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ABSTRACT

This report describes the Educational Voucher Demonstration, serves as a guide for its documentation, and offers an extensive bibliography. Part 1 gives background information and summarizes the implementation of the Alum Rock Demonstration based on a transitional voucher model and involving six public schools, each offering at least two distinct "minischool" programs. The Rand Corporation's evaluation plan defining the project's hypotheses and assessing political, social, economic, and educational outcomes within a framework of 12 information categories and 40 outcome dimensions is discussed. The types of data collected for each outcome dimension and the data analysis techniques used are summarized in tables. The incremental implementaion of the demonstration is analyzed year by year. In addition to describing archive files, part 2 summarizes substudies including: (1) the creation of a demographic database; (2) parent and community surveys addressing parental information levels, schooling decisions, and attitudes; (3) surveys of teacher attitudes toward parental choice and the demonstration; (4) the Metropolitan Achievement Test; and (5) the Children's Self-Social Construct Test. Also provided is a programmer's guide offering descriptions of linkage variables to assist in merging existing archive files to produce new analysis files. (MJL)

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EDUCATIONAL VOUCHER DEMONSTRATION ARCHIVE

PROJECT-LEVEL DOCUMENTATION

Prepared for

National Institute of Education

by

C.M. Leinwand Associates, Inc.

March 31, 1980

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I. OVERALL PROJECT DESCRIPTION

A. INTRODUCTION

The Educational Voucher Demonstration was a large-scale educational and social intervention conducted over a five-year period (1972-1977) in Alum Rock Union Elementary School District, San Jose, California. In April 1972, the Office of Economic Opportunity (OEO) awarded Rand Corporation a contract to act as independent evaluator of the Demonstration. After OEO was disbanded during the Nixon administration, the National Institute of Education (NIE) assumed responsibility for the Demonstration and subsequently renewed Rand's contract.

1. Definition and Theory of Vouchers

"Voucher" is a convenient label for a certificate issued by the government to parents who, in turn, give it to an eligible school which returns it to the government for cash. According to voucher theory, parents could use their vouchers to translate their concern for their children's education into action. If the parents (or the child) did not like the education the child was receiving, the child could use the voucher to go to another school. By encouraging both active parental interest and educational variety, a voucher system should improve all participating schools--public, parochial, and private. Parents would be able to band together to finance and form schools which reflected their special perspectives or their children's special needs. Even if no new schools were established, existing schools would become more responsive to children's needs. Expanded and diversified sources of input regarding school program decisions would help to overcome the public school's emphasis on uniformity. For instance, educators whose philosophies differed from those prevailing in existing schools would have the opportunity

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to implement their ideas in new schools. Even entrepreneurs who felt they could teach children better and more cheaply would have an opportunity to do so under this system.

Despite these attractive theoretical features, some educators and social scientists have had grave reservations about vouchers. Testifying before Congress in 1971, the National Education Association said the scheme was so pernicious that any use of government funds to test its strength and weaknesses was inadvisable. One charge leveled against voucher proposals was that rampant hucksterism could invade education. Confronted with sales pitches and advertisements, the public would be unable to distinguish true claims from false and inadvertently fund inferior schooling. The cost to their children would be great; only the educational entrepreneurs would benefit.

Another important objection was that vouchers would destroy the democratic values that public schools share and instill. Sacrificing uniformity in favor of diversity could undermine a vital role of American public education.

Many critics charged that vouchers would encourage segregation by social class, race, and economic status. By supplementing their vouchers with additional payments, wealthier families could band together as clientele for expensive schools.

The inclusion of parochial and private schools also raised objections. Allowing parochial schools to participate in voucher systems was viewed as an infringement on the constitutional separation of church and state. Public educators feared that including private schools would draw the bright and the affluent away from public schools, leaving only those students who were poor or less able or had difficult learning problems.

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Faculty and administrators saw vouchers as a threat to job security and tenure, despite the theoretical safeguards against this possibility.

