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The Program in International Education Finance
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School of Education
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REPORT OF ACTIVITIES 1976

University of California, Berkeley
School of Education

PROGRAM IN INTERNATIONAL EDUCATION FINANCE

Report of Activities 1976

The Program in International Education Finance is concerned with research and training on the cost, efficiency and finance of education in developing countries.

In February, 1973, a five year grant of nearly one million dollars was allocated by the Agency for International Development (AID) to provide support and initial seed money for the program. Additional support for large scale field research is being sought from AID Missions in developing countries or from other funding agencies.

Grant Objectives and Accomplishments

The initial objectives of the Program, as spelled out in the grant, are:

- to develop new knowledge and insights with respect to educational finance, cost and efficiency in developing countries, through problem oriented research, field investigations and dissemination of knowledge and comparative experience;
- to develop new or improved tools for analyzing and developing present and potential resources for education; for measuring educational inputs, allocation utilization and outputs; and for comparative studies of costs and benefits of various kinds and modes of education;
- to assist with the training of individuals from the United States and developing countries in the study of critical aspects of educational finance, cost and efficiency;
- to help create and participate in an international network of institutions working in this field in both developing and developed countries.

To carry them out, we have:

- attracted a diversified and talented staff including several visitors from developing countries;
- established a research program and published several books and a number of papers (see the publications list) as well as issuing a large number of working papers and other reports;

- undertaken consultation and other field activities in many countries.

- created, in addition to regular degree programs in the School of Education, a Ph.D. program in the Economics of Education and organized special purpose programs for individuals from planning agencies of LDC's for specific educational planning needs;

- established an international network that provides information on research being carried out worldwide in the field of educational planning, efficiency, cost and finance.

Accomplishments

Research is pursued along two related levels:

First: Development of models to improve existing policy instruments for educational decision-making. Methodologies are developed using econometric and statistical techniques for analyzing educational costs and benefits, for evaluating performance and for predicting enrollments appropriate to the needs of developing countries.

Second: Research on social and organizational dimensions of educational planning. This includes comparative studies of other systems, examination of the effectiveness of systems, work on the role of non-formal and informal education, etc.

A. First Level: Quantitative Research

During this year, the "quantitative" group has been involved in the following set of activities:

1. Completion of the manuscript Student Flow Models: A Guide to Policy which presents the student flow model for planners who do not have strong mathematical backgrounds. A comprehensive computer program manual is included as an appendix. The book is written to assist planners in developing countries in using models and programs already developed, to "demystify" the computer and the model and to enable planning staff to understand and utilize technical models for their own purposes. Judith Balderston, Stephen Rhoads, Lalit Roy, Jo Ritzen are authors of this book.

2. Investigation of the relationships between nutritional status and educational performance.

   An extensive review of the literature in the nutritional, public health and education fields has been conducted which has sought results and data bases; from it, outlines of future research have been drawn. Preparation of an extensive (500 items) annotated bibliography on the effect of nutrition on behavior has been completed in cooperation with this Program and the Society for Nutrition Education.

   From the search of literature and discussions with staff at the IBRD, AID, UN agencies, OECD, Ford Foundation as well as University colleagues in nutrition, public health and related fields, we have had to conclude that there exists little empirical evidence isolating the connection between nutritional and health status on the one hand and educational performance on the other. We therefore expect to investigate how nutrition and health affect the ability to learn and how education affects nutrition and healtn in order that public policy and planning properly reflect these interrelationships.

A proposed longitudinal study incorporating work already undertaken in four Guatemalan villages by INCAP will provide some of this evidence. We intend to measure performance of the children in the INCAP study as they reach school age whether they actually attend school or not. Performance will be measured by school attendance and achievement, psychological test results and activities outside of school. Implications for economic, educational and social development would be articulated for the guidance of public policy. Meetings were held in Guatemala with members of PIEF and INCAP to plan joint research activities.

Other facets of the work concerned with interrelationships between nutrition, health and education are continuing. Investigation of work in Latin America, Europe and the United States is continuing to seek data bases for testing statistical hypotheses that isolate nutrition and health status from other conditions of income and family background.

Discussions have been held with staff members of the University of California Agricultural Extension Service and the Society of Nutrition Education for the purpose of developing methods of evaluation of benefits and costs of nutrition education programs. The experience of programs conducted by Agricultural Extension for poor, and often illiterate, mothers in California could be of significance for rural development programs in LDC's.

3. Theoretical Models:

(a) The report by Vien Phan, "On the Concepts of Stability and Fairness of Functional Distribution of Income and Elements of a Theory of Quasi-Homogeneous Production Functions," provides a unified framework in which to classify the various familiar production functions used in applied economics (including the economics of education) in terms of their distributional properties. It also includes a novel concept of "generalized balanced growth" which appears to correspond much more closely to the behavior of actual economic systems than the traditional "golden path" concept. A detailed analysis of the associated one-sector growth model is also provided exhibiting the familiar pattern of growth of many nations whereby the rate of return to capital remains constant while the price of labor grows with time, consistent with findings in economics of education.

