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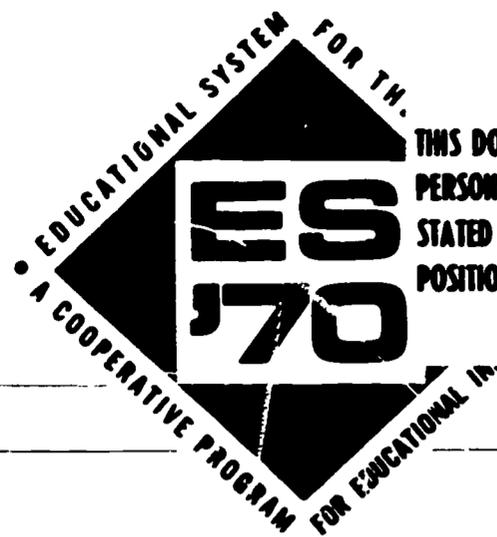
DESCRIPTORS- EDUCATIONAL RESEARCH, *PROGRAM COORDINATION, CURRICULUM DEVELOPMENT, TEACHER EDUCATION, *INTEGRATED CURRICULUM, *INDIVIDUALIZED PROGRAMS, *EXPERIMENTAL CURRICULUM, *HIGH SCHOOL CURRICULUM, SCHOOL DISTRICTS, NETWORKS, MEETINGS, EDUCATIONAL SYSTEM FOR THE SEVENTIES, ES 70, ORGANIC CURRICULUM,

SPECIFICS OF IMPLEMENTING THE OBJECTIVES OF THE EDUCATIONAL SYSTEM FOR THE SEVENTIES (ES '70) PROGRAM TO RELATE EDUCATION TO THE NEEDS OF AMERICAN YOUTH, CLARIFYING THE STRUCTURE OF THE ES '70 NETWORK, AND CHARTING THE BROAD DIRECTION OF THE LONG-RANGE ACTIVITIES OF THE PARTICIPANTS WERE THE PRIMARY SUBJECTS FOR REVIEW AT THE SECOND ANNUAL MEETING OF THE ES '70 NETWORK IN SAN MATEO, CALIFORNIA, MAY 23 AND 24, 1968. SUPERINTENDENTS OF THE 17 PARTICIPATING LOCAL SCHOOL DISTRICTS REPORTED TO THE 150 PARTICIPANTS OF THEIR DISTRICT ACTIVITIES FOR THE YEAR. THE PROGRAM ALSO INCLUDED (1) UNIVERSITY SPEAKERS IN THE AREAS OF CURRICULUM DEVELOPMENT, RESEARCH ON ROLE ANALYSIS OF TEACHERS, COST OF EFFECTIVENESS, AND COMPUTER APPLICATIONS TO STUDENT INSTRUCTION AND GUIDANCE, (2) A DISCUSSION OF INDUSTRY INVOLVEMENT, (3) A REVIEW OF THE NEW ORLEANS CONFERENCE HELD IN MARCH, AND (4) A REACTION PANEL ON THE ROLES OF THE LOCAL SCHOOL DISTRICTS, THE STATE EDUCATIONAL DEPARTMENTS, AND OF INDUSTRY IN RELATION TO ES '70. BRIEFLY REVIEWED ARE (1) THE STUDY OF CURRICULUM FOR OCCUPATIONAL PREPARATION AND EDUCATION (SCOPE) PROGRAM AT RUTGERS, (2) THE CONTINUOUS CURRICULUM IN NOVA SCHOOLS, FORT LAUDERDALE, FLORIDA, (3) THE ATLANTA SCHOOL SYSTEM'S WORK ON A STUDENT-ORIENTED SECONDARY CURRICULUM, AND (4) THE TRIPLE T PROJECT TO ENCOURAGE ELEMENTARY AND SECONDARY SCHOOLS AND INSTITUTIONS OF HIGHER EDUCATION TO WORK TOGETHER TO IMPROVE THE "TRAINING OF TEACHERS." COPIES OF THIS DOCUMENT ARE AVAILABLE FROM E.F. SHELLEY AND COMPANY, 866 UNITED NATIONS PLAZA, NEW YORK, NEW YORK 10017. (MM)



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JUNE, 1968

SAN MATEO, CALIFORNIA SCHOOL DISTRICT HOSTS SECOND ANNUAL MEETING OF ES '70 NETWORK

EXECUTIVE COMMITTEE EXPANDED, NEW MEMBERS ELECTED

The Executive Committee for the ES '70 Network has been expanded to include Superintendents from 6 local districts. In future years, two members will be elected each year to serve a three year term. This year, terms of election varied in length in order to accomodate the change.