Finally, some believed that vouchers would increase the cost of public elementary and secondary education.

It must be stressed that there is no single voucher theory and that, as legitimate as these objections might have been, some voucher plans offer more assurances to the relevant publics than others. The next section briefly describes a number of alternative voucher models in an effort to demonstrate the variety among them.

2. Voucher Models

In the late 1960s, OEO investigated vouchers as a way to improve the educational opportunities of poor families and retained the Center for the Study of Public Policy (CSPP) to study the voucher concept. The models summarized in this section were described in CSPP's final report (December 1970).

Social theorist Adam Smith first proposed (1837) that the government finance education by giving parents money to hire teachers. Since then, other theorists and economists have proposed a variety of voucher plans. All share the guarantee that voucher schools will be able to offer programs at costs comparable to those of public schools. The major differences between these plans is the way they regulate schools' efforts. Some schemes advocate no fiscal regulations, while others involve considerable regulation to offset differences in parents' incomes. Still other plans entail administrative regulations aimed at ensuring that schools do not discriminate against disadvantaged children. Finally, some schemes establish regulations to provide the public with information about what each school attempted to teach and how well each succeeded.

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a. Unregulated Market Model

Under the unregulated market model, advocated by Friedman (1962) and others, every child would receive a flat grant which parents could use to pay tuition at the school of their choice. This scheme permits schools to charge whatever additional tuition the traffic will bear. The unregulated market model has been criticized by some as favoring the rich, increasing economic segregation, and intensifying the present problems of schools.

b. Unregulated Compensatory Model

As a response to these criticisms of the unregulated market model, Sizer and Philips (1965) proposed an unregulated compensatory model which would increase voucher values for children from families with incomes below the national average. Schools would still be permitted to charge whatever they wished. Many felt this plan would probably result in a completely unregulated situation because highly motivated, low-income families might opt to spend more of their own money to send their children to a better school. If legislation were designed to insure that every family would get a fixed amount of dollars per child, then schools would most probably set their tuition at or near that amount.

c. Compulsory Scholarship Model

The compulsory scholarship model resembes the unregulated market and unregulated compensatory models in that schools would be free to charge whatever tuition they desired. However, participating schools would be required to provide enough scholarships so that no family paid more than it could afford. Scholarship eligibility and size would depend on a formula determined by an Educational Voucher Agency (EVA). This plan's drawback is that since tuition is the same for all students attending a particular school, the only way that schools can generate more money is to admit wealthier students. In effect, the compulsory scholarship model would become virtually identical to the unregulated market model.

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d. Effort Model

Coons and his associates (1970) offer a solution to the problems posed by the compulsory scholarship model: the effort model. This model allows every school to choose one of four different expenditure levels, ranging from roughly the existing public school expenditure level to two to three times that amount. Parents choosing high-expenditure schools would pay more tuition (or tax) than parents choosing low-expenditure schools. However, the amount of money each family pays would depend not only on the cost of the school chosen, but also on the family's ability to pay. The government would contribute the difference between what a family could pay and what the school spent per pupil. Although the effort voucher model would lead to a substantial increase in parental choice, it would also lead to a much greater spread between the "best" and the "worst" schools than exists within most public school systems today.

e. Egalitarian Model

Another model, the egalitarian, would provide all children with vouchers of equal value and prohibit any school accepting vouchers from charging tuition above the voucher's value. This plan assumes that a voucher's value would be comparable to the present and projected per pupil expenditures of public schools. Additional funding might be obtained from federal or state government, or, in the case of private schools, from the church, alumni, or parents. When an increase in the voucher's value was felt necessary, schools could work together to persuade legislators to provide more funding. A variety of observations have been made about the egalitarian approach: it would produce less segregation by race, income, and ability than any of the unregulated models; it would create a more equitable allocation of educational resources between the rich and the poor than the unregulated models; however, it would do less than the unregulated models for parents dissatisfied with the existing public school system. Nevertheless, this

