What is educational planning?

Philip H. Coombs
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Philip H. Coombs

Unesco: International Institute for Educational Planning
The booklets in this series are written primarily for two groups: those engaged in—or preparing for—educational planning and administration, especially in developing countries; and others, less specialized, such as senior government officials and civic leaders, who seek a more general understanding of educational planning and of how it can be of help to over-all national development. They are devised to be of use either for private study or in formal training programmes.

The modern conception of educational planning has attracted specialists from many disciplines. Each of them tends to see planning rather differently. The purpose of some of the booklets is to help these people explain their particular points of view to one another and to the younger men and women who are being trained to replace them some day. But behind this diversity there is a new and growing unity. Specialists and administrators in developing countries are coming to accept certain basic principles and practices that owe something to the separate disciplines but are yet a unique contribution to knowledge by a body of pioneers who have had to attack together educational problems more urgent and difficult than any the world had ever known. So other booklets in the series represent this common experience, and provide in short compass some of the best available ideas and experience concerning selected aspects of educational planning.

Since readers will vary so widely in their backgrounds, the authors have been given the difficult task of introducing their subjects from the beginning, explaining technical terms that may be commonplace to some but a mystery to others, and yet adhering to scholarly standards and never writing down to their readers, who, except in some particular speciality, are in no sense unsophisticated. This
approach has the advantage that it makes the booklets intelligible to the general reader.

Although the series, under the general editorship of Dr. C. E. Beeby of the New Zealand Council for Educational Research in Wellington, has been planned on a definite pattern, no attempt has been made to avoid differences, or even contradictions, in the views expressed by the authors. It would be premature, in the Institute's view, to lay down a neat and tidy official doctrine in this new and rapidly evolving field of knowledge and practice. Thus, while the views are the responsibility of the authors, and may not always be shared by Unesco or the Institute, they are believed to warrant attention in the international market-place of ideas. In short, this seems the appropriate moment to make visible a cross-section of the opinions of authorities whose combined experience covers many disciplines and a high proportion of the countries of the world.
Preface

When Philip Coombs and I were planning this series of booklets nearly five years ago, it seemed only logical that No. 1 should be entitled 'What is Educational Planning?', and that he should write it. That, after all, was the question those on the sideline—and many deep in the game itself—were asking. The fact that it is now appearing just after No. 13 in the series calls for comment. The ostensible reason for the delay is that, as Director of the newly-established IIEP, he was far too busy to write it; and no one acquainted with his ceaseless activity over this period could reasonably doubt it. But I do, because I happen to know that the time he devoted to the booklet was sufficient to let him write it three times over if he had been willing to accept a static concept of his subject. The trouble was that views on educational planning, his own and those of others, were changing so rapidly that by the time he came to the last paragraph of any draft, in the snatched hours he had to spare, he found the first paragraphs, and the approach he had adopted to the pamphlet as a whole, unsatisfying. The irony of it was that he himself was in no small measure responsible for the rapidity of the change, since his Institute was the intellectually turbulent centre around which theorists and practical planners were evolving and revising their ideas.

Dr Coombs has finally solved his problem neatly by coming at his subject historically; by tracing where thinking on educational planning has come from he has given an indication of its direction of travel. So, even though events and his own fertile imagination move on before the booklet can appear in print, we now have the data on which we can extrapolate to find his probable position on planning a year from now.
Just because the concept of educational planning is still so fluid, everybody engaged in it will find in this booklet something with which he can disagree, but he will find very much more that he welcomes warmly. As an old administrator, for instance, I think the author rather underestimates the amount of fairly systematic long-range planning that went on in some good school systems before it was even respectable in some countries to refer to it as 'planning', but I gladly forgive him that for the new dimension he has given to the subject and for his insistence that educational planning is not an esoteric exercise for the specialist alone but is, in some measure, part of the proper work of almost everyone engaged in education.

There can be no one better qualified than Dr Coombs to write on this topic. Beginning as a professor of economics, he later became Research Director of the Ford Foundation's Fund for the Advancement of Education, and then went on to serve under President John F. Kennedy as Assistant Secretary of State for Education and Cultural Affairs. After five and a half years of lively and imaginative direction of the IIEP, he resigned at the end of 1968 to devote himself to his own writing but continued for another year as the Institute's Director of Research. He has recently joined the new Center for Educational Enquiry as Director of Studies of Educational Strategy, but still gives some time to the Institute's research work. He has written widely on economics and educational planning, his best-known book being The World Educational Crisis: a Systems Analysis.

I hope that Philip Coombs will write this booklet again at the end of another five years.

C. E. Beeby
General editor of the series
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A few personal words to the reader

People the world over who are concerned with the future of education—political leaders, administrators, teachers, students, and assorted citizens—are asking many pertinent questions today about educational planning. And well they might. Before 1950 the term was scarcely known in most of the world. But since then its popularity has soared. The great majority of the world's educational leaders and governments have by now committed themselves to the idea of educational planning, international agencies are giving it a top priority, new training programmes have been set up, social scientists are doing research on the subject, and a large new professional literature is emerging.

Despite all this attention, educational planning still remains a mystery to most of the people upon whom its success depends. It is no wonder that many are pressing for answers to questions such as the following:

What is educational planning? How does it work? How much does it cover? Can it be used everywhere or only in certain places?

Who are the planners? What do they do? How does one become a planner? What are the dangers in planning? And the dangers in not planning?

How does today's educational planning differ from earlier forms? Why was it necessary to find a new kind? How does a country get started? What actual progress has been made?

How much do the experts really know? What are the main areas
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of agreement, and disagreement? Why, despite this new educational planning, is there a world educational crisis?

What about the future? Can educational planning as it stands today cope successfully with the formidable problems that lie ahead for educational systems? If not, then in what ways must planning be further strengthened?

If you are an expert and already have reasonably satisfactory answers to these questions, then to read further could waste your time. But if you consider yourself a novice still looking for answers, this booklet might help you. It is intended as a layman's introduction to educational planning, subject to the following caveats.

You will not find here definitive and authoritative answers to all your questions. You will simply find the tentative and partial answers of one individual, which he reserves the right to amend later. The views expressed naturally reflect his particular background and vantage-point; and no claim to infallibility is made. This is not said by way of apology or through false modesty but simply because this is the way things are. Educational planning as we know it today is still too young and growing too rapidly, and is far too complex and diversified a subject, to be encased in any hard and fast definition, good for all time. This is why no generally accepted definition of educational planning yet exists, much less an acceptable general theory.

Nevertheless, great progress has lately been made in both the theory and practice of educational planning, and scholars and practitioners of the subject have moved steadily toward greater agreement on many important points. We will try later to describe some of this progress, while not hiding the need for a great deal more.

The approach taken here is basically historical, because in the author's view the best way to understand educational planning is to observe how it has evolved over time and taken many forms in many different places to accommodate particular needs. Being aware of this heritage, we will be better equipped to answer what for us is the operative question: what kinds of educational planning do nations need in the 1970s to help them cope with the enormously difficult problems of educational development they face in a rapidly changing world?

It follows from what has just been said that little good is likely to come from viewing educational planning as a 'new science' or a self-contained 'discipline' entitled to a new box on the university chart
like the boxes occupied by physics, economics, psychology and other
recognized academic disciplines. This would tend to isolate educational
planning—just as education and pedagogy themselves have for too
long been isolated—from the main intellectual currents that are their
natural source of nourishment.

Perhaps the best way to begin our enquiry is by trying to dispel a
few durable myths and by stating a few preliminary propositions about
educational planning that will furnish an initial frame of reference and
promptly expose the author's predilections.
An initial characterization

Whatever educational planning is, it is certainly not a miracle drug for ailing educational systems nor, conversely, is it a devil's potion that breeds only evil. Educational planning, in its broadest generic sense, is the application of rational, systematic analysis to the process of educational development with the aim of making education more effective and efficient in responding to the needs and goals of its students and society.

Seen this light, educational planning is ideologically neutral. Its methodologies are sufficiently flexible and adaptable to fit situations that differ widely in ideology, level of development, and governmental form. Its basic logic, concepts, and principles are universally applicable, but the practical methods for applying them may range from the crude and simple to the highly sophisticated, depending on the circumstances. It is therefore wrong to conceive of educational planning as offering a rigid, monolithic formula that must be imposed uniformly on all situations.

It is equally wrong to conceive of educational planning as being exclusively concerned with the quantitative expansion of education, with making things bigger but not different. This misconception arises partly because that is how educational planning has so often been used, but it is not an inherent limitation. It arises also because planning makes extensive use of statistics (when they are available). But it should be remembered that a statistic is merely the shadow of a fact, and the fact may just as well be qualitative as quantitative.

Educational planning deals with the future, drawing enlightenment from the past. It is the springboard for future decisions and actions, but it is more than a mere blueprint. Planning is a continuous process,
An initial characterization

concerned not only with where to go but with how to get there and by what best route. Its work does not cease when a plan gets on paper and has won approval. Planning, to be effective, must be concerned with its own implementation—with progress made or not made, with unforeseen obstacles that arise and with how to overcome them. Plans are not made to be carved in stone but to be changed and adapted as the occasion warrants. As plans for one period move into action, planning for the next must be under way, nourished by feedback from the first.

Planning is not the special sport of dictators—though dictators, like democratic leaders, can find it a useful instrument. For planning per se is not the maker of policies and decisions; it is but the handmaiden to those who carry such responsibility, at high and low levels alike. Planning is, or should be, an integral part of the whole process of educational management, defined in the broadest sense. It can help the decision-makers at all levels—from classroom teachers to national ministers and parliaments—to make better-informed decisions. It can do this by helping them see more clearly the specific objectives in question, the various options that are available for pursuing these objectives, and the likely implications of each. Planning can help to attain larger and better aggregate results within the limits of available resources.

To achieve such benefits, however, planning must use a wide-angle lens through which a great many interlocking variables can be put in focus and all of them seen as parts of a dynamic organic whole—as a system susceptible of system analysis.

So, before recommending any one course of action, planners must first see what room the decision-makers have, right now, for manœuvre. They must look, for instance, at the state of the society, where it wants to go, and what it will require, educationally, to get there; at the nature of the students, their needs, aspirations and practical prospects; at the state of knowledge itself and the state of the educational art and technology; and not least of all at the innate ability of the educational system to examine itself critically and to take intelligent action to improve its own performance. One of the central tasks of educational planning is to determine how best to keep these intricate internal and external relationships of the educational system in reasonable balance under dynamically changing circumstances, and to bend them constantly in the required direction.

