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ABSTRACT

The evaluation of the qualitative aspects of education is not as simple a task as the evaluation of quantitative aspects. The research frequently fails to offer the educational planner concrete guidance in the area of educational quality. The planner must work in a framework of conflicting criteria requiring political decisions, with limited resources, and within a set pattern of rules and policies that cannot be changed rapidly. Many factors are simply out of the scope of the planner's influence. The problems with educational planning are exacerbated in developing countries, and the difficulty with implementing educational innovations increases in these countries. (Author/DS)

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POSSIBILITIES AND LIMITS OF EVALUATION RESEARCH IN EDUCATIONAL PLANNING

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A contribution to the IIEP Seminar on "The evaluation of the qualitative aspects of education"
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Quality of education is an elusive concept not amenable to clear comprehensive description. In a previous IIEP seminar on the qualitative aspects of educational planning many theoretical distinctions for determining quality of an education system were considered such as quality of the process of education taking place in a given institution and quality of the product of such education; education considered primarily as an investment with less emphasis on its humanistic aspect as a good in itself or vice versa depending on the state of economic development, or again, the democratic ideal of equality of opportunity contrasted with the needs of manpower development. Of late, education in regard to employment in developing countries has received attention leading to quite revolutionary proposals.

These are issues of continuing debate in which values and aims are determined more often by political decision than by a process of experimentation and measurement followed by adjustment and change. Change in political leadership often means change in educational policy with the result that the planner must resort to strategies which will allow him to maintain the fundamental objectives of his plan and to pursue reform. Such strategies are well described by McKinnon (Realistic Educational Planning Unesco IIEP 1973). In this context of policy formulation, research and evaluation have so far contributed little to practice in particular in developing countries, and it is not difficult to see why.

In part, it is due to the lack of people doing research; in a much larger measure however, it is due to the frequent inconclusiveness and contradictory interpretations of research results. Thus, Professor Thorndike, author of the IEA report on Reading Comprehension Education in Fifteen Countries says flatly, "It must be confessed that the results of the study provide little guidance for the improvement of the educational enterprise." In the Science Education Study the conclusions begin, "Although the findings of the multivariate analysis will be disappointing to teachers and others concerned with the learning process more efficient, the explanation lies in the very nature of learning and schooling." In the study on literature education one reads, 'in sum, although the IEA study leaves uncertain the effects of school on the ability of students to read literature and on the students' interest in reading literature in their spare time, it points to the potentially profound effect of schools on the patterns of questioning and response of students'

These quotations have not been selected with an insidious intent of discrediting the IEA study. They are meant to show why such research and evaluation has so far had little influence on the formation of policy.

In order to be of use as a tool for the planner an evaluation should deal with those aspects of the education system over which he has some measure of control or direct influence. Thus, for example, under a policy of compulsory education and equality of opportunity he has no influence on the home background of the pupils in the system. And yet this is recognized as a most important factor in many studies on achievement He may of course stretch the notion of equality of opportunity to the extent of proposing special redemptive schemes, but it is evident that in the poorer countries such a policy would hardly be feasible when large proportions of the school age population do not even have a school to go to.

While student performance on standardized tests is the most reliable direct measure of quality of learning in the classroom it is not an aspect on which the planner or the external donor agency has such direct influence This is another reason why research and evaluation on student performance has so far had little share in the planning process Even if improved performance could be unequivocally attributed to a particular combination of measures adopted and methods used it does not follow that some other (and perhaps less costly) combination could not have been equally effective

The answer that further research is needed is not much help in such a situation since the planner's main task is the allocation of scarce resources over a period of a few years, and such period usually begins with the next school year since annual adjustments to any long term development plan are inevitable. Not only are resources limited, but the pattern of their distribution tends to be fairly rigid - teacher salaries usually account for the largest part of the recurrent budget and there is little scope for costly experiments A long term plan will of course provide for changes and innovations, but if during its implementation a budget squeeze becomes necessary allocations for equipment, teaching materials and maintenance are the first to be cancelled. Moreover, since politicians will rarely sacrifice quantitative targets, resources will have to be spread even more thinly. In such a context evaluation assumes a different connotation best illustrated by Arthur Lewis' apodictic statement at the previous IIEP seminar, "The problem is not to measure but to evaluate." For the planner having to decide the best possible distribution of resources, reliable methods, of appraisal and cost effectiveness analysis are of greater importance than psychometric research.