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model would provide more satisfaction than the present system to parents seeking to improve the way schools are run.

f. Achievement Model

Another proposed approach differs from the foregoing models in that the value of the voucher is determined according to whether the school actually succeeds in teaching the child what the state or the parent wants the child to learn. The basic assumption underlying this achievement model is that the effects of schooling can be measured using standardized instruments. On the basis of test results, schools which produce good effects would be rewarded while those which produce poor effects would be penalized. This model has been criticized because it implies that standardized tests are valid and reliable measures of educational performance. Far more research on the value of test scores as measures of school output is needed before initiating a program which might encourage schools to emphasize such scores at the expense of other outputs of schooling.

g. Regulated Compensatory Model

A final model, the regulated compensatory model, was advocated by Jencks (1970) and others. It resembles the egalitarian approach in that every child would receive a voucher roughly equal to the cost of public schooling in his/her district. No voucher school would be allowed to charge tuition exceeding the voucher's value. Schools could obtain additional special purpose money by seeking endowments from churches, federal agencies, and foundations. Enrolling disadvantaged children would generate increased income, since the EVA would absorb the extra costs.

h. Summary of Models

Of the models proposed, only the regulated compensatory model seems likely to increase educational opportunities for the poor. Most parochial schools might not find this model as attractive as the egalitarian model, since these schools seldom enroll very difficult children. Nonetheless, it would give parochial schools substantially more public money than they now receive.

Three other models have been proposed: the California model, in which public schools whose students' average reading scores are below the national average are eligible to receive vouchers; the escalation model, which guarantees a fixed ratio between the overall level of tax support and the overall level of private expenditures for tuition; and the incentives for integration approach where the voucher's value partially depends on some optimal racial, economic, or achievement mix.

3. Events Prior to the Demonstration

In March 1970, CSPP proposed, and OEO agreed, that a Voucher Demonstration be initiated and that the regulated compensatory model be used in this Demonstration. This model included, and the Demonstration was to include

- public and private schools.
- basic vouchers equal in value to current per pupil spending in the public schools of the Demonstration districts.
- compensatory vouchers of extra value for poor children so that these children and their parents would have more purchasing power in the educational marketplace.
- school "tuition" limited to the local value of the basic voucher.
- a lottery admission system for schools receiving applications in excess of openings.
- free transportation for children enrolled at schools distant from their homes.
- school revenues entirely dependent on enrollment.
- rights of students to transfer from one school to another at any time and to take with them prorated portions of their voucher dollars.

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- an autonomous public agency, the Education Voucher Agency (EVA), to manage the Demonstration, including its fiscal arrangements and start-up activities, and to provide information to parents. (The local board of education might or might not serve as the EVA).
- no guarantee of survival for any public or private school, newly created or previously operating, unless voucher income covered expenses.

In 1971, on the basis of the CSPP report, OEO funded voucher feasibility studies in four school districts: Seattle, Washington; Gary, Indiana; San Francisco, California; and Alum Rock, (San Jose), California. The first three districts decided not to participate for a variety of reasons: fears that parental choice could lead to racial segregation; reluctance to serve as guinea pigs for an untested model; general decline of support for OEO initiatives by organized leaders of poor people; opposition by teacher organizations; and absence of state legislation permitting private school participation. Only the fourth district, Alum Rock, was willing to try the voucher concept.

The Alum Rock Union Elementary School District is in the eastern section of San Jose, California and serves children in kindergarten through eighth grade. At the beginning of the Demonstration, approximately half of the 15,000 school children in Alum Rock were Mexican-American, 40 percent were Anglo, and 10 percent were black. Most were from lower-middle-class or lower-class families. The population was highly transient and no pattern of ethnic or racial housing segregation existed. Surprisingly, there was little effective political mobilization or focus for organized social change in the district.

