. This is true not least of immigrant education and labour market education. Post-compulsory education is also related to a long series of questions concerning gainful employment, the financing of studies, social security etc. The solution of these matters, possibly through a system of recurrent education, will probably take longer than the ten-year period here under consideration. Also it seems doubtful whether such a system can be given a uniform structure. It is

nonetheless important, not least for the sake of the students themselves at this level, for a certain amount of streamlining to be effected so as to achieve greater simplicity and order in the present rather complicated grants systems.

"Open University"

One group of matters wherein university and college education merges with adult education in general concerns the series of uniform changes of regulations which have made it possible for persons who previously were not qualified to study to gain admission to so-called higher education. Higher studies by correspondence and within the field of popular education, via radio and television or through special state further training courses etc., have become common in several countries. To these facilities must be added rules granting a general qualification for higher studies by virtue of education other than that provided by the regular secondary school, and rules concerning the credit to be given for previous vocational experience to students commencing higher education. Behind the measures of this kind taken in various countries is a common desire for the greater democratisation of educational opportunities. Here too it is important for an international exchange of experience to be established.

Internationalisation

Recruitment for post-compulsory education can be locally or regionally based, but to a greater extent than nowadays it can also be conducted on a national and international basis. Far greater mobility is probably to be expected among students in future, especially at university and college level. Education will probably acquire such an international character insofar as obstacles are not presented by a deficient knowledge of languages. The mobility of students should then lead among other things to a greater exchange of students within and between countries. Exchange of this kind can also lead to a certain division of labour between countries with regard to the arrangement of specialist education facilities.

Teacher education

Categories of teacher

The trend within the majority of European countries towards the co-ordination of mutually independent schools within integral systems renders the traditional distinction between class teachers and subject teachers less noticeable. The same applies to the division of subject teachers into academic, technical and vocational categories and to the separate consideration of teachers concerned with what are respectively termed "normal" teaching and special instruction. The division of teachers into categories varies from one country to another, and differences in this respect are an impediment to the establishment of a joint labour market for teachers. The first step toward the promotion of co-operation and understanding could be to plot the spheres of competence of existing teacher categories, the criteria on which those categories are based and the importance of such criteria for the role of the teacher in a new and more international school structure.

The co-ordination of subject education and training to teach

If the division of teachers into strict categories has become an anachronism, the same applies to teacher education characterised by a rigid separation between different teacher training establishments. By tradition the training of class teachers and subject teachers has taken place not only within separate organisational structures but also within clearly separated intellectual and social contexts. This is connected among other things with the fact that subject studies and practical teacher training are organised on different lines for class teachers and subject teachers respectively. In the case of teachers of academic subjects there is little co-ordination between theory and practice (insofar as teacher training includes any practice at all), while there is a high degree of co-ordination in this respect where class teachers are concerned.

Regardless of the form of co-ordination adopted, it must not lead to an artificial division of teachers into rigid categories. The training of class teachers has long been considered superior to the training of subject teachers, by reason of its far-reaching integration of theory and practice. Before putting this last into general application in all teacher training, one should remember another co-ordination requirement, namely that teachers should be educated together with other vocational groups. This can mean that, in the case of both class teachers and subject teachers, practical training should be deferred until after the completion of subject studies and that co-ordination should then aim at achieving meaningful links and relations.

One problem which has long been felt, but which has not resulted in any action being taken until

during the past few years, concerns the training of university and college teachers. Further training courses and training programmes are now being provided on a limited scale. The development, organisation and utilisation of these facilities should constitute a sphere in which the European countries can advance further by joint measures than by separate action.

A new teacher's role

The fact that the division of teachers into categories is an anachronism does not imply that one should concentrate on a single type of teacher education. The teacher's role will doubtless be specialised, although on different terms from the traditio al categories. A new teacher's role will among other things be based on the need for team teaching. The planning of teaching, the utilisation of premises and materials, the sequencing of the parts of a course, the co-ordination of those parts and of other subjects studied by the pupils, the choice of forms of examination and accounting will tend more and more to be made by teams of teachers. A team of this kind will often include teachers' assistants and technicians. The teachers will be directly responsible for particular teaching items and will be jointly in charge of the total work done by the pupils. Correctly proportioned, the teacher team has proved to combine the advantages of the class teacher system as regards collective pupil welfare with the advantages of authoritative subject knowledge offered by the subject teacher system.

The new professionalism of teachers incorporates many other elements. The general principle is that the teacher must as far as possible be relieved from routine tasks and concentrate more on tasks for which he cannot be replaced by an untrained person. The teacher's role must be analysed in detail. Among other things, one should observe the extent to which the teacher enjoys more of an opportunity to take care of his pupils' welfare in the broad sense owing to his having been relieved of routine tasks. Pupil welfare of this kind is a central task in the new teacher's role. New conditions of service will gradually be established. Not only lessons (insofar as the teacher's main contribution is to give lessons) but preparatory and follow-up work also will tend to be centred more on the school, where materials and personnel will be available.

