This bibliography brings together most of what has been written about open space elementary schools since 1968. The citations are categorized as (1) general, (2) research, (3) schools, (4) furniture, (5) newsletters, or (6) bibliographies. Articles and bound materials are entered alphabetically in the most appropriate section. No attempt was made to include literature dealing with the educational programs that may take place in open space. Prices and addresses have been included when applicable. (Author)
The Curriculum Research and Development Center of Indiana State University provides school systems the opportunity to secure aid, encouragement, and cooperation in curriculum development projects. It coordinates the participation of University personnel engaged in curriculum work, provides information concerning curriculum development, and initiates and sponsors curriculum research projects. It is the contact point where public schools initiate inquiries regarding curriculum and acts as a vehicle for communication between elementary and secondary schools and the University. Although the CRDC operates as an agency of the School of Education, it represents all departments of the University engaged in curriculum development projects.

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David T. Turney Charles D. Hopkins
Dean, School of Education Director
OPEN SPACE
ELEMENTARY SCHOOLS

An Annotated Bibliography

CURRICULUM RESEARCH AND DEVELOPMENT CENTER
SCHOOL OF EDUCATION, INDIANA STATE UNIVERSITY • TERRE HAUTE
The material for this bulletin was prepared by:

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PREFACE

Mrs. Donna McGrady has demonstrated unusual talents as an educational researcher. She is a competent librarian and her extensive knowledge of how to obtain information complements her untiring efforts to learn more about what interests her.

A few years ago, Mrs. McGrady heard of a new elementary school that was to be built in the school corporation in which she and her family live. The school was to be built on the new open plan concept. She became interested in the open-space schools. When she learned about the important role of the library media center in the open-space school, she decided to return to school in order to become certified as a media specialist.

The data that she methodically researched continued to grow during the period of her investigation. Mrs. McGrady has probably researched, studied, compiled, and synthesized more information on the open-space school than anyone else has, and the McGrady home is a comprehensive library of information on the open-space school.

At the present, the story does not have a happy ending. After the open-space school in the local corporation was constructed, the school board began an austerity program and decided that it could cut corners by eliminating the position of media center director for the new school.

However, the knowledge and research skills that Mrs. McGrady has obtained in her quest for information will provide a valuable contribution to education, as her bibliography on the open-space elementary school clearly demonstrates.

January 1973

David Alan Gilman
Associate Professor of Education
Indiana State University
The environment in which the school child spends his days teaches him what his community thinks of education and what it thinks of him. What he experiences there, no less than what he learns there, shapes his expectations of himself and his fellowman. The school that serves its society well will nourish the child's spirit and dignity, not his mind alone.

Harold P. Gores
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INTRODUCTION

This annotated bibliography is the culmination of a concentrated six months effort to bring together most of what has been written about open-space elementary schools since 1968. The need for such a bibliography was discovered when the compiler was attempting to do a comprehensive review of literature for a graduate research paper.

The Education Index and Reader's Guide to Periodical Literature were helpful tools in the search for periodical articles. The ERIC publications, Research in Education and Current Index to Journals in Education, were also consulted.

Letters were written to sixty individuals who are, or were associated in some manner with open-space elementary schools. Two individuals, Catherine Slade and Joan Green, librarians at Educational Facilities Laboratories and Study of Education Facilities, respectively, made valuable contributions to this bibliography.

The bibliography was arbitrarily divided into the following areas: general, research, schools, furniture, newsletters, and bibliographies. Articles and bound materials are entered alphabetically in the most appropriate section.

No attempt was made to include any part of an educational program which may take place in open-space. Very often open classroom readings were included with open-space in index listings but all of the open classroom articles were intentionally deleted.

Prices and addresses have been included, when applicable, to make this bibliography helpful to those who wish to purchase listings which are for sale.

If this bibliography becomes a finger-tip reference on open-space elementary schools for students, educators, and architects then it will have fulfilled its purpose.
I

GENERAL

A thoughtful probing of some of the unanswered questions about open-space. Concludes with what it takes to make open-space work.

A proposal for a school which would be designed and built with a physical hard area leading to a flexible intermediate zone which fades into a physically soft area. A soft area would be similar to an open classroom.

A rather lengthy article that analyzes and sometimes criticizes The Metropolitan Toronto School Board's Study of Educational Facilities educational and technical studies. Bibliography.