He may of course resort to the well known findings of the IEA study that within reasonable ranges there is no significant correlation between class size and student performance in certain subjects and therefore propose increases in class size In fact, however, he has always done so under pressure of public demand, and in many developing countries stark reality is beyond such reasonable range when classes of 60 to 100 pupils are crowded into rooms built at most for 40 or when 4 classes of 40 are accommodated together in the school assembly hall.

In such cases administrative measures such as double shift operation of schools or arbitrary reduction of the number of hours of attendance per week are palliatives whose effects would warrant investigation.

In general, it may be said that in conditions of scarcity of resources - buildings, equipment, books and other educational materials, refined statistical analysis of student performance in standardized tests will be of little use to a planner intent upon improving the quantitative basis for better quality in performance. In developing countries where education systems have been created almost from scratch within the last decade evaluation of a more simple kind would however, be of great use to the administrator (and eventually the planner) in determining whether the system functions reasonably well within its presently established rules and procedures.

This of course is something entirely different from the subject of the contributions to the seminar, but in practice is a most important aspect. In his contribution to the seminar, Professor Levy says: "Each nation must find ways of bringing its teachers up to date on the new subject matter, methods, and ideas used in the new curricula. Secondly, there is a need to secure adequate and timely supply of all equipment and curriculum 'ingredients' which are needed for the implementation of the programme. Thirdly, there is a need to introduce appropriate changes in different branches of the educational mechanism which may effect the implementation of the programme; the national examination system, university entrance requirements, supervisory staff activities, and 'enrichment' education programmes should be adopted to the needs of the new programme. Finally, care should be taken to update the new programme whenever the need emerges."

One can only agree and add the remark that to meet all these conditions is in itself a difficult and long range task of planning

Training of teachers is an important aspect of planning and more effective, less costly methods will always be welcome. For the planner in a ministry, however, the very existence of a teaching force with considerable acquired rights and privileges is a problem when it comes to introducing innovations. Not only is it notoriously difficult to make research results percolate to the level of the practising teacher, but there are many points on which research cannot be of much help even on a fairly large run. Such are problems of service conditions, in particular where teachers well organized in unions and/or have civil servant status - what is needed here are political decisions.

Improvement of organization and administration on the central or provincial government level or even in the individual schools is a planner's task to the extent that it concerns long range issues such as decentralisation and delegation of authority, simplification of existing procedures and administrative rules. In many of the poorer countries there are excessive controls on expenditures, well intentioned, but with damaging results. Teachers who have not been paid for weeks or months are unlikely to be enthusiastic for innovations usually requiring greater effort on their part. Many schemes of fundamental education failed in the fifties and early sixties because too much was being asked of the village teacher Equipment often gathers dust on shelves or is neatly locked up. This is often because teachers may not be sufficiently trained to use it, but if there is a rule by which whoever is in charge of the equipment is also financially responsible for it, he will hesitate to let it be used by inexpert hands. Often too equipment has been bought with foreign help for which there is no repair facility or spare parts may be unobtainable because of lack of funds in the recurrent budget.

In many developing countries building maintenance is poor Ministers intent on expansion or with meeting social demand tend not to pay much attention to this aspect of maintaining a sound material basis for the process of education that is supposed to go on. The allocations mentioned above for maintenance are usually the first to be cut.

The availability and actual presence of textbooks in the classroom is another indicator of the good or bad functioning of the system. Such a problem precedes that of the actual use made of those materials in the classroom Audio visual aids may also be used unimaginatively as merely an adjunct to purely expository tal.. by the teacher.