The foregoing, of course, are ideal criteria which no educational
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planning has ever fully lived up to. But then, during most of education's long history it did not need to, because life for educational systems was considerably simpler then than now.

Prior to the Second World War, educational systems everywhere were less complex in structure and content, smaller in size and less intricately tied to the total life of nations. Moreover, educational institutions and the world around them were growing and changing at a considerably slower pace. Thus there was minimal risk that serious imbalances and maladjustments might suddenly erupt amongst the constituent parts of an educational system or between the system and its client environment.

None the less, even in these simpler times there had to be some sort of planning, as part of the normal care and feeding of educational institutions. But except for times of extraordinary social ferment, it could be a simple and limited form, an inconspicuous and routine aspect of educational administration which hardly warranted the concern of scholars and statesmen, or even a special label.

This is no longer the case. The world of education has been changing rapidly and drastically since the end of the Second World War, due to a combination of now familiar revolutionary forces that have shaken the entire world. Later we will examine the kind of impact which these revolutionary forces have had on education and how all this has created the need for a fundamentally new kind of educational planning. It will pay us to look first, however, at some of the historical antecedents of this new educational planning.
Today’s educational planning can claim an unbroken ancestry running back to ancient times. Xenophon tells (in the *Lacedaemonian Constitution*) how the Spartans, some 2,500 years ago, planned their education to fit their well defined military, social and economic objectives. Plato in his *Republic* offered an education plan to serve the leadership needs and political purposes of Athens. China during the Han Dynasties and Peru of the Incas planned their education to fit their particular public purposes.

These early examples emphasize the important function of educational planning in linking a society’s educational system to its goals, whatever these goals may be. Some later examples show how educational planning has been resorted to in periods of great social and intellectual ferment to help change a society to fit new goals. The architects of such plans were usually creative social thinkers who saw in education a potent instrument for achieving reforms and attaining the ‘good life’.

Thus John Knox in the mid-16th Century proposed a plan for a national system of schools and colleges expressly designed to give the Scots a felicitous combination of spiritual salvation and material well-being. The heady days of the new liberalism in Europe, in the late 18th and early 19th Centuries, produced a bumper crop of proposals bearing such titles as ‘An Education Plan’ and ‘The Reform of Teaching’, aimed at social reform and uplift. One of the best known of these was Diderot’s ‘*Plan d’une Université pour le Gouvernement de Russie*’, prepared at the request of Catherine II. Another was Rousseau’s plan for providing an education to every Polish citizen. (This one even went into such details as when to inflict corporal punishment on recalcitrant pupils).
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The earliest modern attempt to employ educational planning to help realize a 'new society' was, of course, the First Five-Year Plan of the young Soviet Union in 1923. Though its initial methodologies were crude by today's standards, it was the start of a continuous and comprehensive planning process which eventually helped transform—in less than fifty years—a nation which began two-thirds illiterate into one of the world's most educationally developed nations. Its ideological orientation aside, this Soviet planning experience offers a variety of useful technical lessons for other countries.

The several historical examples of educational planning cited above varied greatly in scope, objectives and complexity. Some applied to whole nations, others to individual institutions; some undoubtedly were far more effective than others; some were episodic, others involved a continuous process over a long period; some were in a highly authoritarian setting, others in a more democratic and pluralistic milieu. All have something to teach, but none had all the features required of modern educational planning.

The ancestry of today's educational planning does not end, however, with the more visible and dramatic examples just cited. There has been all along a much more ubiquitous and routine sort of planning which those responsible for administering educational institutions have always had to do, ever since such institutions existed.

Take, by way of illustration, the administrative head of a typical local public school district in the 1920s. Each year he was obliged to look ahead and to make various preparations for the next academic year. At a minimum he had to estimate how many students there would be, how many classrooms, teachers, desks and books would be needed to serve them adequately, how much money all this would require, where the money would come from, and how and when it would be spent. These various projections culminated in a proposed budget for the next academic year and ended ultimately in a series of decisions and actions. This was educational planning, even if it seldom wore that label. It was taken for granted as a normal part of the educational administrator's job, and if he was a poor planner he was soon in trouble.

Frequently this process took an extremely simple form. The planning for a small independent school or college could sometimes have been done on the back of an envelope. But as educational institutions and systems grew larger and more complex, and as the budget and appropriations process became more formal, the planning process
The ancestry of educational planning

itself acquired greater sophistication and formality. Yet the basic tasks and principles were much the same. The essential aim was to provide for the continuity and viability of educational establishments, and to effect such gradual expansion and improvement as the circumstances seemed to warrant.

By and large, however, the aims of education and the value of its contributions to students and society were not subjected to annual scrutiny as part of planning. They were taken as much for granted as the air that was inhaled. So were the curriculum and methods of instruction, and the all-powerful examination system. Therefore the main focus of planning was on the mechanics and logistics of education, on the needs of the system, not of the students and society.

To sum up, the typical kind of educational planning that went on in most places prior to the Second World War and for many generations before had these four key features: (1) it was short-range in outlook, extending only to the next budget year (except when facilities had to be built or a major new programme added, in which case the planning horizon moved forward a bit further); (2) it was fragmentary in its coverage of the educational system; the parts of the system were planned independently of one another; (3) it was non-integrated in the sense that educational institutions were planned autonomously without explicit ties to the evolving needs and trends of the society and economy at large; and (4) it was a non-dynamic kind of planning which assumed an essentially static educational model that would retain its main features intact year in and year out.

There were notable exceptions to the foregoing description, of course, but it is perhaps a fair picture of the mode. The important thing is that it worked. Educational institutions naturally had their share of problems and administrators their quota of headaches. But, on the whole, education ran along fairly smoothly in its accustomed groove under this regimen of simple planning. It did, that is, until the Second World War opened a new era of incredible change that was destined to touch every facet of life on man’s planet, and to crack the foundations of his old institutions.
Why a new kind of planning became necessary

During the twenty-five years from 1945 to 1970 educational systems and their environments the world over were subjected to a barrage of scientific and technical, economic and demographic, political and cultural changes that shook everything in sight. The consequence for education was a new and formidable set of tasks, pressures, and problems that far exceeded in size and complexity anything they had ever experienced. They did their heroic best to cope with these, but their tools of planning and management proved grossly inadequate in the new situation. In retrospect one has to marvel that they accomplished all they did in the circumstances and somehow managed to avoid collapsing under the strain.

By examining a few of the highlights of this extraordinary experience we can gain a clearer understanding of why a new kind of planning became imperative and what some of its major features would have to be. Though our primary focus will be on the developing nations, it will help our perspective to look first at the developed world.

1. In the industrialized nations

Speaking very roughly, the industrialized nations have passed through three educational phases from 1945 to 1970 and now find themselves in a perplexing fourth phase: (1) the Reconstruction Phase; (2) the Manpower Shortage Phase; (3) the Rampant Expansion Phase; and (4) the Innovation Phase. Each yielded a new crop of planning problems.

The battle-scarred nations of Europe emerged from the Second
World War with their educational systems seriously disrupted and facing a heavy backlog of educational needs. Most nations quickly set about trying to return education to something like ‘normalcy’, by launching crash programmes of school construction, teacher recruitment, emergency training and the like.

It was soon evident that conventional pre-war educational planning would not suffice for these reconstruction tasks. Massive programmes, that deeply affected many communities and imposed a heavy burden on severely damaged and strained economies, required broader and more complex programming and scheduling, a longer view ahead, and more careful checking of their economic feasibility and impacts. Though the planning methods that were improvised to meet this situation had many shortcomings, they did do some good and they also conditioned educational authorities for still greater planning problems yet to come.

To cite one example: even before the war had ended, the United Kingdom—notwithstanding its decentralized system of education and its traditional lack of enthusiasm for planning in general—enacted the Education Act of 1944, which required each of the 146 local education authorities in England and Wales to prepare a development plan for submission to the central Ministry of Education. Although the resulting local plans did not add up to a coherent national plan, balanced with available resources, many of them none the less reflected considerable ingenuity and technical competence in their orderly long-term projections of local population and enrolments, demographic shifts, school locations, teacher requirements, school financial needs and prospective local tax yields.

France went about things differently, in keeping with its more centralized system of education and government. In 1946 it inaugurated comprehensive investment planning for the whole economy, then in 1951 incorporated nationwide capital planning for education into the Second Five-Year plan. Other Western European countries tackled the planning of educational reconstruction in various ways befitting their particular traditions and preferences. The Soviet Union, faced with the most massive task of all, built upon her pre-war planning experience, while the newly ‘socialized’ countries of Eastern Europe turned to the Soviet Union for new planning models.

Meanwhile even in the United States, where the idea of planning was still anathema, local and state education authorities resorted to more elaborate planning then ever before to handle the backlog of postponed school construction needs, to meet the educational demands of
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returning veterans, and to prepare for the educational consequences of the war-induced ‘baby boom’.

All this, however, was but a foretaste of things to come. Educational systems were soon physically restored, but they would never return to pre-war ‘normalcy’. Soon they would find themselves in the ‘manpower business’, called upon to meet the larger and more sophisticated human resource requirements of expanding post-war economies. More important, they would soon be hit by an explosive increase in student numbers provoked in part by demographic factors but mainly by the post-war urge to ‘democratize’ educational opportunity on a grand scale.

The manpower phase deserves a pause, less because of its practical impact on European educational planning than because of its side-effects on developing nations, and the great influence it had on arousing the interest of economists in educational development.

The severely disrupted Western European economies recovered their pre-war production levels with surprising speed and proceeded to climb to new heights. This quick recovery, it is worth noting, was mainly due to large and well-planned infusions of fresh capital (through the Marshall Plan) into economic systems that were already endowed with sophisticated economic institutions and a ready supply of modern human skills and know-how. (This was not the case with developing nations when their turn came). But by the early 1950s these rebuilt economies had fully absorbed the available supply of skilled human resources; hence manpower bottlenecks began to loom as the major obstacle to further growth.

This led Western economists to become more manpower-minded and to look at education through new eyes. No longer was education seen merely as a ‘non-productive sector of the economy which absorbed consumption expenditures’, it was now viewed as an essential ‘investment expenditure’ for economic growth. Wearing this impressive new ‘investment’ label, education could make a more effective claim on national budgets. But, to justify the claim, educators themselves would have to become more manpower-minded. They would have to plan and try to govern their student intakes and outputs to fit the pattern of manpower requirements certified by the economists to be necessary for the economy’s good health.