A significant feature of the school debate during recent years is the wish to deinstitutionalize school and education. This might imply, that others besides teachers teach in the school, but also that teachers do other things besides teaching. The teacher's social role will change, not only inside but also outside the school.

The shortage of teachers, which has long been a handicap, appears to be diminishing or disappearing in many countries. But the quantitative supply of teachers does not always correspond to the qualitative supply. Efforts will therefore probably be made during the coming decade to achieve adaptation to and education for a new teacher's role in which the pupil means more than the subject and in which pride of place is given to measures taken by the teacher to promote social learning and a favourable social climate. The choice of subject matter and working methods must not be dictated solely by the aim of providing efficient learning but must also be designed to promote creativity, critical thinking, emotional maturity and self-reliance.

Teacher education gauged for new educational needs must be kept in close contact with educational research and development if it is not to atrophy into rigid patterns of teaching. There are various opinions as to how this should be done.

The internationalisation of teacher education is a self-evident and necessary complement to the internationalisation of the school system.

General and overall educational questions

School-community relations

As was stated earlier, with reference to recurrent education, the content and working methods of school must pay greater regard to conditions in society at large. Co-operation between school and industry, school and homes, school and popular associations, etc., can have new and unforeseeable consequences. Among other things, some of the tasks at present automatically regarded as school functions may be taken over by other institutions.

The co-ordination of school and society can go considerably further than the confines of theoretical and practical vocational guidance. It may come to influence studies and education generally so as to broaden the general preparedness and awareness of the individual, encourage further studies, help the individual to become the master of his own fate instead of merely being the victim of events and si-

tuations. Reference has already been made to the alternation of studies and work. Another consequence may be that other persons than teachers will take charge of the pupils during their instruction. The co-ordination of school and society may also include a more frequent inter-action of parents and teachers. So-called parent courses already exist, where questions of schooling and education play an important part.

Research and development work is needed to test different courses of action. This work may also cover school buildings and matters related thereto, organisational measures such as the utilisation of school premises for other purposes besides teaching, the development of so-called open schools and flexible schools, experiments with new pupil groupings and so forth.

School management

Matters concerning the management of the school system and of individual schools will probably be topical during the coming ten-year period. Changes may be effected in the spheres of responsibility and activity of central and local authorities. One current question concerns the division of head teachers' time between administrative and educational matters. Role analyses are urgently needed to obtain improvements in this respect. An international exchange of experience will have a great deal to offer.

The education of head teachers and school administrators is a sector in which the possibility of international co-operation should be tested. The same applies to various experiments with collective school management or with new management forms of other kinds.

Student participation

Team work in school can be expected to include student participation even in the context of what has traditionally been regarded as the teacher's own work. The planning of studies and teaching, the choice of course content and teaching materials, forms of testing and evaluation, all these are naturally topics of interest to the students and pupils as well. They should participate in the discussion of such matters. Where other matters are concerned, e. g. routines external to work, the students and pupils can assume full or partial responsibility. A division of labour and exchange of experience should be possible between the European countries with regard to experimental activities and development work aimed at more active student and pupil participation.

Teaching materials and school equipment

Matters common to several school levels include the development of teaching materials, media and method research and documentation, and information concerning teaching materials. This is valid also for equipment and fittings in school buildings and schoolrooms.

Another important educational and organisational question concerns the provision of teaching materials and equipment locally. Central and local registers for the selection of teaching materials and school equipment are also urgently needed. The testing and evaluation of different materials, equipment, technical apparatus, textbooks and manuals, is another field in which joint efforts can play an important part, possibly with a view to supplying a simplified form of informative labelling. The market criteria which have hitherto been so decisive in determining the supply of such materials should be subordinated to educational and political requirements. This opens up a field for large-scale collaboration, e. g. on the supply of teaching materials for vocational education and special instruction.

New subjects and working methods

The attempts which have now begun to open up new paths by doing away with traditional planning dimensions such as the class, the subject and the lesson, will probably continue. The traditionally-dimensioned school can be experimentally replaced by a system of different courses of studies at different schools within one and the same region. The class can be replaced by a flexible pupil grouping whose composition varies according to the nature of the work in hand. The lesson can be replaced by another, freer disposition of time. The classical textbook can be replaced in certain subjects by study kits in which textbook, pupil booklet, teachers' guide, film strip, etc. make up an integrally planned resource.

A more liberal utilisation of time, premises and personnel will probably require a less rigid system of State grants than is now applied in the majority of countries. The experiments with framework plans and programme budgeting which have begun in certain countries can be expected to result in a variable range of development measures in which

experience gained from the experiments of individual countries should be of interest to all others. Subjects and course content are also in need of continual renewal. Particular attention should perhaps be drawn at the present juncture to the better use which could be made by schools of the information and training received by pupils outside the activities scheduled in school. Schools may be able to reduce their present high standards of comprehensive encyclopaedic education and concentrate more on detailed vocational and educational studies in limited courses. Subject matter may also need to centre more on topical social issues such as environment protection, road traffic, the sex roles, economic consumption, information, criminality, mental welfare, etc.