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The annual district budget exceeds $17 million; however, the district has one of the lowest assessed property valuations per student in California. Despite high tax rates, income from local revenue sources continues to be low. This factor no doubt contributed to local interest in the OEO initiative for a Voucher Demonstration.

Teacher organizations had succeeded in obtaining teacher salaries comparable with those in more affluent districts. Their relations with the district superintendent were cordial and cooperative. Appointed in 1968, the superintendent had worked to decentralize decisionmaking to the school level, to increase parent participation in schools, and to recruit minority staff actively.

Alum Rock's superintendent saw the Voucher Demonstration as a means of bringing federal dollars into the financially-strapped district and also as a means of furthering the policies of decentralization and parent participation he had been attempting to implement since 1968.

The Center for Planning and Evaluation (CPE) conducted the Alum Rock feasibility study. CPE, the research arm of the Santa Clara County Board of Education, held public forums which drew large audiences, but comments about the Demonstration were overwhelmingly negative. A CSPP field agent who attempted to obtain minority group support also encountered resistance and indifference. State legislation to permit state funds for private schools was pending and it was feared that the EVA would recommend not to authorize vouchers. However, CPE surveys of parents and teachers yielded more promising results which the superintendent and other voucher proponents used to bargain for more time. The strategy proved successful: a moratorium on further discussion of vouchers was passed.

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By winter of 1972, the California legislature still had not enacted legislation permitting private school participation in a Voucher Demonstration and OEO was under considerable pressure to produce such a Demonstration or forfeit additional planning monies. The solution to these two problems was the transition voucher model. In January 1972, the OEO experimental director and the Alum Rock superintendent met and developed the concept of a "public schools only" Voucher Demonstration. Under this concept, parents would choose among public schools only, and, therefore, no legislative action would be required. The program was termed a "transition" model, since it was an intermediate step between current public school practices and a full voucher model involving both public and private schools.

The transition model had the following features.

- Initially, it would involve only public schools, with six of the district's 24 schools participating.
- Participating schools would offer two or more distinct programs or "minischools."
- The district would provide the basic voucher from its current income and OEO would provide a compensatory voucher for qualified children.
- Teachers' job tenure and seniority rights were guaranteed.
- The Alum Rock Board of Trustees and the superintendent were to manage the Demonstration. An Education Voucher Advisory Committee (EVAC), composed of voucher school staff and parents, was established.
- The district contracted with the Sequoia Institute to establish a central voucher staff responsible for assisting in start-up, internal evaluation, and parent counseling.

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4. Implementation Prior to the Beginning of the Demonstration

In the 1972-73 school year, six Alum Rock schools participated in the Voucher Demonstration. Participation was initiated by the principals of each of the six schools, but was subject to approval by a majority of teachers. Five of these "voucher" schools were elementary and one was a middle school; each shared the general socioeconomic characteristics of the district as a whole.

During the formative stages of the Voucher Demonstration, Alum Rock parents were more concerned with preserving the neighborhood school concept than with increasing choice. These concerns were not unfounded. As a safeguard against discrimination, the original CSPP proposal favored a lottery system to determine which schools children should attend. Parents succeeded in obtaining a "squatter's rights" provision which guaranteed every child a place in the school s/he was presently attending. Siblings who had not yet begun school also had "squatter's rights."

The OEO experimental director suggested that each voucher school be required to offer at least two distinct programs so that parents would have a choice at their neighborhood school. In the first year, there were a total of twenty-two minischools in the six participating schools. Teachers joined together in minischools, either because they agreed with a minischool's philosophy or because they wanted to work together. Parents were informed about the 22 programs and about the voucher plans both in writing and at open-house meetings.

By July, 80% of the parents had enrolled their children in minischools. Originally, enrollment limits had been forbidden, but as applications came in, classrooms grew so large that some teachers had to be shifted from one program to another. As a result, teachers who had worked to

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design and plan one minischool ended up teaching in another. However, in November, 76% of the teachers indicated they were teaching in the program they wanted most, and virtually all students began the school year in the minischool their parents listed as first choice.