Photographs and floor plans of open-space schools which feature areas of restricted space. Written description of an elementary school being built in Columbus, Indiana, a small city dedicated to architectural excellence.

A pessimistic view of open-space supported by quotes from a variety of sources. Bibliography.

Excellent discussion of open-space; its philosophical foundation, precedence, premise and promise. Also lists characteristics of teachers who function well in open-space.

Emerging trends related to physical environment are listed and examined. Difficulties for experimentation in education and societal influence on education are noted.

In response to letters received after publication of "New Trends in Education," six educators give some pointers on how to implement educational innovations.


An open-minded school board involved teachers in planning new facilities to accomplish flexible educational goals. Stresses that today's educational theme is "openness," both human and architecturally.


A checklist was used to determine what teachers and students liked or disliked about open-space schools. The feature most liked was carpeting, and the least liked was student storage space.


A discussion of the educational developments that led to open-space. Also lists twelve important considerations in the development of an open-space school.


A discussion of open-space and its implication for the field of educational technology. Bibliography.

"Schools Without Walls: Selected Readings," Audiovisual Instruction, XVII (September, 1972), 45.

Listing of general-interest, open-space literature with purchase source and cost. Includes hard and soft bound books, newsletters, and bibliographies.


Main emphasis is placed on the student, the teacher, and the principal and their roles in an open-plan setting.


An administrator's plea to school boards to "look before they leap" into building open-space schools. The ten "thou shalt nots" are excellent guideposts.

Written by the educational trends task force of the committee on architecture for education. Lists trends as individualized learning, changing role of the teacher, learning experiences in the community, learning path of a student, flow not surge, house grouping, and open-space planning.


A colorful, concisely written report which begins with the history of open-space, summarizes the thinking of participants and concludes with the hopes for open-space in the future. Stresses a need for more research by, and better communications between, those actively involved with open-space.


A special section devoted to five articles profusely illustrated with floor plans and photographs. The featured schools are located in the inner city, the affluent suburbs, and on challenging terrain. Facts and figures for each school are included.

"The Open Space School: How Does It Work?" Education Digest, XXXVII (February, 1972), 15-18.

Condensation of a chapter of the AASA publication Open Space Schools. Emphasizes the importance of communication between pupils, teachers, and administrator.


Report of a workshop sponsored by Houston area elementary schools, Region IV Education Service Center and the Bureau of Education Research, University of Houston. Brief reports by teachers, specialists, administrators and others who addressed the conference. Floor plans of eight elementary schools included.


Discussion of the highlights of a seminar on open-space. Teacher criteria, advantages of open-space, student involvement, and students' views of open-space are investigated.

A good basic introduction to open-space. Interestingly written and well illustrated with large photographs and floor plans of "first-generation" open-space schools. Good for dissemination to the general public.


Informative article which details how basic and accent lighting was achieved in an open-space school in Hamden, Connecticut.


A rebuttal to Philip Drew's article by a fellow architect.


A good introduction to the basic theme of space. The book is divided into two parts: spatial behavior and special settings. One chapter deals specifically with school design. Informative and full of fascinating insights.


Three points of view on the analysis of space are presented by a researcher/project director, a school facilities planner, and a teacher.


An educator questions the value of open-space, team teaching, and student participation in decision-making. (Written from a subjective, persuasive point of view.)


Written in first person by an educator who traveled across the United States visiting schools that were doing experimental and/or innovative things. Major findings are listed as well as detailed observations. A list of all schools, complete with address and name of the administrator, is a part of the report.


A report of a panel discussion held at the Canadian Education Showplace. Architects and educators were members of the panel who discussed problems of flexibility, frills, time lag, and determination of needs.
II

RESEARCH

**Academic Evaluation - An Interim Report.** Toronto, Ontario: Metropolitan Toronto School Board, Study of Educational Facilities, 1971, 205 pp. Cost: $8.00. Available from: Mrs. Joan Green, Librarian, SEF, The Metropolitan School Board, 155 College Street, Toronto 2. A study that was commissioned to compare SEF schools with non-SEF schools and open-plan facilities with traditional facilities. The study includes methodology and description of schools and respondents, observation and utilization of facilities, and satisfaction with facilities. Evaluation instruments and an annotated bibliography on research on open-space are a part of the appendices.