The other extreme is reached when in an attempt to introduce new methods of assessing pupils' progress teachers are asked to fill in such masses of questionnaires that the whole exercise becomes perfunctory. Enthusiasm may also prevail over good sense in giving a one week course on programmed instruction and then letting the teachers loose to devise their own programmes New curricula in science have been written, formulating objectives (though perhaps not with the detailed clarity required) emphasizing learning by doing but have ended up in an attempt at encyclopedic coverage that is bound to defeat the purpose of the new curriculum

These examples of what can and does happen are given to show the importance of improving the existing process by means more readily accessible to the planner To evaluate the functioning of the process with regard to these practical and administrative aspects the planner needs to have other measures than pupil performance. He needs reliable first hand reports on what is going on in the schools and district administration

Data collection and analysis usually need improvement. Improvement here means that effective and reliable figures on enrolments, teaching force etc would be available at least by the end of the current school year, but there are many countries in which this is not the case. In some the delay between collection and availability is even increasing. Publication of an analysis of enrolments by grade and age for a period terminating five years before may be an interesting contribution to the statistical literature, but is not of interest to anyone having to plan a project for the construction of schools during the next five years Reliability of figures and estimation of error need much greater attention. This has often been said, but recent experience provides examples such as that of four different foreign expert missions having to work with four different estimates of gross population growth ranging from 1.8% to 2.8% in a period of five years.

If evaluation research on the above aspects can help the planner to obtain a more realistic picture of the functioning of the process of education in the system he is to develop he will have a sounder basis for appraising the feasibility of new projects and the introduction of innovation and reform.

On a long term view he will have to be concerned with arrangements which will give the opportunity for permanent education. In this respect he would be interested in findings about the intensity and duration of education It would be an innovation indeed if contrary to the general trend one might be able to reduce the period of compulsory general education thus freeing greater resources for those who might wish to return to education after a period of some practical work. In technical and vocational education such arrangements have already been made, though not with as radical a measure as suggested here. Moreover there are countries where there is - in theory at least - compulsory education of nine years, but where available facilities do not even permit two years of education for many of the rural population.

In many developing countries higher education absorbs an undue share of national resources and the trend now is to favour investment in basic education. But given the existing arrangements - being very favourable often once a student has reached university - what can the planner concerned with the longer term do if he has to work in the framework of democratic liberties and equality of opportunity In order to obtain some self regulation of the system he might recommend a policy that maximum educational ambition should be accompanied by the maximum risk. Such a policy would of course be very unpopular in the present climate of opinion and evaluation of its possible effects would be welcome.

To sum up: in evaluating the qualitative aspects of education the planner has to work in a framework of conflicting criteria requiring political decisions, limited resources requiring cost effectiveness analysis, and within a set pattern of rules and procedures which must be rendered effective and cannot be changed rapidly. He has to deal with a teaching force whose opinion he disregards at the peril of never seeing beautiful new schemes applied in practice (examples of this abound even in developed countries). He will be even more modest when he realizes how strong are the factors influencing quality which are outside his direct or indirect influence.

ANNEX

The following extracts from a report on a short visit to three schools of a completed World Bank Project illustrates what type and amount of information, and useful to a donor agency, can be collected in a few days:

Operation of the Schools (January 1972)

Since August 1971, date of the last supervision, there have been few quantitative changes Enrollments have increased to a total of 19,206 of whom 5,924 were girls Problems with overage pupils persist and have led the project unit to limit intake in the forthcoming school year to the first grade and to pupils under 14 years Five more schools are to open by March with enrollments Bogota 960, Villavicencia 520, Neiva 520, Tunja 400 and Pereiva 400 The school in Popayan is to open in September with 400 pupils

Average teacher-student ratios, dropout and retention rates have not changed significantly As a measure of efficiency, the latter are in any case open to doubt since they presuppose lockstep progression Since the schools use a system of "setting" students by performance in particular subjects and give remedial courses during holidays ordinary repetition rates are not very meaningful As for dropout, the rate of 5% last reported is comparatively low However, one school reported 8% from grade 1 to 2 and a higher rate at higher grades owing to false pretensions at intake. This will not happen again as all applicants, almost twice as many as available places, have to take a multiple choice entrance test