Other general educational questions concern evaluation, achievement tests and the award of credits. The liveliness with which these matters are debated is often due to the exposure of conflicting values concerning the relationship between the individual and the community, which in turn reveals that different interpretations have been placed on the goals and tasks of school. There has long been a demand in the field of international school co-operation for a more uniform system of evaluation or credit or at least for national systems which would make international comparisons feasible.

Miscellaneous questions

A question, which is far from new but which seems to be common for all Europe, is sex discrimination. Although this is a problem for the society as a whole, the educational system is of great importance. Exchange of information about problems, practices, experimental activities and experiences would be helpful for each single country. Far more recent but of increasing importance is the education of immigrants and of migrant workers, which requires not only special measures in education but also co-operation between school, social agencies and employers within a local area as well as between local and national areas. Another question of growing impact is how the principle of free choice can and will be realized in education. Replacing selection with orientation, information and guidance implies many practical and ethical questions, where our knowledge could be deepened through international co-operation. Yet another field where different countries have had different experiences concerns student grouping. The use of different grouping criteria, such as age, sex, intelligence and subject knowledge, leads to different practices in promotion, examination, grade-repeating and special education, where cross-national information might improve education.

The above enumeration of development trends and problems is not exhaustive. One important question of a general nature during the next ten years will concern the utilisation of educational research and development work when deciding matters of educational policy at international, national and local level. The aim here should be for mechanisms for evaluation and continual self-renewal to be built into the school system.

PLANNING FOR EDUCATIONAL DEVELOPMENT

Strategic planning

The questions outlined in section 3 above do not provide a comprehensive picture of development trends in school and education, merely a collection of examples of a varied complex of problems gathered on the basis of certain assumptions, trends, etc. Nor are all these problems of such a kind that they ought primarily to be made the subject of international co-operation. The production of a strategic plan for desirable school development cannot be regarded as a task for international bodies. A plan of this kind — like a plan for European cultural policy as a whole — must pay closer attention to social and economic questions as well. Educational research and development can provide a basis for decisions of policy but it can never take charge of educational policy as such. Strategic planning will therefore be the task of the individual country.

Priorities

As was noted by way of introduction, the European countries should nonetheless achieve better and swifter results on a joint basis than by separate efforts. The first requirement is a series of surveys to provide a better starting point for subsequent action.

A second question concerning priorities is which of the above five contiguous problem sectors should be considered most in need of attention in order for educational research and development work to lead to the attainment of the overall goals of school and education as enumerated above. Sector

priorities of this kind are extremely hard to decide. *Adult education* and *pre-compulsory education* are the two sectors to which particular attention will probably be devoted during the coming ten-year period. They are also particularly interesting because their structure may do so much to determine other parts of the education system as well. *Vocational education* is another priority sector, above all as regards its relation to subjects and courses of study within the overall framework of post-compulsory education.

Another question to which priority should be given concerns the *study progress of poorly motivated pupils* generally. As has already been observed, pupils of this kind are to be found at various school levels.

Priority should also be given to the *evaluation* of different forms of organisation of education so as to provide a basis for the continual renewal of education in keeping with current requirements.

The fact that the above-mentioned questions are generally regarded as of urgent importance within the sphere of European co-operation does not necessarily imply, however, that research and development tasks are always to be ranged in this kind of order of priority. European co-operation might focus on questions of methodology as well as questions of content in educational research and development. It might also be worthwhile to concentrate on in depth analyses of restricted problems as well as survey analysis. Probably it is often appropriate for co-operation to begin in sectors where there is considerable unanimity between countries and controversial issues can be avoided. This is one reason why, in cases where co-operation has been established, the work of harmonisation has begun with internal educational matters, e. g. the teaching of mathematics and foreign languages. Once forms of co-operation have been developed and established it may gradually become possible to tackle more difficult questions of principle and policy. The international exchange of teachers and pupils is one means of increasing international co-operation and understanding. The practical conditions for such exchanges should be investigated more closely.

Activity planning

The final stage of a long-term plan usually takes the form of a plan of activities, i. e. the indication of specific projects and tasks. Instead of this planning of activities we shall here confine ourselves to a brief intimation of the criteria according to which activities should be chosen.

— They should promote the overall goals of school common to all the European countries.

— They should promote international understanding and collaboration according to the guidelines adopted by the CCC.

— They should be of direct interest to more than one of the countries of the cultural community, preferably to all of them.

— They should be such that co-operation between the countries is justifiable in terms of both efficiency and profitability.

— They should help to remove obstacles to free migration and communication between countries.

— They should contribute towards a greater knowledge and better ideas concerning school and its function.

— They should contribute towards the solution of problems encountered in education.

— They should promote the development of methods and means in education.

The procedure to be adopted when reviewing different projects proposed will depend on a host of circumstances, e. g. one's assessment of the ability of individual countries, institutions and researchers to carry out educational research and development. Finally it should be noted that a long-term assessment of educational research and development must be continually reviewed and revised in the light of progressively acquired experience, regardless of whether this plan is fulfilled by means of continued strategic planning or whether, as in the present case, it is confined to a long-term assessment.