Allen, D. Ian. "Open Plan - A Canadian Investigation." Memorandum No. 3, Stanford University, March, 1972, 16 pp. (Mimeographed.) Available from: School Environment Study, School Planning Laboratory, School of Education, Stanford University, Stanford, California 94305. A comprehensive survey which included fifty-four open-space schools in British Columbia. The advantages and disadvantages of open-plan classrooms, the preparation of teachers, and student groupings were investigated.

Brunetti, Frank A. "Open Space: A Status Report." Memorandum No. 1, Stanford University, August, 1971, 19 pp. (Mimeographed.) Available from: School Planning Laboratory. (See Allen reference.) A helpful introduction notes the trends and evolution of space. The effects of open space on (1) student performance, (2) noise, distraction, and privacy, (3) observation, and (4) school organization are reported.

Burnham, B. Ian. "Open Education: Some Research Answers to Basic Questions," Orbit, II (December, 1971), 22-24. Open-plan schools were compared to traditional schools using IQ and Achievement differences of first graders and by observing behavioral differences of students in the two different kinds of facilities. Also mentions current studies in progress.


Final Report of Integrated Sub-Committees of the Innovations Council. The Halton County Board of Education (West Education Center), June, 1969, 13 pp. (Mimeographed.) Available from: D.J. Gentleman, Chairman, West Education Center, 2468 Glenwood School Drive, Burlington, Ontario. A survey of students, parents and teachers was conducted. Two curiosity questionnaires were used to measure student attitudes. Problems unique to open-plan schools are listed. Numerous recommendations included.

Frase, Larry E. "A Brief Guide for Teachers Toward the Utilization of the Concept of 'Open Space' as an Aspect of the Instructional Individualization." Memorandum No. 2, Stanford University, January, 1972, 24 pp. (Mimeographed.) Available from: School Planning Laboratory. (See Allen Reference.) Two diagrams--Model Framework of "Open Space" and Instructional Procedures, Teacher and Student Activities--are unique to this publication. Concludes with an "Open Space Index" and a helpful bibliography.

Kennedy, V.J. and Michael W. Say. "Comparison of the Effects of Open-Area Versus Closed-Area Classrooms on the Cognitive Gains of Students," Educators Report and Fact Sheet, VIII (February, 1971), 4 pp. Available from: University of Houston. (See Carbonari reference for complete address.) A well written research report which recommends further study in this area to include a longitudinal approach and measurement of both cognitive and affective skills development. Numerous tables are included.

Killough, Charles Kyle. "An Analysis of the Longitudinal Effects That a Nongraded Elementary Program, Conducted in an Open-Space School, Had on Cognitive Achievement of Pupils," Educators Report and Fact Sheet, IX (November, 1971), 4 pp. Available from University of Houston. (See Carbonari reference.) This is a summary of Dr. Killough's dissertation. Entire study may be purchased for $3.25 from the same address. Findings indicate students in the open-space facility had higher mean achievement in arithmetic reasoning, concepts, and computation and reading comprehension and vocabulary. Sex and type of school program did not have a significant interactive effect.

This study found a high correlation in rankings of teachers and principals on the most desirable and the less desirable supervisory services. The highest ranking item on both the teachers' and principals' questionnaire was "Help create a school climate which is conducive to open discussion and learning for the staff." Least desirable was "Devote staff meetings to routine or managerial problems." Bibliography and appendix of open-space school floor plans included.


Instruments were used to record teaching techniques, psychological climate, social differences, and activities utilized in the instructional programs of four open-space schools and four schools with conventional classrooms. A sound survey indicated that noise is not a problem in open-space schools. Specific suggestions are made for future research.


A well written research report which includes 34 pages of instruments used to measure teacher ambition, orientation, formal evaluation, job satisfaction, school authority structure, and personal background information.

The general findings were that teachers in open-space schools were more satisfied, achieved a greater degree of respect and prestige, and felt more autonomous.


An experimental study which included experimental and control groups, formulated hypotheses, which were tested, and data obtained by administration of the Ideal Teacher Checklist. Results are shown in tabled form. The conclusion of the study states further research should determine which children benefit most and least from certain kinds of learning environments.

The purpose of this study was to explore the impact of an open-space, innovative, team-teaching, completely ungraded elementary school on the professed self-esteem of pupils in that school. Coopersmith's Self-Esteem Inventory was the measuring instrument used.


The author deals with the problems in measurement and evaluation of open-space schools, the design of an instrument which would be applicable to a wide range of open schools, and the cost of research to provide an adequate and economically feasible instrument.