This was a distasteful price to pay, however, for educators nurtured on the liberal, humanistic tradition. They preferred to fight for bigger budgets on higher ground, arguing that education was the human right
of every child. If education also helped the economy so much the better, but it should not be the economy's slave. Education was a good thing, hence the more of it the better, of whatever kind or level. Above all, the educators insisted, every child was first and foremost an individual, not a manpower statistic.

Educators were frankly fearful that the 'materialistically-minded' economists would subvert the traditional noble values and purposes of education. At times the interchange between these new allies resembled a dialogue of the deaf. They spoke through different jargons and often used the same terms to mean different things. It was only later, when they had educated each other, that their seeming differences began to evaporate and they discovered many mutual interests.

But as obviously important as manpower needs were finally conceded to be, they paled before another force that soon began to dominate the education scene and gave sleepless nights to authorities throughout Europe and North America. This other force was the explosive increase in popular demand for education, which led to the Rampant Expansion Phase.

Economists could talk all they wanted to about the nation's manpower needs, but what parents instinctively put first was their own children's needs. Regardless of what educators might say about the noble and non-materialistic aims of education, to most parents and their children education was first and foremost the best route to a better job and better life. The power of this human impulse was something that every politician understood and none could afford to ignore, whatever his ideology.

Thus from the mid-1950s onward, in response to this impulse, there was a pell-mell expansion of enrolments throughout the developed world, hitting hardest at the secondary and university levels. Its main propellant was not demography or the needs of the economy (though both these were factors), but the increased popular demand which persistently outpaced the capacity of educational systems to satisfy it.

It must be added that in most of the developed nations of the west—France being the chief exception—new forms of educational planning played a minor role at best in this extraordinary expansion. And even in France, where nationwide educational planning for all levels was closely integrated with over-all investment planning for the economy in five-year cycles, it was limited to the planning of physical facilities; it did not include such critical factors as teacher supply,
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recurrent costs, manpower requirements, and needed educational reforms and innovations of various sorts.

Virtually everywhere the dominant thrust of strategy was to expand pre-war educational models as rapidly as possible—curriculum, methods, examinations and all—with a view to accommodating a larger number and proportion of the youth population and thereby 'democratizing' education. There were such exceptional amendments to the old system as the comprehensive high school in Sweden, and the addition of non-classical streams to the French lycée. And yet, compared to the vast changes taking place in their student body, in the economy and society, and in the state of knowledge itself, most educational systems had changed remarkably little by the late 1960s. Lacking the means for critical self-scrunity and self-renewal, they remained the captives of their own elitist traditions and pedagogical habits at a time when they were moving rapidly toward becoming mass educational systems.

This clinging to old forms created increasing maladjustments between educational systems and their economy, society and students. Like a boiling pot over a high flame with its lid clamped tight, they were bound sooner or later to explode. And this they did. For most of the industrialized world 1967 was the year of the Great Education Explosion—marked by violent student protests, sympathetically supported by many teachers, parents and other critics of traditional education. The events of 1967, however, were but the beginning of a succession of explosions that promised to persist in one form or another until educational institutions finally renewed themselves and met the public test of relevance.

These eruptions forced the educational systems of industrialized nations into yet a fourth post-war phase, the Innovation Phase, where they now are. What will come of it—whether there will in fact be major innovations and transformations to bring education into reasonable adjustment with its environment, or whether continuing inertia will invite bigger and more damaging explosions—remains to be seen. But this much at least is clear; in order to achieve other needed innovations there will have to be some major innovations in educational planning itself. Planning that merely serves a strategy of linear expansion will no longer do; planning must now serve a strategy of educational change and adaptation. This will require new types of planning concepts and tools which are only now taking shape.
2. In the developing nations

Much of what was said above applies with even greater force to developing nations during the 1950s and 1960s. Their educational needs were even larger and more urgent, and their educational systems—despite heroic efforts to enlarge them—even less relevant and less adequate to their needs.

Starting in the 1950s the developing nations responded similarly to their new circumstances, with an educational strategy of linear expansion. At a series of Unesco conferences early in the 1960s education ministers of Asia, Africa and Latin America set ambitious regional targets for educational expansion in their respective regions to be achieved by 1980 (1975 in the case of Latin America). These targets were widely adopted by individual nations. They called for 100 per cent participation in primary education by the end of the target period, and sharply increased participation rates in secondary and higher education.

Rough estimates of costs and revenues were made, which, even though tending on the optimistic side, showed that the attainment of these targets would require a large increase in the proportion of the GNP devoted to education plus a large expansion of aid from the outside. The Unesco regional conferences made certain qualitative recommendations as well, but it was clear to all that the prime measuring rod of future progress—and the main basis for comparing nations—would be increases in enrolment statistics to reach to the targets. With this as their frame of reference, the developing nations moved enthusiastically into campaigns of rapid educational expansion.

It was clear even to the most ardent believers in laissez-faire that they would have to plan their way carefully to make the best use of their acutely scarce resources. The case for a 'manpower approach' was particularly strong in developing nations because their over-all development was conspicuously handicapped by shortages of all kinds of specialized manpower. Thus it made sense to give initial priority to educating the most needed types of manpower for economic growth, for without such growth the desired long-run expansion of education and other major social objectives would simply not be possible.

The trouble was, however, that these nations were not equipped to do the kind of educational and manpower planning that the situation required. Nor was the rest of the world equipped to help them much, because the global supply of basic knowledge and experts for this
kind of planning was acutely scarce. To their credit, Unesco, the ILO and various bilateral aid agencies and foundations did their best to recruit the most qualified advisers they could find to fill the mounting requests of developing nations for help on planning. While most of these experts succeeded in making valuable contributions of one type or another, their assistance to educational planning was perforce largely limited to what they could improvise on the job. There was no good textbook on the subject in any language in the early 1960s, nor anyone who was well equipped to write one.

But action could not wait for knowledge and skills to catch up. So educational leaders in the developing world moved bravely ahead to push their enrolments upward toward the targets as fast as possible. And up they went, at remarkable speed.

Very soon, however, several critical problems began to appear, which by the end of the 1960s had multiplied into a full-blown educational crisis that gripped virtually every developing nation in the world. It is instructive to look briefly at some of these problems for what they can tell us about the concrete tasks which educational planning must now cope with.

Though they varied in form and intensity from place to place, most existed, in one guise or another, almost everywhere.

a. Wasteful imbalances within the educational system

Typically, campaigns for expanding primary, secondary and higher education were not co-ordinated. Moreover, even at any one level the necessary flows of components (teachers, buildings, equipment, textbooks, etc.) were not carefully projected, scheduled and programmed. The inevitable result was a series of self-defeating disparities.

In one familiar type-case, school construction received an excessive priority while the expansion of teacher training and textbook supplies was short-changed. The eventual result was that the new pupils turned up in new classrooms only to find themselves with no teacher or textbooks. Sometimes the reverse happened; there were teachers and pupils but no classrooms. Almost invariably there were not enough books. With any one important component missing, the others were seriously handicapped.

In another type-case resources were poured into university expansion while secondary education lagged behind. The result was that new university places stood idle for lack of enough qualified candidates
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from secondary schools. Or, conversely, secondary enrolments were sharply expanded and universities were soon overwhelmed by far more entrants than they could cope with.

b. Demand far in excess of capacity

The setting of bold targets, the making of large promises, and the very expansion of education fired an increase in popular expectations and educational demand that fed on itself and soon got out of hand.

The widening gap between educational demand and capacity was compounded by a youth population explosion which turned the original expansion targets into moving targets. While children clamouring to go to school is a joyous sight in any land, it can also be an unnerving sight for school authorities who must turn a large number of them away. There is such a thing as too much of a good thing, coming too soon. This is what happened to popular demand for education.

c. Costs rising faster than revenues

Though this enormous popular demand was an effective political pressure for boosting education budgets, the budgets could not possibly keep pace with the rising costs and student numbers. In some countries the economic feasibility of the targets had never been tested; they rested on blind faith that somehow the necessary means for achieving them would arrive. Where they had been tested their costs had typically been under-estimated and prospective income over-estimated. Thus the targets proved economically unrealistic.

As the real facts became evident and the financial squeeze came on, there were three possible escapes. One was to cut back the initial targets, but this was politically difficult. A second was to cut costs by raising educational efficiency; this looked good in theory but was very hard to do in practice. The third escape route was to spread available resources thinner over more and more students, but at the expense of quality and effectiveness. This was the main route taken. It permitted the statistics of enrolments to keep rising along the target path, sometimes even above it, but it seemed a dubious kind of progress when one delved behind the gross enrolment statistics and saw the shockingly high drop-out and repeater rates, or visited over-crowded classrooms and observed what was going on there in the name of education.
d. Non-financial bottlenecks

Money, however, was not only the bottleneck. At least three other kinds of shortage plagued educational development in the 1960s: (a) the limited administrative abilities of educational systems to plan and to transform plans and money into desired results, (b) the long time required to recruit and develop competent staffs for new schools and universities, and (c) the limited capacity of local construction industries.

These administrative, human and physical bottle-necks became the ultimate determinants of how fast and in what directions an educational system could develop and how much financial help it could profitably absorb. Some systems found themselves in the awkward position of having large construction credits they could not spend, fine new facilities they could not staff, equipment they could not use, attractive and urgently needed schemes they could not implement. Long delays in achieving firm agreements and then actual deliveries on foreign aid projects exacerbated these difficulties.

e. Not enough jobs for the educated

Whatever educational philosophers may have thought were the aims of education, for most students the aim was clearly to win a good job and a good standing in the community. For many this meant escaping with an educational passport from the village to the bright lights of the city, there to seek a job, most likely with the government.

At first the job prospects were very good; the newly independent nations were desperately short of educated manpower of all sorts to staff their expanding government services, to replace expatriates, and to get on with the mammoth tasks of nation-building. After being starved of formal education for centuries, it seemed inconceivable that they would find themselves a decade later with more educated people than their economy seemed able to use.

Yet this is precisely what happened, in one country after another. The phenomenon of the educated unemployed appeared first in such countries as India, the Philippines, the United Arab Republic, and in several Latin American nations that had made an earlier start. But by the late 1960s the unthinkable was even beginning to happen in some of the most newly independent African nations. The reasons, in retrospect, are clear.
The employment market pendulum had swung sooner and more abruptly than even the manpower experts had anticipated. In a small and simple economy it does not take a very large shift in the numbers to produce a major change in the employment market balance—and a traumatic shock for many students and their families.