National surveys of educational research – bibliography
Enquêtes nationales sur la recherche en sciences de l'education – bibliographie

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THE TRAINING AND CAREER STRUCTURES OF EDUCATIONAL RESEARCHERS

Report of a working party of the Educational Research Committee

At the first Colloquium of Directors of Educational Research Organisations, organised by the Educational Research Committee and held in London in November 1971, representatives of 20 European countries examined the twin problems of how to train educational researchers and, having trained them, how to evolve a career structure that would meet both their requirements and those of the education system as a whole. The feeling then was that education was not getting the full potential benefit from research. This was partly because researchers were not being trained in the skills they needed to solve the new problems that were being met; and partly because education systems had failed to provide a career structure that could effectively use the full talents of researchers, or even provide sufficient incentives for them to deploy these talents.

A year later the Educational Research Committee set up a working party of experts from six countries under the chairmanship of Professor K. Härnqvist, Gothenburg University, Sweden, with the task of taking a deeper look at these questions and of making recommendations. The working party reported to the Committee in June 1974 and the report is available in English, and will shortly be so in French, from the Documentation Centre for Education in Europe and from Ministries of Education.

The working party's preliminary conclusions and recommendations have already been circulated last year to some 60 leading European researchers for their comments. It was in the light of these comments that the working party drew up and presented its final Conclusions and Recommendations, which have been accepted by the Educational Research Committee and submitted to member governments for distribution to all concerned. We reproduce these Conclusions and Recommendations below.

CONCLUSIONS AND RECOMMENDATIONS

1. BACKGROUND

Educational research is growing rapidly in most CCC countries, if more in quantity than in quality. At the same time it tends to become more and more oriented towards topics of direct importance for educational policy and planning: at least, those responsible for the supply and allocation of resources for educational research increasingly expect it to be so oriented.

There is a general lack of adequately trained research personnel in all countries, even though this deficiency varies, both in kind and quantity, from country to country. In some, the growth in the volume of research has been so rapid that the existing training system — which qualitatively may be fairly adequate — has not been able to keep pace with this expansion. In others, the output of persons with higher degrees in education and related fields may be large, but their training confined to strictly

academic and non-empirical aspects of the subject, which makes it less than adequate for the type of research which we shall refer to here. In others yet, any regular study of education as a field of research is almost completely lacking, and those persons who are nonetheless engaged in such research have to build up their competence more or less by a process of self-teaching. This method may be excellent in individual cases and for outstandingly capable persons, but it does not form a solid foundation for the supply of manpower for the execution of large-scale and policy-oriented research programmes.

In formulating its conclusions and recommendations the working party has had this diversity of situations in mind — a diversity that exists not only between but sometimes even within countries. Any attempt to put forward only such proposals as would be applicable to all situations and in all member countries would have limited their scope so much as to make their content truistic or trivial and their impact marginal. Instead the working party has tried to be concrete in its proposals even though, as a result, some of them apply only to certain particular situations.

2. DEFINITIONS OF EDUCATIONAL RESEARCH

The focus of educational research is the educational process which is studied in its different stages: from the goals and systems set by society and the input characteristics of the students, through the teaching-learning situation, to the evaluation of outcomes.

The different stages are studied at different levels of complexity or aggregation, and from the perspectives of different disciplines. On a *macro* level the stress is laid upon education's role in society and upon the structure and functioning of the educational system in relation to the goals set for it and the resources allocated to it. On a *micro* level research deals with the development and characteristics of the individual student as well as the basic conditions of learning. On an *intermediate* level the teaching situation is emphasised: curriculum, methods and materials of instruction, social interaction in the teaching-learning situation, etc.

Research at these three levels, which roughly correspond to the operations of planning, teaching and learning, need to be based on theory, concepts and methods from different disciplines. On the *planning* level, for instance, economics, sociology and systems theory as well as history and philosophy have important contributions to make. On the *learning* level the main scientific support comes from different branches of psychology. At both these levels it is important that the contributions from different disciplines be integrated within the context of the study of education.

On the *teaching* level educational research is trying to build up its own conceptual and methodological framework. Until recently the theory of teaching was based mainly on speculation and on informal experimentation and observation. Now a body of operational concepts and empirically founded knowledge is being constructed on the basis of systematic observation of teaching and learning in classrooms. Established procedures for curriculum design and evaluation are rapidly emerging. The teaching level provides the link between the macro and micro levels. In a way this work is the most characteristic contribution proper to educational research and one through which a better integration of the educational sciences could be achieved.

The concepts and methods that are used in the study of educational institutions of various kinds may also be applicable to educational influence in contexts other than that of more or less formal instruction. With a slightly broader perspective (to take only two examples), bringing children up in the home and mass communications could be regarded as educational processes and studied within a similar frame of reference. Also alternative approaches to education — even those radically deviating in goals and methods from the established systems and institutions — are a proper area for educational research.