(b) As an elaboration of the analysis in the previous paper, in "Causality in a Two-sector Growth Model with Variable Returns to Scale," the behavior of an economy is analyzed by allowing a differentiation between consumption and investment goods, leading to general results concerning the causality of such models encompassing many important results obtained in the literature only under the restrictive assumption of constant returns to scale.

(c) A paper, "Generalized Inverses of Strict Morphisms," presents a unified approach to the theory of generalized inverses, which recently appears to provide a very useful tool for conceptualizing and analyzing the problem of aggregation arising in the construction of large scale models of socio-economic systems.

4. Weekly seminars are held by the quantitative group. These informal seminars, to which graduate students from the division are invited, explore areas of current research of the group.

B. Second Level: Social and Organizational Research

Members of the Program have been involved in a variety of research activities. These include:

1. The School as a Producing Unit. Thomas Livingston is spending the academic year 1976-77 terminating his study of the School as a producing unit. There has always been interest in the possibility of combining education and training with productive activities which generate income to cover all, or part of, necessary expenditures. The study covers historical as well as contemporary experience. The historical investigation focusses on the manual school movement, particularly its early development in the United States, beginning in the 1830's, and includes the British experience with Owen experiments in Scotland and the Working Men's College in North London. The study also covers the Lancaster-Bell projects designed for the education of the poor. Attention is given in the second part of the manuscript to current undertakings: the barrio high schools in the Philippines, the Pagoda schools in Laos, the Diyagala Boys' Town in Kenya, the educational ideas of Tanzanian educators as they implement Julius Nyerere's policy of education for self-reliance.

2. The Financing of Education in the U.S.S.R. The project on the financing of Soviet education is finally reaching completion. The manuscript in its first draft should be ready by April, with a length of 300-400 pages, including many tables and diagrams--many furnishing for the first time comprehensive data on the financing of the whole range of educational programs: general education, higher education, vocational training for skilled labor and technical-professional training at the middle level, together with the most important non-formal and informal educational opportunities.

   Beginning with the financial planning of education and its relations to the comprehensive economic planning system (which includes planning for the educational sector), the process of financing is traced with attention to the budgeting, implementation and control system at various levels of government. A brief study of developments in Kazakstan illustrates how growing financial investment in education was applied in a relatively backward non-Russian region of Soviet Central Asia.

   Special attention is given to the widespread financing of education from extra-budgetary sources, both public and private, showing opportunities for mobilizing spare resources (especially from institutions which profit directly from the rising level of trained manpower) and involvement of economic organizations and social institutions as well as individual citizens in the ongoing educational process.

The planning of education in the U.S.S.R. in the light of development needs and modernization, especially as it relates to manpower planning, is scrutinized, drawing--among others--on Soviet perceptions of the economics of education and the increasing use of cost-benefit analysis, such as in the evaluation of full time as against extension programs in the institutions of higher education.

The work was primarily based on original Soviet sources, using statistics whenever available and supplementing it by Soviet monographs and the growing material offered by articles from specialized journals, supplemented by editorials or letters from the public published in the Soviet press.

3. Problems of Public Administration. During 1976, Professor Benveniste completed a manuscript titled, Bureaucracy: Uncertainty, Errors and Games. This study is minimally supported by grant funds, but it is of direct relevance to concern with efficiency of education in LDC's. The study focusses on the pathologies that bring about the growth of large, impersonal, low effectiveness and low efficiency bureaucracies. The manuscript describes the various remedies that have been used to increase the effectiveness and efficiency of bureaucracies, particularly planning, organization, development, accountability and centralization. It provides some unconventional views about the utility and dangers of corruption and concludes by presenting a bold new perspective on the way large public bureaucracies might be controlled in the future. The book should be available from the publisher in the spring of 1977.

4. Stuart Wells' Instructional Technology in Developing Countries: Decision-Making Processes in Education was completed and published by Praeger Publishers in the fall of 1976. It is concerned with planning, implementation and costs of technology projects and their evaluation.

5. Sandi Elman is undertaking a study of support services for women in higher education. While her field work will be in Europe, she will be paying attention to the relevance of her findings to LDC's. Her work is also financed, in part, by a grant from a private American foundation.

C. Training

Dr. Charles Benson heads the Program in Economics and Finance of Education within the School of Education. The Program has recently been enhanced by the appointment of Dr. David Stern. Dr. Stern joins Judith Balderston in taking responsibility for instruction in quantitative techniques of policy analysis with special emphasis on large-scale model building, educational production functions, analysis of the relation between the education system and labor markets.

The training program under this grant is an integral part of the normal activities of the Graduate School of Education. Students joining the Program are usually candidates for the master's or doctorate degree in Education. They apply for admission according to normal procedures of the University. In addition, informal arrangements have been made with the Business School, the Departments of Computer Science, Industrial Engineering and Operations Research, and Economics to facilitate admission to these departments for a few (selected) foreign students interested in the Program who, by reason of their past training and specialization, would logically be admitted in these departments. It is also possible to pursue the M.A. in Economics and the Ph.D. in Education.