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B. THE RAND TECHNICAL ANALYSIS PLAN

In February 1972, Rand presented a Technical Analysis Plan for the evaluation of the Elementary Education Voucher Demonstration (EEVD). The purpose of the evaluation was to describe and assess the political, social, economic, and educational outcomes of the Voucher Demonstration. The Technical Analysis Plan set forth the basic hypotheses of the EEVD, as well as the basic public policy issues and major evaluation questions to be considered. These were organized into a framework consisting of twelve information categories and forty outcome dimensions. Of these 40, 30 were political/social outcomes, five related to economic/cost factors, and five to education. After considering the design of a large-scale demonstration, the plan identified the relevant indicators which helped to specify the value and quality of program outcomes. Finally, the plan presented sources of data, data collection methods, and analysis techniques.

1. Hypotheses

The EEVD sought to generate empirical data to test the following general hypotheses.

- Voucher arrangements will increase parental choice. Among options open to parents were newly-organized schools, parochial and private schools, and a larger set of existing public schools.
- The Voucher Demonstration will assist in the development of parental preferences. Parents would receive information about voucher arrangements and variations in programs, curricula, teaching practices, student composition, and other differences to help them make rational decisions among programs.

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- Parental influence will increase school responsiveness. Administrators would be motivated to consider parental preferences in the areas of program development, optimal levels of student population, and the indices parents used to measure organizational performance. Administrative responsiveness to parental choice would be an incentive to further parental participation.
- The Voucher Demonstration will cause school systems to change. The most important changes expected were new methods for distributing resources among schools and more variety in curricula and programs to meet variations in parental preference.
- Student achievement will improve. Increased congruence between parental preferences and school outputs would facilitate the growth of students' cognitive and noncognitive achievement.
- The Voucher Demonstration will increase parental satisfaction with the schools. The factors contributing to increased parental satisfaction with schools were the choices available and the increased control and influence parents would exert. These would result in higher student achievement and changes in school programs and curricula.

2. Public Policy Issues

Implicit in the foregoing hypotheses is the assumption that the interests of many groups of individuals might be affected by both the processes and outcomes of the EEVD. Students, parents, community members and leaders, educators, and public servants, all had a "stake" in the Demonstration. In addition, the public education system, parochial

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schools, government institutions, and professional organizations might be deeply affected by the EEVD. Other important, but more elusive, dimensions of public interest the Demonstration might influence include

- economic and efficient expenditure of public resources;
- amelioration or reduction of social conflict;
- the effective education of the nation's children;
- maintenance and improvement of fair and workable relations between citizens and their government.

Deriving from this complex set of private and public interests was the general question, What is the desirability of extending the voucher mechanism to other communities? To answer this basic question, it was necessary to ask a set of more specific questions:

- What is the desirability of implementing some mechanisms enabling parents to have a more direct voice in choosing the schools their children attend?
- Should public policy encourage educational diversity, especially the creation of new schools? If so, how?
- Should some form of public support for private and parochial schools be initiated? If so, what form?
- To what extent should "marketplace" incentives be introduced into education? What form, if any, should such incentives take?

These questions imply one further inquiry:

> To what extent are (a) vouchers, and (b) the manner in which vouchers were implemented in the EEVD, a <u>necessary</u> and <u>sufficient</u> device for attaining the objectives of public policy, including those which are the subject of the questions above?

3. Evaluation Questions and Information Categories

The key propositions of the EEVD's theory and a review of the public policy questions this theory implied posed questions for the evaluation to address.

- What has been the effect of the Demonstration on the education of elementary school students, especially the disadvantaged?
- What has been the effect of the Demonstration on the available range of choice among educational programs?
- What has been the impact of the Demonstration on equality of educational opportunity?
- What has been the impact of the Demonstration on the economics of public education?
- How has the Demonstration affected the relationship between citizens and their schools?
- What has been the impact of the Demonstration on social and political tensions? Before the broader implications of public policy could be addressed, it was necessary to find comprehensive answers to these questions.