On the supply side, after a few years of educational ‘production lag’, relatively large numbers of graduates began to come on to the market. Simultaneously, many who had gone abroad to study were now returning with degrees. Thus the supply curve shot up fast. On the demand side, the vacant government posts by now had been largely filled by the best qualified people available at the time, even though their qualifications often fell well below the official norms, and below those of the newly educated who would later come on to the market. The private sector, small in relation to the government as an employer of educated manpower, was creating new jobs only slowly, the more so as it turned toward labour-saving methods and equipment, sometimes prodded by new minimum wage laws. Thus the demand fell sharply, and what had been a seller’s market for educational manpower turned into a buyers’ market.

The one bright spot in all this was that the educational system itself, as a buyer, could now begin to hire better qualified people as teachers, though many came grudgingly, because teaching was a last resort on their list of job preferences.

Selective manpower shortages continued to exist in some specialized categories, especially where no local training facilities were available. But the main thrust of the pendulum was from manpower shortages to manpower surpluses. This raised serious new issues of policy and required a wholesale reappraisal and adjustment of earlier assumptions and expectations by government and individuals alike. This was a painful process.

One particularly painful aspect was the accelerated ‘brain drain’ that set in, prompted in part by the diminishing job prospects back home as seen by students who had gone abroad to study. Not only were their talents lost to their own nation when they failed to return, but so were the precious resources that had been invested in their earlier education.

It was tempting for some observers to leap to the simplistic conclusion that education had been over-expanded and therefore should now be throttled back to match the economy’s job-creating potential. But a deeper look suggested that the real solution lay mainly within the
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economy itself. It needed re-structuring and adjusting so as to make better use of available educated manpower. The most astute manpower and educational planners pointed out that the prime goal of economic development should not be simply to raise the statistics of GNP but to raise the level of employment and improve the distribution of income. Therefore the concern of manpower planners should not be limited to breaking human resource bottlenecks to economic growth; it should be with maximizing the number of jobs consistent with a reasonable rate of growth. The practical ways of pursuing this high employment policy, however, were not too evident and would certainly be difficult at best.

f. The wrong kind of education

Educators could not divest themselves of all responsibility for this employment problem, however. True, the economy was not creating as many jobs as it should. But the other face of the problem was that many students were receiving the wrong sort of education for the world of work they would live in. More than a few critics had openly castigated the still dominant ‘imported 19th-century education’ as being ill-suited to the needs of poor nations trying to modernize themselves. But it was doubtful if even a more ‘modern’ type of education designed to fit young people for a modern job and city life was the right education for the great majority of youngsters who were destined to live out their lives in rural areas. Instead of conditioning them for leadership in rural and agricultural development, which was indispensable to over-all national development, it would tend to alienate them from their rural surroundings.

It was one thing, however, to know what was wrong with an outmoded and misplaced curriculum, but quite another thing to know how to fix it. Better alternatives were far from clear, and even where clear they were exceedingly difficult, time-consuming and expensive to adopt.

Here and there, staunch efforts were made to replace the old curriculum and teaching methods with something more relevant, often with rewarding results. But elsewhere the system ground on day after day in its old rut, while many of its leaders and teachers, knowing full well the wastes involved, felt helpless to change it.

Irrelevant education was one of the heavy prices paid for the strategy of linear expansion and for the impressively mounting enrolment statistics. Another was the tragedy of exhorbitant drop-out rates, the
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hundreds of thousands of youngsters who went to school but left too soon to learn even to read.

The six problems just described conspired to cause a vast waste of precious economic resources and human potential, a serious handicap to national development, and millions of individual heartaches. But what was there to do about it? A first-rate educational system, well adapted to the needs of its environment and efficient in its use of resources, could not be built in a day—or even a single decade.

In retrospect, we cannot seriously fault the valiant efforts made to develop education in the 1950s and 1960s by developing nations and by those who sought to help them. If history could be replayed with all the advantages of hindsight, undoubtedly many things could be done somewhat better. Better planning would surely have helped, but no amount of planning could have drastically altered the basic constraints, compulsions and aspirations that primarily dictated the course of events. The astonishing thing is not that so much went badly but that so much more went well. The net balance of the record—though it cannot be measured with precision and many of the benefits have yet to be fully reaped—certainly appears to be heavily on the positive side.

Be that as it may, our purpose here is neither to praise nor criticize the past but to discover its lessons for the future. In trying to discover these lessons we should guard against the naive notion that better planning—the very best that one can imagine—would have eliminated the problems we have just reviewed. Their basic causes were deeply rooted in the landscape and the problems were bound to arise. But better planning, had it been available, could undoubtedly have helped things to go somewhat better. It could have helped especially by enabling policy-makers and all others concerned to see these emerging problems sooner and in clearer perspective, to identify more clearly the various options available for dealing with them, and to assess the relative merits and feasibility of these alternatives. In brief, good educational planning might have given them clearer eyes to see with and a better informed judgement with which to face decisions.

The same can be said for the industrialized nations, whose educational record in this period—considering their far greater human and material resources, the greater inherent strengths of their educational systems and their considerably longer experience—could hardly be said to excel the record of the developing nations.
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The impression should not be left, however, that while all these troubles were boiling up nothing was being done to create and apply more effective kinds of educational planning. A great deal was being done, as a quick glance at the facts will show.
Discussions among educational leaders and economists in the early 1960s produced easy agreement on five propositions which formed a general framework for later explorations.

First, educational planning should take a longer range view. It should in fact have a short-range (one or two years), a middle-range (four to five years) and a long-range perspective (ten to fifteen years). Obviously its vision will grow less precise the farther ahead it looks. But considering the long ‘lead time’ required to increase educational capacity and to alter educational output—to enlarge, for example, the production of doctors or engineers, or even of elementary school teachers—it is necessary to plan years ahead.

Second, educational planning should be comprehensive. It should embrace the whole educational system in a single vision to ensure the harmonious evolution of its various parts. Moreover, it should try to extend its vision to important types of non-formal education and training to ensure their effective integration with formal education and with the priority needs and goals of society.

Third, educational planning should be integrated with the plans of broader economic and social development. If education is to contribute most effectively to individual and national development, and to make the best use of scarce resources, it cannot go its own way, ignoring the realities of the world around it.

Fourth, educational planning should be an integral part of educational management. To be effective, the planning process must be closely tied to the processes of decision-making and operations. If isolated in a back room it becomes a purely academic exercise whose chief effect is to frustrate those involved.
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Fifth, (and this proposition was slower to become evident) educational planning must be concerned with the qualitative aspects of educational development, not merely with quantitative expansion. Only thus can it help to make education more relevant, efficient and effective.

Like the Ten Commandments, these five propositions soon enjoyed universal endorsement in principle, but the problem was to get them obeyed. This required three sorts of action: (1) the development of specific concepts and methodologies, (2) the training of people to apply them, and (3) the adaptation of organizational and administrative arrangements to enable planning to work. In the present section we will deal with the first of these, leaving the other two for the next section.

1. The key planning questions

As useful as they were as a starting point, the above propositions did not really address the central planning questions which every nation faces, questions which often get answered by default without ever being explicitly asked. The questions (applied to a specified time period) are essentially these:

1. What should be the priority objectives and functions of the educational system and of each of its sub-systems (including each level, each institution, each grade, each course, each class)?

2. What are the best of the alternative possible ways of pursuing these various objectives and functions? (This involves a consideration of alternative educational technologies, their relative costs, time requirements, practical feasibility, educational effectiveness, etc.

3. How much of the nation’s (or community’s) resources should be devoted to education at the expense of other things? What appear to be the limits of feasibility, in terms not only of financial resources but real resources? What is the maximum of resources that education can effectively absorb in the given time period?

4. Who should pay? How should the burden of educational costs and sacrifices be distributed as between the direct recipients of education and society at large, and among different groups in society? How well adapted is the present public fiscal structure, and other sources of educational revenue, to attaining a socially desirable distribution of the burden and at the same time a sufficient flow of necessary income to education?
5. How should the total resources available to education (whatever the amount may be) be allocated among different levels, types and components of the system (e.g. primary v. secondary v. higher education; technical v. general education; teachers’ salaries v. building and equipment v. textbooks, free meals, scholarships, etc.)? Educators and economists, as well as sociologists, politicians and philosophers, are likely to approach and answer these questions in quite different ways, reflecting differences in their background, outlook and styles of thinking. Since this fact bears heavily on how different groups did approach educational planning in the last decade, we should pause to note how educational administrators and economists were inclined to think about these matters.

The good educational administrator is a hybrid of idealist, pragmatist and politician. He appreciates other important social needs, but to him education is clearly Number One; it commands his prime attention and loyalty. He believes devoutly that every young person should get all the education he can use, but he knows this is not feasible immediately. So at budget time he asks for all he thinks he can effectively use, plus something extra, for he knows he will get less than he asks for. He then fights hard to get all he can and finally ends up with a compromise budget which he proceeds to spend as fully and effectively as possible. His record of spending right up to the budget ceiling is seldom matched in other sectors.

To a man in this situation, most of the key planning questions posed above seem highly theoretical and impractical. Moreover they cover too broad an area; as he sees it his responsibility is to figure how much money is needed for education and how to spend it well. Let somebody else worry about where the money should come from. He does not take ‘no’ for an answer easily, for he knows all too well how many children there are waiting to be educated and roughly what this will cost. Anyone who withholds the necessary funds assumes responsibility for penalizing their future. He is their champion; let those who would deprive the nation’s youth stand up and be counted.

At this point the economist is at a tactical disadvantage, feeling like Scrooge and the enemy of children. He may be equally idealistic and may equally love children and value education, but he is less a pragmatist and politician and more a conceptualizer and analyst than the educational administrator. He has never had to run a school system, win a budget or meet a payroll. He is accustomed to viewing the economy as a whole and to seeking an optimum balance among its sectors in
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the face of over-all resource limits. Thus, while the economist wants to see education do well he does not believe it can or should have an unlimited priority or a blank cheque relative to everything else (and to him this is what the educational administrator seems to be asking for).