In such a broad field of research as is sketched here, it is not possible for every researcher to reach competence in more than a part of the field. This has important implications for the requirements of training: this must permit a concentration on some aspects, but within an educational framework that helps to integrate the specialised contributions of research with educational theory and practice in general. The theoretical framework should be of an interdisciplinary nature, but tending to transdisciplinarity (in Piagetian terms), integrating the contributions from different disciplines into one unified structure.

In the recommendations on training which follow, the working party stresses methods and techniques used in empirical research. This approach, however, should not be taken in the narrow sense, for instance, of only including quantitative treatment of observational or experimental data. It may also include the construction and analysis of theoretical models as well as the qualitative treatment of data

drawn from the educational process. The kind of research that the working party likes to envisage, therefore, is empirical work which rests on and is guided by theory, just as theory is guided by and rests on systematic observation and experiment.

A distinction that is sometimes made between conclusion-oriented and decision-oriented educational research makes it possible to recognise the various sources from which research questions emanate — either from the theoretical interests of the researcher or from a concern to introduce changes or to monitor current practice. Institutional arrangements often differ according to the distinction between these two approaches. Conclusion-oriented research is expected to take place mainly in universities and to be financed through grants of a rather unspecific nature. Decision-oriented research is generally organised as contract research commissioned from university institutes or from special institutions outside the universities, often closely connected with education authorities at national, regional or local level. The latter arrangement is particularly characteristic of development-type research expected to result in new curricula or new teaching materials.

The working party is strongly convinced that much is to be gained from a close interaction between conclusion-oriented and decision-oriented research. This is most easily achieved if no rigid organisational barriers exist between the two approaches, and if research training prepares for both roles — that of undertaking research originating from theoretical study, and that of translating the needs of the decision-maker into research problems. From there on the two approaches may lead to the same research operations, and they may result in advances both in theory and practice. Ideally, each research centre should have a range of projects to cover both approaches. The research candidate should be made aware of the special characteristics of decision- and policy-oriented research. In the first place, the need for results that are significant not just in the statistical sense, and for speed of execution, places restrictions on the choice of problems, methods and designs. In the second place, the researcher is expected to state his conclusions unambiguously and in a form that can be related to practical decisions.

3. REGULAR TRAINING FOR EDUCATIONAL RESEARCH

Systematic training for educational research is not available in all member countries, and where it is found its scope and organisation varies considerably between and also within countries. The first recommendation of the working party therefore is for the CCC countries to institute a training for educational research meeting some minimum requirements as specified in the following.

An introduction to research is valuable in all training in education (see section 6): but training for professional researchers, which is the main concern here, normally belongs to an advanced stage, following the first degree period. This advanced stage is planned to have a duration of from two to four years (or its equivalent in part-time study) and result in a degree which in some countries corresponds at present to a doctorate, in other countries to some other type certification. Here it will be referred to as a "research degree" and the training leading up to it as "regular training for educational research". The requirements for the first degree will be taken up in section 3.2 Recruitment. Specialised training after the research degree as well as complementary training for other groups will be dealt with in section 4.

3.1 *Goals*

Even with an emphasis on its empirical aspects, the concept of educational research remains a broad one. This implies that the goals of research training cannot be narrowly defined. While recommending a number of goal areas, the working party wishes also to stress the flexibility of the goals contained in each of them. The goals of regular research training should include:

- a thorough knowledge of a discipline, usually one of the social behavioural sciences;
- an integrated understanding of the educational process and of educational institutions, based on historical, philosophical and comparative considerations;
- an understanding of the functions of educational research, acquired against the background of theory and the history of science, and an awareness of alternative methodological approaches;
- technical research skills of relevance to education and in line with the research style chosen;
- direct experience of carrying out and reporting empirical research within a particular area of the educational sciences;
- skills in communicating with specialists in other disciplines and with educational practitioners.

These goals should not be treated in isolation but should interact in a balanced curriculum.

Since the research degree is also very likely to be used as a qualification for entry to careers other than that of professional researcher, for instance high level teaching and administrative positions, the special requirements of these alternative careers must be considered too. Such an extension of the goal areas may also be relevant from the research point of view in making transfers between research and other professions easier (see section 5).

3.2 *Recruitment*

Training for educational research — where it is organised — traditionally recruits its candidates from two main groups — those who have acquired a first level university education in the social or behavioural sciences, and those who hold a certificate to teach at primary or secondary level. Some candidates meet both requirements. In some countries, however, there is a trend to recruit educational researchers with other backgrounds, for instance, in linguistics, mathematics, natural sciences, computer science and engineering. This is particularly valid for educational technology and curriculum development.

The proportion coming to research training from each of these groups varies from country to country. In some countries the social and behavioural sciences intake dominates, in others the intake from teachers, whereas the third group is likely to be still in a minority. All categories have their advantages. Those with a first degree in social or behavioural sciences have generally had a better theoretical and methodological preparation for empirical research than the other groups and are likely to complete their research training at an earlier age, which increases their probable research productivity. Their lack of alternative qualifications makes it more likely that they will remain in educational research after training. Those with a teacher's certificate bring with them valuable classroom experience and more realistic attitudes towards problems in teaching-learning situations. Subject teachers also have the academic knowledge for research on curricula. Those coming from other fields, in addition to broadening the knowledge base for educational research, bring in new ideas and approaches which may also prove productive in education.