Twelve information categories were selected to aid in the collection of information bearing on the major questions of the evaluation. These categories helped to organize large bodies of data in a way that maintained their relationship to the ultimate purposes of the evaluation. Figure 1 shows the linkage between the information categories and major evaluation questions.

4. Evaluation Outcomes

The outcome dimensions of interest to the evaluation were suggested by the theory and design of the Voucher Demonstration, by the major questions posed, and by the information categories. The relationships of the outcome dimensions to the information categories are shown in Figure 2.

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Evaluation questions	1. Education results	2. Attitudes of practitioners	3. Programs and process	4. Attributes of new schools	5. Distribution of students	6. Allocation of resources	7. Financial impact	8. Governance and administration	9. Status of professionals	10. Parent attitudes and responses	11. Community attitudes and responses	12. Consequences beyond demonstration area
1. Education of elementary school students	X	X	X	X		X	X					X
2. Range of choice among educational programs			X	X	X							X
3. Equality of educational opportunity	X	X	X	X	X	X						X
4. Economics of public education						X	X					X
5. Citizen-school relations								X	X	X	X	X
6. Critical social and political tensions								X	X	X	X	X

(X indicates that to answer the evaluation question data of the specified type is required)

Fig. I- —Relationship of information categories to major questions of the evaluation

FIGURE 2: Relationship of Outcomes Dimensions to Information Categories

INFORMATION CATEGORIES	OUTCOME DIMENSIONS: Political/Social: 1. Practitioner assessment of local schools	2. Educational goals of practitioners	3. Practitioner's opinions about school integration	4. Practitioner's opinions about EEVD	5. Focus and scope of policy authority	6. Demonstration area relationship to outside agencies	7. Allocation of decision making authority	8. Administrative organization, practice and behavior	9. Legal and constitutional ramifications	10. Position of professionals within school system	11. Status perceptions of professionals in community	12. Ethnic and SES distribution of students	13. Parent assessment of local schools	14. Parent opinions on integration	15. Parent assessment of EEVD	16. Parent participation in education of children	17. Parent involvement in school-related activities	18. Parent mobility	19. Parent involvement in EEVD options	20. Community assessment of local schools	21. Community attitudes toward education	22. Community opinions on integration	23. Community assessment of EEVD	24. Inter-group conflict and cooperation	25. Political and social participation	26. Political mobilization	27. Voting behavior	28. Political mobilization	Economic/Cost: 1. Structural changes in educational market place	2. Behavior changes in educational suppliers	3. Changes in performance of educational market	4. Changes in resource allocation	5. Changes in fiscal flows	Educational: 1. Cognitive achievement	2. Affective growth	3. Educational objectives of school personnel	4. Teaching plans and practices	5. Sociology of the classroom
1. Education results	x	x		x												x													x			x	x	x	x	x
2. Attitudes of practitioners	x	x	x	x																														x	x		
3. Programs and processes		x					x	x			x						x												x	x	x	x				x	x	x
4. Attributes of new schools	x	x	x					x	x		x	x			x		x												x	x	x	x				x	x	x
5. Distributions of students			x			x			x			x						x	x											x								x
6. Allocation of resources					x	x	x		x	x	x																			x		x	x					
7. Financial impact						x			x																		x						x					
8. Governance and administration		x		x	x	x	x	x	x	x	x						x					x	x	x	x			x									
9. Status of professionals	x	x		x	x		x	x	x	x	x						x																					
10. Parent attitudes and responses												x	x	x	x	x	x	x	x	x																		
11. Community attitude and responses																					x	x	x	x	x	x	x	x	x									
12. Consequences beyond demonstration area				x	x	x			x	x		x			x			x			x	x	x	x	x			x	x	x								

x Indicates a relationship between the column outcome dimension and the row information category.