Intelligence, achievement, and self-concept of sixth grade pupils in three educational settings were measured. Achievement and self-concept of students in open-space schools were significantly lower than students in the self-contained school.


"Open Space Design in Elementary Schools." February, 1970. 8 pp. (Mimeographed.) Two Smith articles are available from: Central Midwestern Regional Educational Laboratory (CMREL), 10646 St. Charles Rock Road, St. Ann, Missouri 63074.

An evaluation of utilization of open-space in new open-space elementary schools. Notes that each group of teachers develops to a high degree its own style with open-space.


Two social scientists record their observations and findings after spending 247 days as participant observers in an innovative, open-space elementary school. Knowledgeable students of open-space elementary schools will be able to recognize the true identity of "Kensington" even though names have been coded and the give-away floor plan altered.
Studies of Open Education, Aurora, Ontario: York County Board of Education.

Titles in Series:
No. 4 "Open Education: A Selected Bibliography." Revised, October, 1970.
No. 5 "Reading and Mathematics Achievement of Grade 1 Pupils in Open Plan and Architecturally Conventional Schools." September, 1971.
Nos. 1, 3, and 5 Available from: Mr. Brian Burnham, Research Officer, York County Board of Education, Box 40, Aurora, Ontario.
No. 2 Available in: Growth Points '70 from same address. Cost: $2.00.

A series of publications which discuss the findings about claims made for the open-space school. Open classrooms are also discussed and articles about them included in the bibliography.


A study conducted in a physical plant that had both self-contained classrooms and open areas. Open-space facilities with enclosed areas for special activities are recommended.

A summary of this study is in Educators Report and Fact Sheet, VIII (September, 1971). Available from: University of Houston. (See Carbonari reference.)


Students in open-space schools were compared to those in traditional schools by measuring attitudes toward school, teacher, self, learning, and "school last year." Curiosity and creativity of the two groups were also compared. This well written research report includes an abstract and a dynamic rationale.
Details how a new open-space addition was successfully merged with an existing facility. Cost of addition and renovation of old building is included.

A good introduction to open-space using specific schools as examples. Quotes from three school administrators, Haizlip of New York City, Pino of Cherry Creek district near Denver, and Goedke of Howard County, Maryland, are included.

"The Open Classroom, the Nation's Schools in an Age of Space," Consulting Engineer, XXXVII (November, 1971), 78-86.
An elementary discussion of open-space that is illustrated with floor plans of schools in Columbus, Indiana; Charlottesville, Virginia; and Rockaway, New Jersey. Two Canadian schools, one elementary and one secondary, are included.

A helpful general guide to open-space divided into the following sections: why open-space, what is it, how does it work, who plans it, what's in it, how it is built, and what does it look like. The last section has 57 pages of pictures and floor plans of open-space schools across the country.

Places and Things for Experimental Schools. Educational Facilities Laboratories (EFL) and Experimental Schools, 1972, 134 pp. Cost: $2.00. Available from: EFL.
This helpful, timely publication gathers together information on many facility topics such as found space, modernization, open plan, and furniture. Names and addresses of prime information sources are included.

Apollo Elementary School, Bossier City, Louisiana
"Apollo: School Without Failure." Sound/color filmstrip. Released by the Center for Advanced Study of Technology, United States International University, San Diego. 18 minutes. Available from: Audiovisual Supervisor of State Department of Education or the United States International University, 8655 Pomerado Road, San Diego, California 92124.
An audiovisual presentation which shows a nongraded elementary school which makes extensive use of educational technology and library materials. Stresses full student participation and "no failures".
Cupertino Union School District, California
For information, write:
Jack L. Belote
Area Director
Cupertino Union School District
10301 Vista Drive
Cupertino, California 95014

Cypress-Fairbanks School District, Texas
For information, write:
Dr. Joe Harper
Superintendent of Schools
Cypress-Fairbanks ISD
Houston, Texas 77040

Denver, Colorado Area Schools, Cherry Creek School District
For information, write:
Dr. Edward C. Pino
Superintendent
Cherry Creek School District
4700 S. Yosemite
Englewood, Colorado 80110

Howard County, Maryland Schools
For information, write:
John G. Freudenberger
Assistant in Special Programs and Projects
Board of Education of Howard County
Clarksville, Maryland 21029
Jefferson County School System, Colorado

For information, write:
Dr. W. Del Walker
Superintendent
Jefferson County Public Schools
809 Quail Street
Lakewood, Colorado 80215

New Hampshire's Project SOLVE Schools
Cutler, Marilyn H. "This One-Room School is Anything But Antiquated," American School Board Journal, CLVI (June, 1969), 17-20.