Judged by the criteria that secondary education must be diversified, that some more practically oriented instruction be given and that new methods of teaching and evaluation be employed the schools are a success They are, however, somewhat isolated in the Colombian system of education and final evaluation of success judged by employment or access to another education will only be possible when the first cohorts have passed through the system Meanwhile, there is no doubt that the schools have support from their community their teachers and particularly the managing staff are working enthusiastically in preparing programs, teaching materials, introducing better evaluation and testing methods The supply of teachers is quantitatively adequate, but qualifications vary considerably According to a recent statistic, out of 971 teachers employed, 660 were "licenciados" mainly in languages, mathematics, sciences and social sciences Vocational and technical teachers continue to be scarce and few have adequate qualification: most of them lack industrial experience There is, for example, only one fully qualified instructor for technical drawing and 27 have only a bachillerato tecnico This familiar situation is not likely to change quickly even though there were more than 2,000 applicants for the 650 posts to be filled in the coming school year

Inspection of some applicants' files showed that there are now some candidates with requisite industrial experience, but their number was not sufficient to meet actual needs Moreover, some 800 of these applicants were university graduates without teaching or other practical experience

Training for IMEM teachers was severely hampered during the past academic year owing to disturbances at the universities Various forms are used such as introductory seminars of 15 days duration, specialized upgrading courses, meeting of subject specialists or department directors and post graduate courses at universities. The main load is carried by the pedagogic group During 1971 some 52 such courses were given for this training, involving some 1,250 teachers Even so, of the 971 teachers in service in December 246 had not received the introductory seminar The training program for 1972 was said to be of a similar scale though no detailed figures were provided

The distribution of textbooks is uneven - some schools have sufficient for some subjects to supply each student, in others, texts are shared by groups or again are neatly stacked in the central library An enormous effort is made in the schools to provide their own course material, mainly in the form of worksheets supplemented by bibliographical references intended to stimulate individual or group effort and learning It would at some stage be worthwhile to investigate to what extent first or second year students actually pursue such references Visual aids are used extensively, but do not necessarily preclude purely expository talk by the teacher

Since July under guidance from a professor of the National University, programmed instruction tests have been prepared at a number of schools They are said to have been enthusiastically received by both teachers and students A cursory review of some texts was made: the gospels, colonization and liberation, elementary theory of sets, photosynthesis, commercial organization, electrical circuits, concordance between adjective and substantive, description and its forms, etc Here again enthusiasm seems to have prevailed over careful selection of topics amenable to such programming techniques As a result, many texts contain ambiguities and some downright howlers, others mainly present a modern form of rote learning This mission pointed out the dangers inherent in such an indiscriminate approach

The pedagogic unit has prepared guides for teachers to ensure some standarization of methods and content of study programs for each subject area These guides should on the whole be quite useful to teachers They use the modern approach of defining objectives for each unit of learning

In the guide for science one finds the following: that the student should become able to acquire knowledge and ability to understand or explain certain aspects of a subject and to apply such knowledge; to acquire knowledge and develop attitudes enabling him to interpret the intellectual process in formulating hypotheses; to become able to judge the result of his investigations in a logical manner as a means to ensure certainty of his conclusions. There follows in most cases a list of items which closely resembles that of an old fashioned examination syllabus (as witness) the content of the compulsory 8 semester study programs for science for all students

Whereas the first three semesters cover subjects such as forms of life, soils, general properties of matter and the handling of simple laboratory equipment, semester 4 goes straight to radioactivity, atomic theory of matter and measurements to prove the theory, molecular movements, heat under which electric static and magnetic fields appear somewhat incongruous, to wind up with radiant energy both sound and the whole electromagnetic spectrum All this in an 18 week semester of 3 periods a week Semester 5 deals with the earth, semester 6 goes on to the origin and evolution of life, the moon and problems of getting there, the solar system and the universe Semesters 7 and 8 give biology in equally comprehensive manner This attempt at encyclopedic coverage is liable to defeat the declared purpose of learning by doing and to induce a return to purely expository methods The mission pointed this out and suggested a careful revision and pruning of the course

Evaluation of students' performance is given much attention The guides provide suggestions how to construct multiple choice answer tests Students are classified in three levels of performance judged for 75% on the basis of individual or group work and for 25% on the result of an end of semester test In one school, every teacher is given a 20 question questionnaire for each student in his charge to be filled in each week The questions cover work done, assiduity and also attitudes (per week) The result is, of course, that the questionnaires are filled in in a very perfunctory manner