Educational research needs each category. Therefore training should be adapted so as to profit from the strong sides and supplement the weak sides of each individual's previous education. This seems feasible within the general framework of the goals recommended in section 3.1. In general there is an advantage in trying to train the three different groups together, in part at least, so that each can learn from the others.

More important than earlier preparation, however, are the candidates' open-mindedness, imagination and motivation for educational research. Therefore measures should be taken to seek out and recruit promising young people wherever they happen to commence their preparation for a career. Where, due to lack of training facilities, selection has to be operated, the candidate's personal qualities, irrespective of his type of preparation, should be stressed.

3.3 *Training programmes and their location*

In the introduction to section 3 regular research training was placed within the context of advanced university education. This is in accordance with what applies to research training in general. The working party finds it important both for the quality and the status of educational research that its training meets the same standards as that in other fields.

In many instances, however, an adequate training cannot be given without substantial changes in the present university programmes in education. In some cases such programmes do not even exist and have to be built up from scratch. Criticism of existing programmes from the point of view of policy-oriented research usually refers to their "academic" and non-empirical character. Sometimes this results from lack of resources for empirical investigation and perhaps from a "monopoly" of decision-oriented research held by organisations outside the universities. Also traditions within certain university faculties or the interests of individual professors may be responsible for an output of graduates lacking adequate training for empirical research in education.

In the first case, where lack of resources and opportunities for doing empirical research prevails, co-operation should be established with outside research organisations and with agencies commissioning research. In the second case a change of attitudes is necessary. The availability of research funds has already in many cases proved helpful in accelerating such a change. Even where the universities have a strongly autonomous position, national education authorities, whether they plan to or not, exercise an important influence over the policies of education departments. Of course, if the resources for educational research are placed out of the reach of the universities, an insufficient supply of adequately trained researchers will soon become an urgent problem.

However, material resources for doing empirical research are not the only necessary condition for re-

search training within universities to work well. It is also important to create a scientific milieu, where the research students have the opportunity to work on projects and in teams together with trained researchers and specialists from other fields, including educational practitioners. This in turn requires a certain concentration of the students' own research work in areas where experienced researchers are available within an institute. Gradually an institute will obtain a research profile with a "natural" set of special interests. This strengthens the mutual identification of staff and students and contributes to a scientific milieu with a high quality output both of graduates and of research results.

3.4 *Contents and methods*

In the section on goals the breadth and diversity of educational research were emphasised. Under such circumstances it is hardly possible to draw up lists of recommended contents. Some comments and catch-words, however, can be added to the various goal areas mentioned.

— *A thorough knowledge of a discipline:*
for example: psychology, including learning, development and individual differences. Sociology, covering both macro-social aspects of education and group relations in the teaching-learning situation.

Social anthropology, linguistics, economics, computer science are other possibilities, probably less frequently chosen at present.

— *An integrated understanding of the educational process and of educational institutions:*
This should be based both on theoretical study and on practical experience from teaching or other educational activities. The theoretical study should include philosophical, historical, social and political aspects, and comparative study of educational systems in different countries related to the basic value structures of those societies. The theoretical study also should include more empirically oriented areas such as planning, the teaching-learning process and evaluation, as well as general theoretical models (systems theory, cybernetics and similar approaches).

— *Understanding the functions, types and levels of educational research:*
The relations between research and educational practice; research and development, implementation, dissemination; decision-oriented and conclusion-oriented research. Philosophies underlying different approaches to research.

— *Technical research skills:*
As a rule they should cover the methods applicable in the different phases of an empirical investigation — design, instruments, data collection, data processing, statistical analysis including the use of electronic computers; information retrieval and reporting. There are also less formal procedures, such as participant observation, analysis of interviews and documents, etc., to which attention should be paid. It should be observed that research methods are not laid down once and for all, but can be adapted for various research situations. In fact the specific methods may vary considerably between programmes and individuals, partly in relation to the discipline used as a basis, partly in relation to the more general philosophical and methodological approach (research style) characteristic of the scientific milieu of the training institution. A research student must therefore learn to be flexible in his choice of research methods.

— *Research experience:*
The integrated application of knowledge in a discipline, understanding of education, and research skills to a well-defined educational problem derived from theory or educational practice: reported in a dissertation or articles in scientific journals. Reading and discussion of published research reports in order to enlarge the range of experience of research styles.

— *Communication skills:*
The "language" of related fields and educational practice; working in teams with other researchers and practitioners. Preparing non-technical reports and other media of research dissemination. Preferably also continuous training in the language skills necessary for international work and co-operation.