The economist is preoccupied with two central problems: first, how best to divide the limited economic pie among various competing uses to get the best over-all results (the ‘allocation problem’): second, how best to use these resources, once they are allocated, to get maximum output (the ‘efficiency problem’).

Viewed in this perspective, it is obvious that education can only get more at the expense of something else; this is the only sensible meaning of a priority. But even a priority must have its limits; no single sector, education included, can be permitted to take all the pie it wishes, irrespective of the sacrifice costs to other things. Thus, to the economist, the most critical problem for policy-making is how to strike the right balance among competing uses for the same limited resources.

This problem of course can be solved, and often is, by straight political jousting and trading, with those having the strongest political muscles coming off best. But the distribution of political muscles does not necessarily coincide with the best distribution of resources in the over-all national interest. The same applies to allocation of resources within the educational system, where the top administrator himself must be the arbiter.

Thus, the economist, who identifies with the larger national interest or with the larger interests of the educational system as a whole, is constantly looking for a more rational solution to this allocation problem. He does not expect such a solution to displace the political process, but he hopes it will help the political process to yield somewhat more rational answers.

The best theoretical solution to the ‘allocation problem’ which the economists have come up with so far is to use the Gross National Product as the central criterion and then apply a ‘cost-benefit’ test to each of various alternative allocation possibilities to discover which of them yields the highest ratio of benefits to costs and hence will contribute most to over-all economic output.

There are, of course, two admitted weaknesses in this cost-benefit approach, notwithstanding its persuasive logic. One is the practical difficulty of measuring costs and benefits, particularly benefits that will only be realized in the distant future. (By which time the economist’s
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earlier estimates may be very wide of the mark and the policy decisions based on them irreversible.) The other weakness concerns the criterion itself and the narrow definition of ‘benefits’ which it implies. Certainly economic output and growth are central to the attainment of other major social goals, including the fuller development and equalization of educational opportunities. But there may also be other kinds of benefit, particularly in the case of education, which are not directly economic terms, but which are nevertheless very important to individuals and the nation. If this is the case, then the economist’s cost-benefit calculation, though good as far as it goes, is too narrow-visioned and could seriously mislead policy-makers into making the wrong allocations. The dangers and penalties of such errors, of course, are much reduced when the cost-benefit approach is applied to a particular project rather than to a whole broad sector.

As for the ‘efficiency problem’, to get very far into this would quickly involve economists in some very sticky and contentious pedagogical issues which most of them have been anxious to avoid. This is one reason why educational planning as it evolved in the 1950s and 1960s kept its focus on the broad outer parameters of the educational system and studiously ignored what was going on inside.

Having in mind these contrasting ways in which educators and economists tend to view the same scene, we can perhaps appreciate better the three different ‘approaches’ to educational planning that were advocated by competing schools of thought in the 1960s. In the jargon of the trade they are called the ‘social demand approach’, the ‘manpower approach’ and the ‘cost-benefit approach’ (more accurately, the ‘rate-of-return approach’). Let us take a look at them.

2. The ‘social demand’ approach

This approach comes most naturally to the educator and is actually more a description of what he normally does than a theoretical formulation of how he should approach planning.

‘Social demand’ is an ambiguous and mischievous term (rarely used by educators) which can be defined in several quite different ways. It is most commonly used to mean the aggregate ‘popular’ demand for education, that is, the sum total of individual demands for education at a given place and time under prevailing cultural, political and eco-
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omic circumstances. If there are fewer classrooms and places than there are serious candidates to occupy them, one can say that social demand exceeds supply. There is good evidence of a demand-supply gap when educational authorities and political leaders receive mounting complaints from irate parents whose children cannot get into school.

Two important points need to be added. One concerns the imposition by government of compulsory school attendance. When this happens the demand suddenly grows larger and is basically determined by demography; it is no longer a private, voluntary demand. The second point is that voluntary demand may be considerably influenced by what the costs of education are to the student and his parents, not only the cash costs (fees, etc.) but the 'opportunity costs' of income forgone, of work not done on the family farm while the student is attending school.

Within limits, public authorities can influence the size of social demand, though as a practical matter it is far easier to stimulate an increase than to reverse the process. For example, if a government can afford to, it can arbitrarily boost social demand by requiring school attendance and, beyond the age of compulsion, by making education free (even, in the extreme, by compensating students or their parents for the income and work forgone). Short of these measures, governments can use propaganda to stimulate the private (voluntary) demand for education. But the culture itself, the climate of attitudes and convictions about what education can do for people, is undoubtedly the most influential factor of all in determining the social demand for education, provided people can pay for it.

Measuring social demand is almost always extremely difficult and often impossible. The exception, of course, is where compulsory education exists together with good demographic data on the relevant age group (the case in most industrialized countries but not in most developing nations). To obtain even a good approximate measure of voluntary demand would virtually require a house-to-house canvass in most cases.

The Unesco regional targets referred to earlier are a fairly good illustration of the social demand approach. The method employed was essentially very simple, though it was no easy matter to get the basic facts and estimates for applying it. The first step was to collect the best available estimates of how many children by age levels there were in each country of the region and how many of them were already
enrolled in primary, secondary and higher education. This established the current participation rates. The next step was to take the best available projections of the future youth population at each age level, up to 1980. The third step was to choose some participation rate targets for 1980 and certain intervening years and apply them to the population projections, to determine absolute enrolment targets.

This last was the trickiest step of all, because logically it required a composite judgement of many feasibility factors: how much education the people would really want, what it would cost, what the economy could afford, how much educated manpower each national economy would need and how many jobs it could actually provide, how much foreign aid could be obtained, etc. In actuality some relatively simple assumptions were made in the absence of any better ones. One important assumption was that the popular demand for education would continue to outrun the supply. Another was that the unit costs of education would remain fairly constant. It was taken for granted that the economy could use all who got an education and that in general the greatly expanded educational outlays would add importantly to economic growth. The main feasibility measurement that was attempted concerned the availability of funds. Here some rather optimistic assumptions were made about the behaviour of unit costs, economic growth rates and foreign aid. The resulting targets were subject to criticism on many grounds. Nevertheless, they were about as good as circumstances permitted and they undoubtedly were quite effective at the time in stimulating higher educational budgets (and, indirectly, in stimulating social demand as well).

Another example of the social demand approach is what happens in France with regard to university admission. The rule in France is that any student who passes the baccalauréat at the end of the lycée (secondary school) can automatically enter the university. The skyrocketing of French university enrolments since the early 1950s has provided clear evidence of a sharply rising social demand for higher education. (It has also been a major source of headaches for French educational planners and university administrators, who had no good way to predict very closely how fast the social demand would rise and how many students would turn up each autumn. Usually more turned up than were expected and than there was room for. This was certainly one important causal factor in the ‘Events of May’ that shook French universities to their foundations in 1968).

Three main criticisms are made of the social demand approach,
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particularly by economists: (1) it ignores the larger national problem of resource allocation and implicitly assumes that no matter how many resources go to education this is their best use for national development as a whole; (2) it ignores the character and pattern of manpower needed by the economy and can readily result in producing too many of some types and not enough of others; and (3) it tends to over-stimulate popular demand, to underestimate costs, and to lead to a thin spreading of resources over too many students, thereby reducing quality and effectiveness to the point where education becomes a dubious investment.

3. The ‘manpower’ approach

As noted earlier, many economists preferred the ‘manpower approach’ to educational planning. The argument in its favour ran roughly as follows: Economic growth is the mainspring of a nation’s over-all development and thus should be the prime consideration in allocating its scarce resources. Economic growth, however, requires not only physical resources and facilities but also human resources to organize and use them. Thus the development of human resources through the educational system is an important pre-requisite for economic growth and a good investment of scarce resources, provided the pattern and quality of educational output is geared to the economy’s manpower needs.

The advocates readily conceded that education had other important purposes besides producing manpower, but they saw no necessary conflict. They disposed of the issue by inviting educational planners to weigh these ‘other’ objectives along with manpower considerations, but this was vague guidance and poor comfort.

Accepting this line of reasoning, the government of Tanzania, for example, courageously decided in the early 1960s to stabilize its primary school participation rate at about 50 per cent in order to give temporary priority to higher levels of education directly tied to economic manpower needs.

While the broad logic of the manpower approach was hard to argue with, its practical application revealed a number of flaws. First, it gave the educational planners only limited guidance. It had nothing to say about primary education (which was not considered to be ‘work-connected’) though by implication it suggested curbing the expansion of primary education until the nation got richer. Most manpower studies
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confined their attention to 'high level' manpower needed by the 'modern sector' (that is, mostly urban employment). Thus planners were given no useful clues about the educational requirements of the people who would constitute the vast majority of the nation's future labour force, namely, semi-skilled and unskilled workers in the cities and the vast majority of workers who lived in rural areas.

Second, the employment classifications and manpower ratios (e.g. the desirable ratio of engineers to technicians, doctors to nurses) used in most manpower studies in developing countries, as well as the assumed educational qualifications corresponding to each category of job, were usually borrowed from industrialized economies and did not fit the realities of less developed ones. The actual work of a building trades worker or agricultural specialist or health officer in Africa or Asia, for example, was likely to be quite different, and to call for a different sort of preparation, from that of someone wearing the same label in England, France or the United States. Educational plans based on such faulty assumptions could result in the mis-preparation and over-preparation of many students for the jobs they were meant to fill.

A third difficulty was the impossibility of making reliable forecasts of manpower requirements far enough ahead to be of real value to educational planning, because of the myriad economic, technological and other uncertainties involved. The more refined the categories (e.g. 'electrical engineers' rather than 'engineers of all types') and the longer-range the forecast (e.g. five to ten years v. one or two years) the fuzzier the estimates became and the less trustworthy.

The manpower approach could usefully call attention to extreme gaps and imbalances in education's output pattern that needed remedy, but this hardly required elaborate statistical studies. It could also give educators useful guidance on how, roughly, the educational qualifications of the labour force ought to evolve in the future—what the relative proportions should be of people with a primary education or less, secondary education, and various amounts of post-secondary training. This in fact was very useful for educational planners to know, but it was a far cry from detailed manpower requirements.

Alert educational planners who understood the foregoing limitations soon learned to take impressive statistical tables of long-term estimates of manpower requirements, broken into fine categories, with a large fistful of salt. But, at the same time, they learned to extract useful guidance from manpower studies, even though this guidance fell far short of what the planners needed.
The inadequacies of this earlier manpower approach assumed gigantic proportions when eventually the employment market pendulum began swinging hard from manpower deficits to manpower surpluses, as described earlier. This prompted such original pioneers of the manpower approach as Professor Frederick Harbison to counsel their over-enthusiastic disciples (by now engaged in what Harbison called 'statistical pyrotechnics') to abandon this much too narrow view in favour of a wider-angled ‘employment approach’.