An applicant to any program in the School of Education must be admitted to the Graduate Division. There is a limitation on the number of students who may be admitted each quarter for graduate study on the Berkeley Campus. Each program within the School of Education, therefore, operates on a quota basis, and students are urged to submit applications for admission and readmission as early as possible. Applicants for admission should write to Professor Charles Benson, Chairman, Program in Economics and Finance of Education, School of Education, University of California, Berkeley, California 94720, U.S.A., to receive the necessary forms and information.

Generally, applicants to the Graduate School of Education are admitted for the fall quarter (starting in late September or early October). Decisions on admission for the fall quarter are made in the spring, and complete applications must, therefore, be received beforehand. Applications to this Program should have all forms and letters of recommendation filed before February 1 for admission in the fall. In other words, the admission process requires a one year lead time.

Attention is called to our two step master's and Ph.D. program. Essentially, the two step program consists in having candidates for a master's degree come to Berkeley for a two year program. During this period, they also become familiar with the requirements for the Ph.D. They return to their country after these first years, having completed work toward the master's degree. After one or two years in service in their country, they may return to Berkeley to undertake further academic work toward a Ph.D. and return to their country to complete their dissertations.

In addition to degree programs, special training activities are available to meet the special needs of qualified trainees who typically come from planning agencies in developing countries. By spending several months with this Program and taking advantage of the variety of opportunities available on the Berkeley Campus, they can do research on specific problems related to their educational systems with the assistance of our staff. This sort of collaboration has served to provide rewarding teaching/learning opportunities for both the visitors and members of our Program.

D. Network

During the past year, the network of experts--researchers, administrators and others--in the field around the world has stabilized at an optimal level of somewhat over 200 members. A table showing the geographical distribution and type of institution involved can be found in a section of the Four Year Report. The vast majority of the most important institutions and individuals are represented in the network.

Support services developed include a search service, assistance with finding publication outlets and the reception of and occasional visits to network members. The two main support services are the publication of a regular library accessions list sent to a network that is some fifty percent wider than the network of experts and the distribution of all published material produced in the Program.

The central service of the network is the interchange, through an editor and network organizer in Berkeley, of information about research and other programs in process, reports of the results or implementation thereof, notices of conferences at which material will be dissemminated, and other kinds of information and requests for assistance; there is room for an exchange of opinions and points of view about technical problems and policy issues in the field. The medium for transmitting the information is a quarterly Newsletter of 16-20 pages, organized in the clearest possible way.

The advantage of the Newsletter is that it is inexpensive, simple, condensed in format and capable of being produced and sent quickly, by air mail, to network members. Thus, it provides an essential service to relatively isolated individuals and institutions in a rapidly changing research and implementation field. Its success is attested to in many ways including the fact that every issue is easily filled by member contributions despite the absence of the conventional incentives--honoraria, status, advancement--to publication of material.

Feedback from members does suggest that the network could proceed to the inter-personal level with advantage to all concerned: a conference would be a natural vehicle for this although the network organizer could travel and visit members more cheaply. At the present level of effort, it would be very useful to publish in one or more languages other than English.

We consider that the network can be used as a paradigm for imitation in other fields or sub-fields of the program activity of the international, national or other organizations.

A fuller report on it by Roger Pritchard is available as a separate paper, "A Paper-Based System for the International Exchange of Information: A Case History in Educational Planning."

E. Library

The Library of the Program in International Education Finance functions in cooperation with the Library of the Institute of Governmental Studies (IGS). The Program supports a half-time librarian position and funds acquisitions, while the IGS Library provides stack space and clerical support and takes responsibility for housing the PIEF collection at the termination of the Program. The librarian acquires, catalogs and provides reference service for titles in the collection and prepares a monthly Accessions List.

The collection has grown to roughly 2400 titles, including approximately 40 currently received periodicals. The thirty-fifth Accessions List is now in publication. The collection is open to the scholarly community, both visiting and resident. Access is facilitated by three types of catalogs: author and subject catalogs, located at IGS, and a geographic catalog housed in the Research Director's office along with a majority of the periodicals and a core collection of monographs. A working collection and catalog are thus immediately available to staff researchers, students and visiting scholars.

The Accessions List is distributed to the PIEF staff and to approximately 300 researchers and institutions around the world including members of the International Resource Panel on Educational Finance, Cost and Efficiency. Members of the Panel are encouraged to publicize their research by depositing it in the Library so that the titles appear on the Accessions List.

A number of institutions which receive the Accessions List send publications on an informal exchange basis. These include various UNESCO bureaus, several foundations and AID-sponsored programs in other universities.

In July 1976, the format of the Accessions List was changed to improve its usefulness. Material is now classified under broad subject headings, and the addresses of publishers and issuing organizations are supplied. The latter change was instituted to aid users with limited access to bibliographic tools.

Respectfully submitted,

Guy Benveniste

Guy Benveniste
Principal Investigator