The following Superintendents were elected to the new Executive Committee for ES '70 at the annual meeting in San Mateo:

Dr. Melvin Barnes, Portland, Oregon;
2 year term

Dr. Eugene Johnson, Bloomfield Hills, Michigan;
1 year term

Dr. Leon Lessinger, San Mateo, California;
3 year term

Dr. John Letson, Atlanta, Georgia;
2 year term

Dr. L. V. Rasmussen, Duluth, Minnesota;
3 year term

Dr. Ben Wallace, Mineola, New York;
1 year term

Members of the Executive Committee will elect their Chairman at a forthcoming meeting.

1968 - 69 ES '70 NETWORK MEETINGS SCHEDULED

General meetings of the ES '70 Network are scheduled for the 1968-69 school year as follows:

- November 21, 1968.....Washington, D.C.
- March 20, 21, 1969.....San Antonio, Texas
- June 26, 27, 1969.....Quincy, Massachusetts

PROGRESS REVIEWED, NEW DIRECTIONS CHARTED

Specifics of implementing the objectives of the ES '70 program to relate education to the needs of American youth, clarifying the structure of the ES '70 network, and charting the broad direction of the long-range activities of the participants were the primary subjects for review at the second annual meeting of the ES '70 network, in San Mateo, California, May 23, 24, 1968.

Dr. Leon Lessinger, Superintendent of Schools, San Mateo High School district was host to the conferees. Dr. Ben Wallace, Superintendent of Schools, Mineola, N. Y., and Chairman of the Executive Committee served as chairman of the meetings.

The first year of ES '70 was described as a "fruitful year" by Dr. Wallace in his report to the 150 participants. "It was a year," he said, "in which important groundwork was done by the group" in specifically defining the goals of ES '70 and in drafting preliminary statements on the unique local-state-federal relationships inherent in the operation of the programs. "The process has been a time consuming but essential antecedent for the effective, substantive programming we now anticipate," he said.

Superintendents of the 17 participating local school districts reported on their district activities for the year.

Dr. Leon Lessinger, addressing the group at a luncheon meeting, reviewed the factors which have led up to two new major developments in American education currently emerging, namely: teacher power and pupil power. "These," he said, "must be considered in any educational planning that is undertaken." Dr. Lessinger also commented that the discussions at the meeting indicated that superintendents working on the ES '70 program had exhibited a common

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SAN MATEO (continued)

dedication to the accomplishment of the goals of the program although each may have differing approaches to the solutions of the problems they are confronting.

University Speakers

University speakers on curriculum development in San Mateo included Dr. James Rutherford, who outlined the background and development of Project Physics at Harvard. Outcomes of this project will be published in the Fall. Dr. Edmund Begle, of Stanford University, reported that the SMSG Mathematics program now extends pre-K through High School, and that a current major concern of SMSG is to test appropriate programs for middle and low-achieving mathematics students at the junior high school level.

Dr. Joseph Lipson, of Nova University, Fort Lauderdale, Florida, described a study to be completed in December of 1968 which analyzes the various roles played by teachers in the schools, specifically in relation to their students. The full report will be available on completion.

Dr. Bruce Tuckman of Rutgers reported on Project SCOPE at Rutgers. A synopsis of his remarks will be found on page 3 of ES '70 NEWS.

Dr. Jacob J. Kaufman, Director of the Institute for Research on Human Resources and Professor of Economics at Pennsylvania State University, discussed "Cost Effectiveness" with the group. He indicated that cost-effectiveness studies could ease the proverbial "crunch" between educational ends and means. "The only solution," he said, is to "re-examine how we are spending our dollars to narrow the gap between our needs and resources." He stressed the importance of thinking through alternate ways of using money and suggested that methods be utilized which can help school administrators evaluate how effectively their dollars are being spent.