For information, write:
Charles A. Kadel
Director
Project SOLVE
35 West Street
Concord, New Hampshire 03301

Also see current and back issues of Nation's Schools and American School Board Journal, both of which frequently have feature articles on open-space elementary schools.
Information on plastic cubes developed by Victor Langhart, a Denver architect, for use in open-space schools in Jefferson County, Colorado. Photographs included. Mr. Langhart's address is 1626 Stout Street, Denver, Colorado 80202.

An architect writes about the brief history of open-space and his predictions for the future with special emphasis on the concept of the entire interior of a school as a system. A discussion of new furnishings is included.

A discussion of furnishings found in various schools around the country. Also cites need for furniture designed specifically for open-space.

A discussion of "cubes" and "slabs" and their uses as envisioned by an architect and school administrator.

"Open Plan Furnishings Borrow From Builders, Bedsides," American School and University, XLIV (March, 1972), 30-35.
Details how a New York City elementary school located in the professional space of a new apartment building found unique uses for industrial bins, rolling aluminum scaffoldings, and ceiling-hung hospital sliding dividers.

Article deals with furniture for open-space elementary and secondary schools. Many photographs and drawings included.

Administrators, teachers, and students in eleven open-space schools were interviewed to determine desirable and undesirable characteristics of furniture in these schools.
NEWSLETTERS

Ask for your name to be added to mailing list. Free of charge.

Open-Space Schools Project Bulletin
School Planning Laboratory
School of Education
Stanford University
Stanford, California 94305
Reports research on open-space schools.

Schoolhouse
Educational Facilities Laboratories
477 Madison Avenue
New York, New York 10022
Reports on projects financed by EFL. Includes name and address of local person in charge of the project.

SEForum
Metropolitan Toronto School Board
Study of Educational Facilities
155 College Street
Toronto 2B, Canada
Information about SEF schools and building systems.

U-Serv and r & d perspectives
Educational Resources Information Center
Clearinghouse on Educational Management
University of Oregon
Eugene, Oregon 97403
Replaces ERIC Clearinghouse on Educational Facilities formerly located as University of Wisconsin. Lists new ERIC products and includes information for ordering ERIC reproductions.
VI
BIBLIOGRAPHIES

Open Education: A Selected Bibliography, October, 1970.
Available from:
The Research Office
Division of Planning and Development
The York County Board of Education
Box 40
Aurora, Ontario

Open Plan Current Bibliography No. 2, October, 1970.
Available from:
The Library Reference and Information Services
The Ontario Institute for Studies in Education
252 Bloor St. West
Toronto 5, Ontario

Open Plan Schools Bibliography, November, 1971
Available from:
Educational Facilities Laboratories
477 Madison Avenue
New York, New York 10022

SEF Bibliography of Research on Open Space Schools, October, 1971.
Available from:
Metropolitan Toronto School Board
SEF
155 College Street
Toronto 2B, Canada

A comprehensive, computerized bibliography which contains references from the late fifties to the early seventies.
 Programs of graduate study in education at Indiana State University include the following:

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- The Master of Arts in Education and the Master of Science in Education with majors offered in the areas of Early Childhood Education, Educational Administration (Elementary), Educational Administration (Secondary), Elementary Education, Guidance and Counseling, Instructional Systems Technology, Mental Retardation, Reading Instruction, School Psychometry, Secondary Education, Special Education - Director, Speech Pathology.
- The Master of Science - Agency Counseling Curriculum
- The Master of Science - College Student Personnel Work Curriculum
- The Master of Arts and Master of Science - Educational Psychology Curriculum
- The Master of Science - Special Education Curriculum
- Graduate non-degree programs for certification for School Services Personnel and Administration
- The Educational Specialist Degree with majors offered in the areas of Elementary Education, Guidance, School Administration, School Psychology, Secondary Education, and Supervision and Curriculum Development.
- The Doctor of Philosophy Degree in Educational Administration, Elementary Administration, Guidance and Psychological Services, and Secondary Education.

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ECOLOGY, CONSERVATION, POLLUTION
   A bibliography of materials
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LEARNING ACTIVITY PACKAGES
LITERATURE AND LEARNING TO READ