Most of these requirements, in addition to course work and reading, call for practical application as a fundamental part of training. This can most easily be arranged in institutes engaged in research in close contact with educational practice. If possible, research experience over and above the subject of the student's dissertation should be given, for instance by involving him in consultation in teacher-initiated development or in the work of a research organisation. The line of demarcation between formal training for degree requirements and in-service training will, of course, be rather indefinite and this holds especially for the skill items where formal training is just an early phase in a continuous, life-long learning process.

4. COMPLEMENTARY RESEARCH TRAINING

Under this heading the working party recognises two main types of programme: further training for professional researchers and the initiation to research of other categories.

The researcher must continuously keep up to date with advances in knowledge and methods within his field of specialisation. Much of this is accomplished through reading and by applying the results in his own research work. However, in some instances, especially where advanced technical innovations are concerned, formal courses are needed. To some extent courses given within the context of regular research training can also be of use to researchers who have already taken their research degree. In some other cases the courses needed are of such a specialised nature that they can be arranged only through international co-operation (see section 7.5).

Introduction to educational research is needed for e. g.:

— persons with an advanced degree in education or pedagogy which does not include training for empirical educational research — a numerous category in some countries;

— persons with an advanced degree in another field, for instance economists, statisticians, historians, philosophers, linguists, who need an introduction to educational concepts and problems as a preparation for research in education from their own discipline's point of view;

— subject matter specialists engaged in curriculum research who need both an understanding of the role of the curriculum in the educational process, and technical skills in, for instance, the analysis of objectives and evaluation procedures;

— technical and administrative staff working in educational research projects, who need both a general understanding of research and specialised technical skills;

— documentalists, writers and editors of non-technical versions of research reports and other people involved in the process of research dissemination;

— teachers, administrators and other categories of people working in education. The place of research in the basic training of these groups is dealt with in section 6. For people already in the profession a similar introduction to the function of educational research might be given in seminars and workshops oriented around problems from their working life.

With so many groups, most of them very small and having heterogeneous backgrounds, and rather specific demands, such introductions pose difficult economic and organizational problems, at least if one thinks in terms of courses. The important thing, however, is perhaps not arranging specialized courses but observing the needs of these groups and using, with some ingenuity, facilities available as parts of systematic individual programmes. Then a partial use of the courses in the regular training programmes may be possible. Reading, research seminars and in-service training in projects can be arranged. Even courses in other departments, universities or countries may be available to fit the requirements of some persons.

5. CAREER STRUCTURES FOR EDUCATIONAL RESEARCHERS

It has already been stated that no strict organisational boundaries should be drawn between conclusion-oriented and decision-oriented research; also that the training of educational researchers is most efficiently done in a milieu where research of both kinds is being carried out. These are arguments in favour of applied research within universities or of a close co-operation between universities and separate research institutes. In the latter case students can do the research for their dissertation in the separate institutes, and the senior researchers there who act as advisers may hold part-time posts in the university. Part-time research posts and temporary secondment are also needed as links between research and teaching, and during periods of transfer between research and other professional activities.

In both types of organization a certain balance between permanent and temporary research posts is desirable. Permanent posts are needed for establishing continuity and creating career prospects that help improve recruitment to educational research. Temporary posts are needed to guarantee a continuous flow of young researchers through the organisation. For both categories opportunities for transfer and promotion to other positions should be created.

Mobility within the research field is easiest in fairly large and diversified research organizations, where continuous training is an integral part of a researcher's professional activities. As yet educational research seldom operates under optimal conditions in this respect. Such internal mobility is not sufficient, however. After a period of active research, varying in length from individual to individual, the

productivity of a researcher may decline, but his research experience can still be profitably used in teaching, administration, or research-related positions of specialised kinds. External mobility, i. e. between research and other careers, is facilitated if the basic training and the professional activities of the researcher have been broad enough to include some preparation for teaching or administration. It should also be pointed out that the qualities of initiative, method and analysis fostered by active research are valuable in many positions of responsibility outside research. In some cases a transfer from other professions to research may be desirable; but because of the rapid pace of development in the theory and methods of research this usually makes a retraining period of considerable length necessary.

The above recommendations hold for a situation where educational research already has its infrastructure in the form of institutions of various kinds that can interact in a profitable way. The working party, however, is aware that this situation does not yet exist in all CCC countries, and in some countries where an organisation was in the course of being built up there has recently been a tendency to call a halt due to scarce economic resources in that society and particularly for education. Since research contributes to a better and a more cost-effective education, a contraction of research resources is a short-sighted policy that should be discontinued as soon as possible.

As regards the type of organisational structure needed, there is often — even in countries with an otherwise well developed research structure — a lack of efficient links between research and application. One approach that seems promising is to build up regional centres of development and implementation affiliated with the research institutes at local universities and schools of education. Such centres could also take responsibility for the introduction of teachers and administrators to research, and more generally to innovation and methodological improvement (see sections 4 and 6, and the paper by Professor de Landsheere). They would be one of the most appropriate "stations" in a rotational career scheme including research, development teaching and administration.