Dr. Harry Silverman, of the Systems Development Corporation, discussed "Computer Applications to Student Instruction and Guidance." Dr. Silverman stressed the importance of combining various systems (instructional management, guidance and counseling, etc.) and observed that the future success of educational projects depends, to a great extent, on building the appropriate technology to implement them.

Industry Involvement

Business and industry observers at the conference were briefed on ES '70 by Mr. David S. Bushnell, Director, and Dr. Robert M. Morgan, Deputy Director, Division of Comprehensive and Vocational Educational Research, U.S. Office of Education. It is expected that a close alliance between educators and representatives of the "world of work" will need to be established in order to accomplish the goals of the ES '70 program. Participation

in the San Mateo conference by business and industry was an initial step in this involvement.

Dr. Walter Mylecraine, Assistant Commissioner, U.S. Office of Education outlined several far-reaching studies and programs being sponsored by the U.S. Office of Education in relation to Architecture and Facilities. He stressed the need to study ways of insuring a better return on facility and construction investments. He described the Atlanta-Baltimore-Philadelphia joint planning effort.

New Orleans Report

Dr. Richard Fawley, Superintendent of Boulder, Colorado, and Dr. Robert E. Pruitt, Superintendent of Quincy, Massachusetts, reviewed the proceedings of the New Orleans conference for the group. This conference, held in March, was attended by representatives of varying academic disciplines and professional associations to discuss educational objectives of secondary schools. Special emphasis in the New Orleans discussions was on coordinating relevant vocational programs with academic preparation to insure that secondary students would have appropriate options open to them for continuing their education on a post-secondary level, or for entering the job market prepared to hold a job.

The New Orleans meetings also explored ways in which the individuals represented at the conference, as well as other groups, might contribute to further research and implementation of educational goal-setting, and of the new instructional methods to be devised.

Coordinators in the 17 school districts in the Primary Network met separately for working sessions, and with the entire group for general sessions. With other participants they visited key innovative projects in the Bay Area, including the J. F. Kennedy High School in Richmond, California for an overview of the Richmond Plan and Project FEAST, and Aragon High School in San Mateo for an introduction to their Aerospace Program. Groups also visited Project PLAN at Palo Alto and the Center for Technological Education of San Francisco State College.

Reaction Panel

Dr. Melvin Barnes, Superintendent of Schools, Portland, Oregon, Charles W. Nix, Associate Commissioner for Planning of the Texas Education Agency, and Mr. Lewis H. Glaser, President of Revell, Inc., Venice, California, commented on the roles of the local school districts, the state education departments, and of industry in relation to ES '70 at the final general session of the conference and looked forward to the successful implementation of the program.

A preliminary draft of the ES '70 handbook was discussed. A final edition of this publication is being prepared for distribution. A 16 mm film on the background and educational approaches of ES '70 was shown. Several amendments to operating policies or procedures were adopted by the Governing Board of the network.

In mid August of this year, Dr. Robert M. Morgan, Deputy Director for the Division of Comprehensive and Vocational Education Research, U.S. Office of Education, will assume new office as Head of the Department of Educational Research and Testing at Florida State University in Tallahassee.

DR. BRUCE W. TUCKMAN REVIEWS "SCOPE" PROGRAM AT RUTGERS

SCOPE is an acronym for the Study of Curriculums for Occupational Preparation and Education. Its major objective is to coordinate and contribute to a national curriculum development effort at the secondary school level aimed at increasing the relevance of high school education for the large majority of our youth who must seek employment (or further job training) upon graduation. To serve the needs of these youth, the curriculum of the secondary school will require the inclusion of experiences relevant to future employment needs. Thus, the SCOPE program has aims which interface with those of the Educational Systems of the '70's program.