This meant that economic planning and economic development policy, no less than educational strategy, were in need of reconsideration. Until then (the late 1960s) the cardinal objective and criterion of success of economic planning had been to raise the GNP as fast as possible, but this was beginning to look as over-simplified as education’s goal of boosting enrolment statistics. What good was a rising GNP if it was accompanied by growing masses of unemployed and under-employed and if its distribution among the citizens was extremely lopsided?

So the manpower planners began pressing the view that creating new jobs and high employment should be given parity with raising the GNP as a prime objective of economic policy. Some also speculated that a moderate excess of educational output over estimated manpower requirements might actually stimulate the economy to faster growth. If good potential workers were available, perhaps the economy would use more of them, and perhaps some would take the initiative to create their own jobs if their education had struck a spark of motivation and entrepreneurship. In short, the old assumption was called into question, that the economy independently created the manpower needs while education passively responded to them. Perhaps the economy should also respond to education, and education could do some job-creating on its own.

But there was one great ‘if’ about all this. Education could only satisfy the economy’s manpower needs and stimulate the creation of more jobs if it was the right kind of education, if it produced ‘development-minded’ people with the appropriate knowledge, skills and attitudes to promote national development. A good deal of the education going on did not appear to fit these specifications.
4. The 'rate-of-return' approach

Yet another group of economists, coming out of the neo-classical tradition of economists, took hard issue with the manpower approach on grounds additional to those already mentioned. They said, in effect, that this approach was about as guilty as the social demand approach of ignoring the over-all 'allocation problem' and the key test of benefits versus costs.

The 'cost-benefit' principle is what a rational individual roughly applies when deciding how best to spend his money when his desires exceed his means. He examines his alternatives, weighs the cost of each and the corresponding satisfaction or utility he feels it will bring him, and then chooses those particular options within his means that promise the highest ratio of benefits to costs.

These economists argued that economic and educational planners should follow this same style of logic when dealing with the allocation of a nation's total resources among different major sectors, or with the allocation of the education system's total resources among its various sub-sectors. No one, least of all other economists, disagreed with this general point. Indeed, one can hardly be a good planner or decision-maker if he does not think intuitively in these cost-benefit terms.

But the practical difficulties of actually measuring these costs and benefits were even more formidable than those encountered by the social demand and manpower techniques. To be sure, some economists and engineers had made progress on similar calculations applying to such things as steel mills, irrigation dams and fertilizer plants. But measuring the likely costs and benefits of major sub-divisions of an educational system was far more complicated. Undaunted, the advocates of what came to be called the 'rate-of-return' approach made a heroic effort and emerged with some precise-looking numbers in several studies in different countries.

Other economists, however, lost no time in firing criticisms at these numbers with the vigour and delight that economists reserve for intra-tribal feuds. Educators largely stayed out of this particular battle. If they were even aware that it was being waged (which many were not), they either failed to understand what the shooting was about or regarded the matter as so academic as to be innocuous. Their instinct was right, at least at this early experimental stage of rate-of-return studies. The noise from the economists was out of all proportion to
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the immediate relevance of these studies to policy decisions. Still, there was always the risk that some innocent top decision-maker might get hold of the rate-of-return figures, take them to be scientifically revealed truth and make some horribly mistaken decisions. This at least was the fear of critics, but in fairness it should be said that the authors of these studies would probably themselves have been alarmed if they had thought that unsophisticated use would be made of their very tenuous statistical conclusions.

It would take too long here to explain in detail the numerous weaknesses which have been charged to the rate-of-return approach. For one thing, the basic cost data are flimsy and critics take particular issue with including as a cost the estimated income forgone by students, especially in countries where heavy unemployment is endemic. These weaknesses on the cost side, however, are susceptible of correction as better data become available.

The more serious weaknesses, which can be somewhat lessened with improved data but never eliminated, concern the calculation of future benefits. The usual method is to calculate the differential in a person's life-time earnings that will result from an added increment of education, discounted by an arbitrary percentage to allow for the non-educational causes of this extra income (e.g. superior intelligence, motivation, family background and connections). But these future income differentials, correlated with educational differentials, are computed on the basis of past and present differentials, the implicit assumption being that they will remain constant in the future. This is a very dubious assumption.

These extra private earnings (after taxes) resulting from extra education are used as the measure of private benefits. The same private earnings (before taxes) are also used as a proxy measure of social benefits, which some critics consider to be a rather big leap. One of the underlying (and doubtful) assumptions behind this method of calculating social benefits is that differentials in wage and salary rates are a fairly accurate reflection of the relative economic productivity of different people. A good many other heroic assumptions are required to complete the arithmetic and to reach a rate-of-return figure.

The authors make clear that their method measures only the direct economic benefits and takes no account of indirect economic benefits and non-economic ones. This is a fair-sized exclusion. The educational planner is left wondering what extra allowance he should make for these excluded benefits.
Curiously enough, though primary education is not in itself considered a preparation for work, a few of these rate-of-return studies, done independently in different developing countries, have reached the same conclusion—that the economic yield on primary education in those countries is considerably higher than the yield on university education. This should not be taken as a natural law, however, or even necessarily as the gospel truth in these particular countries; it may simply reflect certain biases in the data and methodology. But it does illustrate the sort of provocative hypotheses that such studies thrust up which can lead to further useful inquiry.

If all the other weaknesses could somehow be overcome, there would still remain the fact that the rate-of-return approach tells the planners and decision-makers only half what they need to know. It tells them in what direction to put more resources to get the best yield, but it does not tell them how far to go in this direction. The second question is perhaps their biggest problem.

To sum up, it is fair to say that the rate-of-return approach at its present experimental stage of development tells us much more about the past than it does about the future. And while we can usefully learn from history, the last thing a developing nation wants to do is to repeat it. Given the paucity of good data to work with and the need, in any event, to make a whole constellation of tenuous assumptions about the economic future, the precise-looking figures arrived at should be treated with extreme caution by practical planners and policy-makers.

None the less, the rate-of-return approach, like the social demand and manpower approaches, has a decided relevance and utility for educational planning. At the very least it emphasizes the constant need to examine alternatives and to weigh their respective costs and benefits as best one can before leaping to a decision. As its methodologies and basic data improve it may provide more solid guidance.

But none of these approaches, it is now clear, provides an adequate basis by itself for educational planning. By now even the most partisan proponents of these different approaches concede that a new synthesis of all three is needed. Even such a synthesis, however, would leave important gaps to be filled. The towering weakness of all three is that they implicitly take the existing educational system for granted and leave it untouched except for its scale. They are essentially instruments for macro-planning, and as such can be very useful. But the conclusion
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we will come to later is that educational planning now needs to get down inside the system and change it to make it more relevant and efficient and productive. This is the main way to raise the future rate of return on educational investments.
Recent progress in putting theory into practice

In addition to the broader concepts and methodologies just discussed, numerous specific techniques useful to educational planning were developed and improved during the 1960s. These included, for example: better statistical methods for making various types of projections (e.g. of enrolments, requirements for classroom facilities, teachers, equipment and materials); more reliable means for estimating future costs and financial requirements; ways of translating demographic and manpower data into future enrolment patterns.

In short, steady progress was made on enlarging the tool-kit for planning. But three other basic steps were required before these better tools could be used effectively. They were: (1) research and diagnosis to illuminate the key problems confronting educational planning; (2) the training of people who could apply these research results and planning methodologies in real situations, and (3) the creation and adaptation of organizational and administrative arrangements to enable planning to function.

It is satisfying for anyone who believes in the importance of multilateral agencies to observe that it was these agencies, Unesco in particular, but also the OECD in the case of Western Europe, that provided the prime leadership in helping the whole world to make substantial progress on the above three fronts during the 1960s. It may be of interest to sketch briefly what they did.

1. Training and research

The previously-mentioned Unesco regional conferences early in the 1960s inspired a large volume of requests from developing nations for
technical assistance in educational planning. Despite the extreme world-wide shortage of such expert personnel, Unesco responded vigorously by sending out during the 1960s a total of more than 150 short-term missions and over 190 longer-term resident advisory experts on educational planning, covering 80 countries.

This, however, could be only a provisional solution. There was evident need to train a cadre of more highly qualified educational planning experts for international service. Even more important was the need to help each country to acquire its own indigenous planning experts in order to become self-sufficient as soon as possible.

To meet these needs, Unesco set about creating a network of new training and research facilities. Between 1960 and 1963, in co-operation with the developing nations themselves, Unesco established regional training centres for Latin America (in Santiago de Chile), for Asia (in New Delhi), for the Arab States (in Beirut), and for the new African nations (in Dakar). To provide a nexus for these regional centres and for universities and other organizations that might be attracted to this field of training, and to give an impetus to research, Unesco (with the co-operation of the World Bank, the Ford Foundation and the French Government) established in Paris in 1963 the International Institute for Educational Planning. Subsequently the Institute received generous support also from individual governments and non-governmental organizations.

These new training organizations were forced to improvise at first, for there was very little literature and no organized body of knowledge on educational planning. The subject was just being evolved and part of their job was to help in the process. By forming interdisciplinary staffs and achieving a fair measure of continuity, and by linking themselves closely to the countries where pertinent experience was being generated, the regional centres and the IIEP gradually became storage and retrieval centres for new knowledge as it emerged from fresh research and experience.

The IIEP in particular sought to collect, create and disseminate this new knowledge through a wide-ranging publications programme which included research reports and instructional materials aimed at bridging the communications gap between researchers and practitioners and at remedying the world-wide shortage of good training materials. By 1969, six years after the Institute’s creation, a large number of such publications, translated into various languages, were in wide circulation and use throughout the world.

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By then, moreover, several hundred persons had received formal training at the IIEP and the Unesco regional centres, ranging from a few weeks to a full year. The great majority were officials of developing countries who returned home to apply what they had learned. The IIEP's trainees, at a more advanced level, also included a good number of international expert advisers who went out to serve developing nations, and a growing number of people who went on to become teachers and research workers in educational planning in regional centres, universities and national training institutions. The IIEP also became a meeting-ground and exchange centre for the officials, scholars and students of numerous universities and other organizations that were building research and training programmes in this field.