As much as a regional organisation is needed for improving the contact with educational field practice, an organisation at international level may be needed for facilitating co-operation between institutes in different countries and co-ordinating large scale projects as well as highly specialised training courses (cf. section 7). When discussing this prospect the working party has had in mind the simulated activities of an imaginary European Foundation for the Promotion of Educational Research and Development (EFPERD), discussed at the London colloquium for research directors (cf. Council of Europe Information Bulletin 1/72).

6. THE PLACE OF RESEARCH IN THE TRAINING FOR EDUCATIONAL PRACTICE (1)

If educational research is to make its full impact, better communications must be established between research and educational practice. One prerequisite for this is an improvement in reporting and other means of research dissemination. But even more important is to improve understanding among teachers and other educational practitioners of the function and basic principles of educational research.

The teachers' relation to educational research can take different forms and vary in depth of involvement. In his paper G. de Landsheere identifies four "levels":

1. Problem-oriented teaching adjusted to the individual student's capacities, and its corollary, problem-oriented learning form a research-like process. The basic attitudes and methods required can be developed in a research-oriented teacher education, and transmitted through the teacher's behaviour to form an integral part of problem-oriented learning.

2. Even though the art and techniques of teaching draw on many other sources than educational research, teachers should be prepared to take advantage of research, and this makes it necessary to include among the goals of teacher education an understanding of educational research.

3. The teacher very often would be a valuable collaborator in educational research, but this requires a common language and a common frame of reference which must be built up from both sides of the partnership.

4. The teacher himself can become a researcher. Teacher education cannot include the necessary professional training but through its research-orientation it can help in recruiting researchers from this most valuable source of potential.

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(1) For additional recommendations see the paper by G. de Landsheere

Professor de Landsheere's paper includes detailed objectives for induction to educational research in initial and continued teacher education. These cannot be repeated here. The working party, however, would like to stress one general point. More effective for teachers than formal courses in educational research are opportunities to take part in the planning and execution of smaller investigations into problems of relevance to the teaching situation. These research activities should be guided and followed up in seminar discussions. Such experience should not be confused with regular research training, but can have a stimulating influence on recruitment to educational research. Even more important is that it helps to create an experimental attitude in teachers in their classrooms.

Similar recommendations hold for the basic training of administrators, planners, school psychologists and other educational practitioners. For the usefulness of educational research it is also important that opportunities are created for researchers and persons in decision-making positions to co-operate in seminars and work-shops in order for each to become aware of their different roles and mutual expectations in the process of innovation.

7. PROPOSALS FOR CO-OPERATIVE ACTION

So far the working party has made a number of general recommendations for the design of research training and the structure of research careers in member countries. To end with, a series of proposals will be made for international co-operation in this same problem area.

7.1 *Exchange of information*

Information on training programmes and career structures in countries with a developed organisation for educational research, which may be a useful guide in setting up new programmes and improving existing ones, should be collected and published at appropriate intervals by the relevant committees and the international organisations concerned. The existing information incorporated in national reports, guides etc., should be made available to interested countries.

7.2 *Exchanges of students*

Exchanges of students should be encouraged by economic and administrative support from the Council of Europe and other international organisations concerned, and by a credit or work description system which would allow work done abroad to count for a degree at the student's home university. The existing exchange schemes should be fully exploited also for the training of educational researchers, and be further developed by member governments and foundations. Informal contacts between course directors, perhaps through meetings under the CCC and similar bodies, could be the point of departure for such a system. A comprehensive catalogue of research degree programmes would be of great guidance for students and their home universities. In a long-term perspective it might even be possible to set up a European system for the accreditation of courses.

7.3 *Exchange of researchers*

Senior researchers working as visiting professors in other universities for a period of time have had a stimulating influence on the research activities of the host institution. Junior researchers would gain profitable experience from working for some time in another country. Here also, informal contacts between directors could be beneficial, but economic and administrative support from the Council of Europe would considerably facilitate such an exchange. The working party recognises that the exchanges which have taken place have been mutually rewarding and should be further encouraged.

7.4 *Common curriculum development*

The development of syllabi, textbooks and other teaching materials for specialised courses is an expensive and time-consuming activity which often needs co-operation between specialists from different countries. The working party commends the developments which have resulted from the contacts initiated by the Educational Research Committee, and welcomes those publications which have drawn on the resources of several European countries.

7.5 *Common training courses*

The working party welcomes the practice of inviting to national conferences and courses, researchers from abroad. A further step is to arrange courses on an international level, for instance summer courses with teachers and participants from different countries. Such courses have been arranged by international organisations, international associations, or a "consortium" of research institutes in various countries. In all these cases the Educational Research Committee and similar bodies could function as a mediator.

7.6 *European scholarships and fellowships*

All the measures proposed in sections 7.1—7.5 would be greatly facilitated by the extension of the system of European scholarships and fellowships. Scholarships are needed both for initial and further training in all the goal areas mentioned by the working party. Additional fellowships are needed for the exchange of senior researchers.

One of the roles of the Council of Europe in this respect should be to encourage member governments and foundations to contribute money, and to operate the system which includes informing candidates about available resources, securing nominations from the research community, and setting up and co-ordinating a selection procedure.

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