Funding has been requested for the first phase of the SCOPE program, named Project CONECT, another acronym standing for the Coordination of Occupational and Non-occupational Curriculums and Technologies. The objectives of this first phase of the SCOPE program are as follows:

- (1) To establish a functional communication link between the state-supported vocational curriculum development centers.
- (2) To increase the familiarity of the directors of the above centers with recent advances in behavioral approaches to curriculum development, devices, and evaluation.
- (3) To refine and test a scheme for reorganizing educational objectives in terms of the behavioral process used to accomplish each objective and the object of the process in each instance (the process-object model).
- (4) To develop a detailed plan of activity for Phase II of the SCOPE program including the identification of staff and facility needs.

There are approximately 15 state-supported vocational curriculum development centers throughout the country that have been involved for some time in the development of curriculum materials. These centers could become a significant resource in future attempts to provide greater occupational relevance to secondary education if they were to function in a more coordinated manner, and if they were to become sufficiently cognizant of and enthusiastic about present modernizing trends in the production of curricular materials. The first two objectives represent an attempt to accomplish both coordination and stimulation among these centers.

Present plans in the ES '70 program call for an attempt to reorganize the high school curriculum in a direction away from separation of subject matter based on discipline toward an integration of subject



Bruce W. Tuckman

matter based on learning objectives. To this end, many subject matter experts may be called upon to identify the educational objectives included in their area of the high school curriculum. Thus, given the "pieces", it will be necessary to put them together in some meaningful way. The process-object model for the integration of objectives is an attempt to structure learning experiences in a manner more consistent with their application to the tasks of life than the present subject matter breakdown. During the first phase of SCOPE, this scheme will be refined, written about, and tested.

If national curriculum reform at the secondary school level is to become a reality, and if this reform is to move the curriculum toward greater relevance for more students, then some central coordination of activities will be required. Planning for a SCOPE Center to participate in the development and coordinating of such national efforts will be undertaken as the final task of the first phase.

-Bruce W. Tuckman

(Dr. Tuckman obtained a Ph.D. in Psychology from Princeton University in 1963. He is presently Associate Professor of Education at Rutgers, holding joint appointments in Educational Psychology and Vocational-Technical Education.)

ES '70 NEWS will be published at regular intervals during the school year to keep readers up to date on current ES '70 activities and progress. Examples of representative activities will be reported in each issue.

ES '70 NEWS is prepared under the supervision of the ES '70 Executive Committee by E. F. Shelley and Company, Inc. Additional copies may be secured from E. F. Shelley and Company, 866 United Nations Plaza, New York, New York 10017.

NEWS FROM THE NETWORK

ES '70 NEWS regularly reports information on innovative programs from the network schools. These reports are extracted from a compendium of Primary Network Innovations, published in May, 1968. The reports follow a standard format describing the title of the program, the academic disciplines and vocational areas involved. The number and grade level of students enrolled in the program are reported. There is a statement of the planning team membership, and the planning time required. Purposes, progress, number and status of personnel involved, technological aids, texts or other resource materials used, are included where appropriate. There is also comment on the status of evaluative information, recommendations for replication, and identification of a resource person available in that district for further information.

CONTINUOUS CURRICULUM

Nova Schools in Fort Lauderdale, Florida report a continuous progress curriculum for 4400 students, Grades 1-12, in the areas of mathematics, science, social studies, English and technical science. Planning time required was five years; the planning team included administrators, supervisors, subject matter consultants and teachers.

This program was planned to eliminate both "gaps"

and redundancy in the curriculum by providing a continuous set of experiences in all academic areas for Grades 1-12. Scope and sequences for Grades 1-12 have been developed. All students are involved in a continuous set of experiences, which are not determined by grade level or the beginning of a new school year, but by those which he has previously encountered. Involved in implementing this program are 5 supervisors, 7 department heads, 125 teachers and 32 para-professionals. Audio-visual media are employed throughout the program; a multi-text approach is used incorporating material written by members of the Nova faculty.

Currently there is no evaluation or information available for distribution. Recommendations for others attempting to replicate this program include the following:

1. Obtain 100% commitment to the program from entire staff.
2. Maintain lines of communication between administrators and teachers, teachers of different subject areas, and teachers in the same subject areas.
3. Institute a continuous in-service education program.