Unesco was the main catalytic agent for this movement, especially with respect to the developing regions, but the OECD also played a notable role in the developed world. The OECD's direct training activities were limited, but it marshalled intellectual talents in Western Europe, North America and Japan to do creative work on the more theoretical and methodological frontiers of educational planning, and it stimulated interest in planning in the education ministries of its member states. Beyond this, in the late 1960s OECD's Development Assistance Committee was instrumental in prodding donor nations into giving greater attention and support to educational planning and development in their programmes of assistance to developing nations. Then in 1968 the OECD created a Centre for Educational Research and Innovation with a mandate to help its member states to bring about overdue educational reforms and innovations.

By 1970 it could truly be said that, thanks to the major initiatives taken by multilateral agencies and to the abundant co-operation of university scholars and many others, an international community of educational planning had come into being. An impressive new body of knowledge had been created and disseminated, a substantial initial cadre of planners had been trained and dispersed throughout the world, and effective co-operation and communication between producers and consumers of research in this new area had been achieved. Though there was still a long way to go, a sizeable start had been made. It would be difficult to match this record of rapid progress in many other fields of scholarships and practice.
2. Implementing planning

Several tough questions immediately confronted the new training and research programmes: What is an educational planner? What does he do, where does he fit in, what is his role in an educational establishment? What are his responsibilities with regard to policy and decision-making? What special qualities and skills does an educational planner need? How exactly can a training and research programme help him to acquire these?

The practical-minded participants in these training programmes never forgot that they would eventually be returning to their ministries or other home organizations and would be expected to bring something useful with them. They quickly saw the value and pertinence of the new methodologies to which they were exposed and they rapidly acquired critical insights into their own educational systems through comparing them with others and discovering many of the same basic problems and defects. But all this provoked them into asking themselves and others a persistent set of questions.

What can we do with what we have learned when we get home? How can we apply these concepts, methodologies and new information to our situation so that they will make a real difference, a real improvement in it? What changes will be needed in our organizational and administrative set-up in order for planning to take hold? What can just one individual do to move this mountain of inertia which stands in the way of doing things differently and better? How can we convince the top people that such changes are imperative, that planning simply won’t work otherwise? Most of all, what can be done to change the attitudes and perceptions of all concerned, to make them see that they all—up and down the line, from classroom teacher to Prime Minister—must be ‘planning minded’, that they must be the real planners?

This last question, though loaded with anxiety, was gratifying to the training staff, for it showed that their efforts had not been for naught. This was the key problem—how to make planning part of the life-style of everyone in the educational system. Educational planning, regardless of how good its methodologies may be, can never really work well unless the administrative milieu is favourable. This is less a matter of how the boxes are arranged on the organizational chart or of how the job descriptions read, as it is of how the various participants on the scene think about planning and how they perceive their own particular role in relation to the planning process.
The plain fact—and the first thing for everyone to be clear about—is that the administrative set-ups and environments which most educational systems have carried over from the past were never designed to play host to a modern brand of planning. Most were designed for rule-making and caretaking in educational systems where the central government and public authorities played only a modest role. The main initiative and responsibility for creating and running educational institutions, for financing, expanding or changing them, were left largely in private or local government hands. In such situations the central educational administration was usually characterized by a clear division of labour. The principal officer, staff and inspectorate responsible for supervising any particular level or type of education—such as primary or secondary or technical education—lived in splendid isolation from the others. Each group had its own organization box, its own budget, ground rules, doctrine and style of administration. It was as if the education department or ministry was a loose federation of rival fiefs, kept in check by an unwritten non-aggression pact and by an arbiter at the top.

This tended to be the case even where the central government played a major role in financing, staffing and operating the educational system. The organizational compartments were mutually exclusive and their communications ran mostly straight up and down, to the man at the top and to the clients below; rarely was there horizontal communication with those concerned with other parts of the system.

It is not surprising that in these circumstances no one really saw the educational system as a system, or tried to plan it as a whole. There was in fact no great need to at the time, for the reasons we saw earlier. The point to be emphasized here, however, is that the habit patterns, rules and regulations, doctrines and philosophies, and not least of all the bureaucratic attitudes, prerogatives and self-perceptions that grew out of this setting became serious obstacles when the need arose for a more comprehensive kind of planning.

These obstacles, which still exist in most countries, cannot be overcome merely by tacking a new planning unit on to the old administrative structure. Such a unit can quickly find itself effectively frozen out of the main arena of decisive action. Those in that arena will either be too busy to co-operate with the new planning unit and to use it effectively to help them with their work, or they will wilfully resent or ignore it.

None of this is said in criticism of the individuals involved, most of
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whom have risen heroically to the new challenges, worked exceedingly hard under trying conditions, and accomplished amazing amounts. The heart of the problem is that they are the products and prisoners of an outmoded, regulation-oriented administrative system which by its very nature inhibits good planning and efficient action. There is no simple cure for these ailments. Not until the grip of its inertia is broken by necessary changes of attitude, structure and procedure, and not until a new planning-mindedness permeates the whole system, can planning really function well and educational development move smoothly forward.

This is simply to say that educational planning is not the exclusive job of the full-time technical planners who occupy the central educational planning unit. Their role is a very important one. They must piece together the over-all picture with scraps of information and ideas drawn from many sources. Seeing the system in broad perspective, they can identify major trends, relationships, constraints, options, needs and opportunities and bring these to the attention of others for discussion and action. But they cannot even put the picture together, much less interpret it wisely, without the willing and continuous involvement of all their colleagues in other boxes. Planning calls for a wide and efficient communications network that runs in all directions.

In the last analysis, an educational system will be well planned and its plans well implemented only if those responsible for its various parts are themselves good planners, and only if each concedes that his sub-plans must be mediated and meshed with all others into a consistent and unified whole that will serve the best interests of the total system. In more and more countries, happily, this new climate is gradually being achieved, and educational planning is becoming increasingly effective, but in some it is still little more than a pious wish and a costly source of frustration.

Those who have had an opportunity to compare educational planning efforts over a wide cross-section of nations would probably all agree that planning works best where (a) top political and educational leaders genuinely believe in its necessity, give it their strong support, and make serious use of it in their decision-making, and (b) all others with a serious stake in the educational system—lower-level administrators, teachers, students, parents and employers—have been given a fair chance for their voices to be heard in the process of formulating plans for the future.
We have tried in this booklet to achieve a better understanding of educational planning by examining its functions and observing how it has taken many different shapes and forms to fit many different needs. In particular we have examined that extraordinary slice of turbulent history since the Second World War which has created an imperative need throughout the world for drastically new approaches to educational planning. In this final section we turn to the future and ask where educational planning should go from here.

Despite the considerable progress made, the educational challenges of the post-war era and the formidable problems to which they have given rise are still a very long way from being met. Indeed, after more than a decade of unparalleled expansion, educational systems virtually everywhere confront the future in a state of crisis. They are beset by a mountainous backlog of unfinished business and besieged by staggering problems that threaten to grow worse. How can educational planning help them? How must it be strengthened to do this? What further new dimensions must it acquire?

Five particular needs for improvement stand out within the framework of educational planning as it has been conceived in recent years. First, the three approaches discussed earlier (social demand, manpower and rate-of-return) must now be synthesized into a more coherent, unified approach. Second, the numerous methodologies required to apply this more unified approach must be further refined and strengthened. Third, a gigantic effort must be made by all educational systems to improve the information flows needed for effective planning. Fourth, a larger cadre of people with broad technical competence in planning must be trained, and a general appreciation of planning must be instilled
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in many others whose participation in the planning process is essential. Fifth, organizational and administrative arrangements, attitudes and behaviour patterns must be drastically altered to accomodate effective planning.

The above needs are so obvious and already so widely recognized that they will undoubtedly receive major attention in coming years. But what is perhaps not so obvious is that all of these things, though essential, will not be nearly enough, because the three approaches to educational planning considered earlier ignore one important factor. They have usefully brought the larger outlines and relationships of the educational system into sharper focus, but they have taken much too little account of the inner life of the system and its need for drastic change.

If educational systems are to serve their students and society well, they must now make these changes in their inner life with dispatch: changes in their specific objectives and priorities, in their internal structure, content and methods, in the training and use of teachers, in the processes of teaching and learning, in the style and methods of governance and management. Moreover, some of the most pressing educational needs, involving people outside the formal educational structure, must now be faced up to more seriously and creative solutions found. The whole idea of lifelong education needs to be transformed from inspired rhetoric to an orderly reality. But this can only happen as the traditional institutional and psychological barriers between in-school and out-of-school learning are removed and the two sets of activities become jointly planned and better integrated.

To ignore these imperatives is to court disaster. If traditional educational systems continue to pursue the simplistic expansionist strategy of making themselves larger in their old image, they will compound the already serious maladjustments between themselves and their society, they will waste resources, exacerbate the crisis that already grips them, fail in their mission, jeopardize their own survival and impose untold penalties on future generations.

If this diagnosis is correct, then it follows that educational planning, without abandoning its macro-view, must now turn its attention more seriously to the internal affairs of education. The aim must be to improve the performance of educational systems through changes that will make them more relevant to the needs of their clientèles, more efficient in their use of available resources, and a more effective force for individual and social development. Improved performance does
not mean simply doing better what is already being done; it means doing things differently and doing different things. Therefore the dominant emphasis of the strategy now called for must not be upon expansion per se—though certainly more expansion will be needed—but upon change and adaptation.

What sort of educational planning is required to serve this new strategy? Certainly it will have to include good macro-planning that focuses on the broad dimensions of the system and its relationships with the economy and society. But beyond this there must be new forms of micro-planning that apply to the inner processes of the system and to its numerous sub-systems. It seems a fair guess, therefore, that the new frontiers for educational planning in coming years will include the five main territories listed below.

1. Refinement of objectives

Without clearly stated objectives and priorities there is no adequate basis either for evaluating an educational system's performance or for planning its future intelligently. If the de facto aims of an educational system (as distinct from its stated aims) are inconsistent with its society's principal goals, maladjustments are bound to develop between the system and society, and society's needs will suffer. Likewise, if the specific objectives of various educational sub-systems are incompatible with the whole system's broader aims, then the system will be at war with itself and its basic aims will be defeated. The chief losers in this event will be its students. For all these reasons, the essential first step toward improving an educational system's relevance and performance is to re-examine and clarify its basic aims and priorities and the more specific objectives of each of its sub-systems, to ensure that they are compatible with one another and with the society's major goals, priorities, and needs.