Further information may be obtained from: Director, Nova Schools, Fort Lauderdale, Florida.



Dr. Robert E. Pruitt,
Superintendent,
Quincy, Massachusetts.



Dr. Richard M. Fawley,
Superintendent, Boulder,
Colorado: reporting New
Orleans meeting.



Dr. Robert Morgan,
Deputy Director, Division
of Comprehensive and
Vocational Research, U.S.
Office of Education.



David S. Bushnell, Director,
Division of Comprehensive
and Vocational Education
Research, U.S. Office of
Education.



General session.



Dr. Ben Wallace - Chairman, 1967-68 ES '70 Executive Committee, reporting.



Dr. Woodrow Watts, Deputy Superintendent in charge of Secondary Schools, Houston, Texas; Dr. Franklin D. Wesley, Coordinator, Houston, Texas; Charles Nix, Associate Commissioner for Planning, Texas Education Agency, Houston, Texas.



Dr. Leon Lessinger, Superintendent, San Mateo High School District, California: Host



Dr. Melvin Barnes, Superintendent, and Glenn Hill, Portland, Oregon.



Dr. L. V. Rasmussen Superintendent of Schools Duluth, Minnesota



Dr. Eugene L. Johnson, Superintendent, and Robert Boston, Coordinator, Bloomfield Hills, Michigan.

The implementation of the ES '70 educational program will require the use of information technology in many different areas. The current stereotyped image of punch-card automation leading to the mechanization of all human relations is completely misleading. On the contrary, modern technology must be fully exploited to realize the human values to be sought in the ES '70 projects. The opportunity to have more time for strong interpersonal relationships can be provided when the technology reduces time now spent by teachers, students and administrators in dealing with the following kinds of activities:

Students will have rapid access to an information bank to help them make intelligent choices in career goals, in choosing instructional modules, in identifying their own skills and needs, and in planning their schedule of activities.

Teachers will have rapid access to the information required in determining a student's needs, in identifying the opportunities open to him, in evaluating his progress, in recording his progress and in select-

ing and adapting instructional materials and media to individual needs and learning capabilities.

Principals will have new tools available to cope with the complexities of administering a school in the process of change. Among the critical areas suitable for the adaptation of new techniques are:

- Scheduling school and individual activities
- Keeping records
- Preparing assignments for all school personnel
- Planning and scheduling transportation
- Utilizing facilities, both the school plant and outside facilities
- Allocating funds according to urgencies and priorities
- Maintaining salary structures
- Computing payrolls
- Cost control and analysis

In short, the realization of the human values which are the goal of the individualized instruction in ES '70 can be vastly enhanced by the availability of new information systems technology.

ATLANTA INITIATES WORK ON STUDENT-ORIENTED SECONDARY CURRICULUM

The School System of Atlanta, in cooperation with seven neighboring school districts in the Atlanta metropolitan area, is working toward the development of a revitalized, truly comprehensive, student-oriented high school curriculum. Atlanta has proposed to completely revise its program of instruction through re-studying and re-specifying the school system's terminal educational objectives in terms of behavioral characteristics of students, while simultaneously reorganizing all course offerings and/or activities in the framework of a 12-month, 4-quarter plan of operation.

There is an immediate need for funds to assist the school system with this broad-scale curriculum revision effort in order that a more valid and more adequate program of instruction might begin to take shape in the immediate future, with the hope that implementation and field testing in all areas of instruction might begin with the school year of 1968-69. Since Atlanta is a part of the metropolitan area caught up in a groundswell for a new organizational plan and an improved curriculum, it appeared both sound and practical to see Atlanta move deliberately, and yet boldly, ahead in all areas of instruction NOW.

Therefore, a proposal was written to DOVER, Bureau of Research, USOE, for funds to provide essential consultative assistance, to enable teachers to be released from classroom assignments for in-service education (curriculum development) during the school year, and to provide summer workshops (4 weeks 1968 - 8 weeks 1969) for the curriculum task forces and administrators, to enable them to make a careful analysis of the appropriateness and relevancy of each course and/or activity supervised by the schools. Out of this proposed activity should emerge a revised, modified and/or new curriculum which will be implemented, field tested and continuously refined during subsequent months and years.

To revise the high school curriculum in terms of assessable, behavioral objectives and to organize it into a 12-month, 4-quarter program, the following steps will be taken:

- (1) Organize and set in motion seven task forces, one for each of seven major curricular areas.
- (2) With the assistance of consultants from the behavioral sciences and from each of seven major disciplines, the task forces will identify the terminal objectives of secondary education.
- (3) A team drawn from the seven task forces will synthesize the reports from each discipline into one report, which will be a catalog of terminal behavioral objectives.
- (4) Subdivide the catalog of terminal behavioral objectives into intermediate and course objectives, sequenced for each course or activity.
- (5) Inventory and catalog instructional resources as related to the behavioral objectives for the various courses and activities.
- (6) Devise mode-media mixes to utilize the most effective



Dr. John Letson

strategies for accomplishing each of the behavioral objectives.

- (7) Develop assessment instruments and procedures to measure the progress of pupils and the effectiveness of alternate instructional media and strategies.
- (8) Evaluate and field test the revised curriculum on a pilot basis, modifying it according to the results of the evaluation and field testing.
- (9) Provide in-service education for the entire secondary school staff to prepare them for implementing the new curriculum.
- (10) Implement the revised curriculum in the secondary schools in September, 1969.

Local curriculum (instructional area) task forces have been at work for several months attempting to add some clarity of thought to a restatement of the commonly accepted goals of education. Further, each task force has been asked to design the courses and recommend activities that are to be incorporated in the new curriculum. This means the identification of objectives for each course and/or activity, the writing of a description of each, and the development of a plan whereby students, through proper guidance and counseling procedures, may be guided into instructional programs designed especially for students with a given set of characteristics.

Since the development of objectives in behavioral terms is a delicate and demanding task, the Atlanta School System proposes to bring in immediately behavioral scientists and scholars from the universities (discipline specialists) to assist the working task forces with this very important assignment. Once the School System has developed a catalog of terminal educational objectives, has secured system-wide staff agreement on them, as well as community endorsement of them, they will become, then, the educational specifications or ends toward which Atlanta's programs must be directed - toward which each course, whether old or new, will be focused.

Dr. John Letson, Superintendent
Dr. James O. Knuckles, ES '70 Coordinator

The triple T project, sponsored by the U.S. Office of Education, encourages elementary and secondary schools and institutions of higher education to work together in developing programs designed to improve the "training of teachers of teachers" and certain related educational personnel.

Triple T team members assembled to design training projects have been purposely drawn from all sectors of education: the schools and the academic and professional disciplines and the communities they serve. Each team has the following responsibilities: to design the means for accurately assessing local needs and to assign priorities to these needs; to relate these needs, when appropriate, to national needs; to select the clientele to be served; to determine available and required resources; and to outline the logistics of ordering and carrying out the proposed program. The mandate for each project is clear: each team is to assemble the professionals and create the devices that will bring together – in parity – the schools and the whole university in order to coordinate the several components involved in the training of educational personnel.

Teams are centered at Georgia, Hunter, UCLA, and Michigan State University. Names of team leaders and the universities they represent are available on request from ES '70 NEWS. ES '70 schools may wish to contact these team leaders as they develop their own teacher training programs.

Additional information on TTT may be obtained from Dr. Daniel Bernd, or Dr. Sheppard Kominars, Bureau of Educational Personnel Development, U.S. Office of Education, Washington, D.C.



Coordinators from the local districts have submitted questions on ES '70 to the U.S. Office of Education. The questions and answers have been compiled into a booklet for use by local districts and cooperating groups. The following questions and answers are extracted from this booklet. The information will be updated continually as the program develops or is modified.