Some may throw up their hands and say that this cannot be done, that it has been tried many times and failed, that at best it ends in murky rhetoric which everyone can accept, or, worse still, in irreconcilable conflict between divergent interests. But this is tantamount to conceding that the very institution which is supposed to foster intelligent behaviour in others is incapable of acting intelligently itself, that an educational system has no choice but to run on the basis of folklore, blind faith and stultifying compromise.
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This seems a dubious conclusion. In all events, the situation calls for a further attempt, this time relying less on prevailing doctrines and prejudices to supply the goals and priorities, and much more on guidance provided by rational analysis. Certainly, it will always be difficult to define the broad aims of any educational system as a whole in anything but quite general terms that inevitably lend themselves to different interpretations. Even so, it should be possible for social scientists to check in various ways on the actual behaviour of the system and on the competencies and behaviour of the people it produces, to determine whether these behaviours are reasonably consistent with the avowed aims of the system and the evident goals and needs of society.

What is more important, as one moves from the general to the particular, from the broad aims of the educational system as a whole to the more specific objectives of its particular sub-systems, it becomes easier to define objectives in operationally meaningful terms and to use these defined objectives as criteria for testing performance. There is a vast difference, for example, between the broad aim of producing 'good citizens' or 'liberally educated persons' and such specific objectives as developing a definable level of competence in reading, or in using arithmetic, or in employing a foreign language.

In point of fact, experts in educational tests and measurements are making significant progress in devising more flexible and diversified means for evaluating various kinds of desired educational outcomes on the part of individual students. Why then should it not be possible to adapt some of these instruments and to devise further ones for testing the performance of the system itself—provided that there are some clear objectives against which to assess performance?

2. Evaluation of system performance

A clarification of educational objectives is essential not only to ensure that the system is striving to do the right and relevant things, but to provide a basis for checking how well it is actually doing them. It also affords a basis for comparing alternative ways of pursuing any particular learning objective and for determining which of these is the most efficacious.

This is half of what educational change is all about. The first half involves changing what the system is doing, to make it more relevant and up-to-date; the second half involves changing how it is doing it,
to make the process more efficient and effective. An educational system can be doing the wrong things very efficiently, or it can be doing the right things very inefficiently. Both possibilities must be examined in judging its performance.

If educational systems are to make changes for the better and not simply for the sake of change, they will need a variety of diagnostic tools with which to assess their performance, identify opportunities for improvement, and monitor their progress over time.

3. A systems approach to educational design

Since educational systems will have to change more frequently and more rapidly than in the past, they will need new techniques for doing it. The usual way has been ad hoc, piecemeal and episodic and has typically involved superimposing something new on top of the old, without really changing the old, as for example, adding instructional television, a language laboratory or a film projector to the conventional classroom procedures. In effect this changes the old ‘teaching-learning system’ but without consciously designing a new one, because it has not been looked at as a ‘system’. As a result, the full potential of the new component is unlikely to be realized, its cost will be a net addition to the old costs, and the improvement in the work of the class may prove disappointing. It is as if someone, given the job of putting a man on the moon, began with the biplane and tried to add things that would get it to the moon.

The alternative approach is to use the method of ‘system design’, which has been used very successfully in many other fields (including actually getting some men to the moon). This works the other way round. Instead of starting with an old system that is not performing satisfactorily and trying to patch it up, it begins with a clear set of ‘performance specifications’, that is, with a definition of the results desired (the ‘objectives’) and the various controlling constraints and environmental factors to be observed (such as the background of the students, cost ceilings and time limitations). The next step is to devise a variety of alternative possible ‘systems’ that might be employed to achieve the specified results. Each such potential system will involve a somewhat different combination of components (inputs) and a somewhat different technology. The estimated costs and the likely results (outputs) will also vary from system to system, and some will fit into the general context better than others. The problem then is
to compare the relative advantages and disadvantages of these alternative systems and to select the one which, all things considered, seems best suited to the purpose and the circumstances.

In designing new ‘teaching-learning systems’ in this manner to accomplish various well defined objectives, the chances are that the optimum one will usually include some combination of old things and new, fitted together in a new way. The chances are also that it will pay to test out a variety of different ‘systems’ for doing the same job in a number of comparable situations so that a good supply of solid evidence will be generated with which to compare their respective costs and results. It will clearly pay neighbouring educational systems to co-operate in a broad research and development programme so that they can experiment collectively in ways that none could afford alone.

The basic principles to be followed in educational systems design are clear enough, but the practical techniques still require development and testing out. Once these are available, they can become an effective part of a built-in, continuous process of educational self-renewal.

4. New management styles and measures

The various measures already mentioned constitute important devices for the better management of educational systems. (Included in this concept of management are the planners, evaluators and decision-makers not only in the front office of the ministry but in every classroom as well.) But additional tools will also be needed, many of which are already within reach and simply require further refinement and testing. Among these are the methodologies used for operations research in other fields which, properly adapted, might be profitably applied to education: programme budgeting geared to specified accomplishment targets; the PERT system of scheduling complex projects and programmes; various methods of cost analysis and cost-effectiveness testing, and related techniques of cost-benefit analysis.

The effective planning and management of a modern educational system requires also a minimum of critical indicators which regularly reveal to all concerned what is happening to major variables and relationships within the system and to crucial relationships between the system and its environment.

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It is not enough to know, for example, the total number of students enrolled at each major level; it is also important to know how they are distributed geographically and by grade levels and programme areas; what changes are taking place in the profile of socio-economic background and of academic qualifications of the student body, together with key information about rates of promotion and attrition in different parts of the system.

Similarly it is not enough to know the general trend and breakdown of gross expenditures as revealed by the national education budget; it is important to know also what is happening to unit costs throughout the system, to the pattern of revenues by sources, to the relationship of educational expenditures to total public expenditures and the GNP.

If teacher supplies, costs and utilization are to be more intelligently assessed and planned, there must be indicators that reveal trends in the distribution of the teaching staff by age, qualifications, salary levels and years of service, changes in class size in various parts of the system, and in teaching hours.

The output and effectiveness of the system must be monitored not only by indicators showing trends in the annual number of graduates of different types, but by indicators which reveal what has happened to previous graduates (and non-graduates)—which is the ultimate acid test of the educational system’s contribution.

What constitutes the desirable minimum of indicators of this sort will depend on what is necessary and feasible in each situation; the more sophisticated the educational system, the more extensive its management information system can be. But even the simplest and least developed educational system—or individual school or university—will find it very worth while to know much more about itself than it has ever known before. Now that education has become the largest economic enterprise in most countries and a major influence on the whole economy and society, it can hardly afford to be managed in the style of a modest family business. It must operate with its eyes wide open.

5. Intensified research and development

Although educational institutions have been major scientific spawning-grounds for great technological breakthroughs in such other fields as medicine, industry and agriculture, they have devoted little of their
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talents in the past to achieving comparable breakthroughs in the techniques of education itself. Traditional educational research, though it has occasionally yielded useful results, has been too undernourished and fragmented and often too unrelated to the really vital problems facing educational systems to have had a very substantial over-all impact. Moreover, most research of this type has been too narrowly and exclusively pedagogical in its focus to embrace the interdisciplinary problems that plague educational systems today.

The only way that change and innovation can become a continuous process and a normal way of life for educational systems is by mobilizing more of each system's own creative brainpower for the purpose, involving a wide variety of disciplines, investing much more money in educational research and development, and establishing the necessary institutional arrangements to undergird the process. Lacking this, and lacking a pervasive spirit of scientific inquiry, educational systems will continue to pile new things on old like geological layers, and to have ill-fitting innovations forced upon them from the outside.

To many people, including many well acquainted with educational planning, the new frontiers just sketched may appear at first sight to lie beyond the proper boundaries of educational planning. And they will be quite right, of course, if one accept these boundaries as they have been conceived of in the past. But this is just the point; the boundaries must be widened. To serve the present urgent need for educational systems to change and renew themselves in virtually every respect, the previous conception of educational planning must be broadened still further to include the planning of internal changes in these systems.

To extend educational planning in this manner will inevitably mean merging it more intimately with the processes of management, pedagogy, and research and development. This will make planning less distinguishable from other functions, less a thing apart, and considerably more interdisciplinary in character. Instead of being regarded as the special domain of a few technical planning experts occupying a back room near the Minister's office, educational planning will become the standard business of virtually every operator in the system, including, not least of all, the teachers.

We can end this booklet with a prediction. When someone asks, a decade or two from now, 'What is educational planning?' the answer
he gets will be very different, and a good deal longer and more complex, than the transitory answer given in these pages. But one thing will be the same. The man answering the question will begin, as the present author did, by observing that educational planning is too complex and diversified a thing, and is still changing too rapidly, to fit any simple definition or to be encased in any single general theory. And he will no doubt end by saying that, while educational planning can make valuable use of scientific methods and modes of thinking, it is none the less—like education itself—more of an art than a science.
IIEP book list

The following books, published by Unesco/IIEP, are obtainable from the Institute or from Unesco and its national distributors throughout the world:

*Educational development in Africa* (1969. Three volumes, containing eleven African research monographs)

*Educational planning: a bibliography* (1964)

*Educational planning: a directory of training and research institutions* (1968)

*Educational planning in the USSR* (1968)

*Fundamentals of educational planning* (full list at front of this volume)

*Manpower aspects of educational planning* (1968)

*Methodologies of educational planning for developing countries* by J. D. Chesswas (1968)

*Monographies africaines* (five titles, in French only: list available on request)

*New educational media in action: case studies for planners* (1967. Three volumes)

*The new media: memo to educational planners* by W. Schramm, P. H. Coombs, F. Kahnert, J. Lyle (1967. A report including analytical conclusions based on the above three volumes of case studies)

*Problems and strategies of educational planning: lessons from Latin America* (1965)

*Qualitative aspects of educational planning* (1969)

*Research for educational planning: notes on emergent needs* by William J. Platt (1970)

The following books, produced in but not published by the Institute, are obtainable through normal bookselling channels:

*Quantitative methods of educational planning* by Héctor Correa
  Published by International Textbook Co., Scranton, Pa., 1969

*The world educational crisis: a systems analysis* by Philip H. Coombs
  Published by Oxford University Press, New York, London and Toronto, 1968
The International Institute for Educational Planning

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