Q: *Isn't there a danger that this will begin to look like a national curriculum?*

A: Any educational program that is nationwide in scope may be interpreted by some as a "national" curriculum. ES '70 is a locally planned and controlled curriculum development effort. It does represent a unique cooperative venture by local, state, and federal educational agencies. While many characteristics of the curriculum will be common to all 17 schools, the program permits and encourages appropriate local variation. Because of the danger of its being interpreted as a "national" curriculum, it is incumbent on the Bureau of Research to communicate unambiguously that this is not a monolithic, federally designed curriculum.

Q: *Where are some exemplary programs of individualized instruction now operational in the country?*

A: The school systems of Duluth, Minnesota and Pennsylvania's Oakleaf School District have programs of individualized instruction on the elementary level. Nova, in Ft. Lauderdale, Florida, and Bloomfield Hills, Michigan, have individualized instructional programs spanning Grades K-12.

Q: *To what extent will the classroom teacher be involved in planning under ES '70? What opportunities and encouragement will be given to innovate?*

A: ES '70 classroom teachers should be thoroughly oriented to the concept, objectives, and general procedures established by the Executive Committee. Responsibility for their continuing involvement, which is essential to the success of the program, lies with the 17 network superintendents and coordinators. The network information system will aid superintendents and coordinators in assuring teacher involvement. Working within this framework, classroom teachers should contribute to the general curriculum development effort and to specific projects which are funded in support of the ES '70 program. Teacher creativity and innovation should be encouraged – and expected. Coordinators should strive to identify and marshall this creativity and focus it on the objectives of ES '70. Teachers will be intimately involved in translating ES '70 components from their planning and experimental phases to the reality of a wide-spread operational program. Strategies for facilitating this transition should be carefully planned, and research may be conducted to determine the most effective of these.

EDUCATION ADMINISTRATION MANAGEMENT COURSE

A management strategies program for school superintendents in the ES '70 network will be held at the New York Institute of Technology, at their campus, Old Westbury, Long Island, New York, July 11-13, 1968.

COMMENTS ON AN ORGANIC CURRICULUM



(Excerpts from an address by David S. Bushnell, Director, Division of Comprehensive & Vocational Education Research, U. S. Office of Education, on an "Education System for the 70's," presented in September, 1967, Washington, D. C.)

"... What I have been describing is a new kind of educational program which incorporates the idea of a continuous progress curriculum with instructional techniques that emphasize the active development, the positive achievement and self direction of students.

"... There are many unanswered questions that are being, and must be, researched before such a curriculum can become operational. The problem of logistics is large and complex. But briefly, we can regard the development of the curriculum as having three main thrusts: the development and definition of educational objectives, the initial development of multi-media learning modules to implement these objectives, and the validation and modification of learning modules for eventual replication with adaptations tailored to the needs of school districts throughout the country.

"Initially, the performance objectives will be classified in terms of the traditional discipline orientations. Thus, science, math, English, social studies and vocational

education will be approached through involving those who currently represent these disciplines. We may well discover that there may be important educational objectives that are not, in fact, being taught in the present curriculum.

"In the interest of a learner-centered curriculum, we may then find it sensible to reclassify some of the ES '70 objectives into new groupings, which are independent of the traditional molds from which they originally derived. For example, the principles of the scientific method for some students may be better taught in industrial arts or food service than in physics.

"Passing over the logistics of the program for the moment, let me suggest that in the course of our plan for implementation, we will be concentrating not only on the development of educational or performance objectives, but on the development of appropriate materials, the selection of media, and the development of measurement instruments as well.

"The testing of a sub-system of several learning modules is getting underway at the Naval Academy at Annapolis, in the subject areas of economics, psychology and physics. Once the specific learning modules in these subjects have been tested and their effectiveness validated, they can then be used to develop other sub-systems or learning interventions at the high school level. We are, of course, including in our plan, a program for the intensive training of teachers, following the development of appropriate materials and media. The teacher training program will precede installation of the new curriculum in the pilot schools."

REQUESTS FOR PROPOSAL:

Information may be secured by writing to: Dr. Robert M. Morgan, Bureau of Research, U.S. Office of Education, Washington, D. C.

ES '70 DOCUMENTS, FILM:

Information on availability of reports, films, booklets may be obtained from: E. F. Shelley and Company, Inc., 866 United Nations Plaza, New York City 10017