5. Design Considerations

The objectives of the Demonstration included tracking its effects on knowledge, attitudes, motivations, and behavior, as well as on the social system. Target groups and institutions included parents, other members of the Demonstration community, educational officials and administrators, teachers, private educational entrepreneurs, schools, and community groups. To capture the variables relevant to these complex and diverse program objectives, an open-ended design was needed. An evaluation plan which established causal links between well-defined independent and dependent variables could not be employed in a large-scale social demonstration where principles of experimental design cannot be rigorously applied.

In addition to the multiple program objectives of the Demonstration, there were wide-ranging and diverse units of analysis. Where the unit of analysis was the individual, the attributes studied could be absolute (about the individual alone or concerning the individual's relationship to others), comparative (in which the individual was described relative to others on some attribute(s)), or contextual (where the individual was described in terms of a larger social unit in which s/he resides). If the unit of analysis is collective, the properties of interest can be analytical (about members of the unit), or global (data on the group as a whole).

The evaluation plan provided a "decentralized" approach to major evaluation tasks. Specialists from various disciplines concentrated on appropriate data collection and analysis tasks. Their findings were brought together in an interdisciplinary analysis of aggregate outcomes.

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6. Methodology

As indicated previously, the 40 outcome dimensions were subdivided into three types of outcomes: social/political outcomes; economic/cost outcomes; education outcomes. Tables 1, 2 and 3 summarize the complex methodology Rand used to analyze the numerous outcomes of the EEVD. Specifically, the tables present the indicators used to measure each Demonstration outcome. They also include the sources of data, the method of collection, and the preferred analytic technique. Finally, Table 4 cites the type of data collected during each year of the Demonstration.

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TABLE 1

SOCIAL AND POLITICAL DATA

Political/Social Outcome Dimensions	Indicators	Data Sources	Data Collection Methods	Preferred Data Analysis Techniques
Practitioner assessments of local schools.	Expressed attitudes toward relative merits of own school, local schools, schools elsewhere; judgments of most significant school problems, schools' use of public money. School personnel transfers, reasons for transfer.	School personnel Transfer records	Interviews Inspection of transfer records	Descriptive analysis
Educational goals of practitioners.	Expressed attitudes toward importance of education, school vs. parent contribution to education, major aims.	School personnel	Interviews	Descriptive analysis
Practitioner opinions about school integration.	Local school current student distributions; expressed attitudes toward importance of ethnic/racial identity between students, teachers, administrators; opinions about current distributions of ethnic, racial groups.	School personnel School records	Interviews Inspection of school records	Descriptive analysis
Practitioner opinions about EEVD.	Expressed attitudes toward school problems, parent role in schools, alternative special programs in schools; expressed judgments about who benefits most from EEVD.	School personnel	Interviews	Descriptive analysis
Locus and scope of authority for policy origination, ratification, and implementation for the demonstration area.	Character and impact of policy decisions originated, ratified, and implemented for demonstration area by district school board, EVA, professional organizations, citizen groups, and federal and state legislative and executive bodies.	Records and minutes of District school board, EVA, professional organizations, and citizen's groups Directives, statutes, orders, policy resolutions, and guidelines promulgated by federal and state legislative and executive bodies, District school board, EVA, and other groups (cont'd.)	Inspection of public records Inspection of newspapers Personal interviews	Political and historical analysis Content analysis

TABLE 1 (cont'd)

Political/Social Outcome Dimensions	Indicators	Data Sources	Data Collection Methods	Preferred Data Analysis Techniques
(cont'd.)		Records of federal and state legislative hearings and debates Personal recollections		
Relationship of the demonstration area to federal, state, and county regulatory and administrative agencies.	Scope and frequency of administrative regulations applying to and promulgated for demonstration area by various agencies.	Records of District School Board and EVA Published regulations of administrative agencies Personal accounts of District, EVA, and administrative agency staff	Inspection of public records Personal interviews	Political and historical analysis Content analysis
Allocation of day-to-day decision making authority in demonstration area.	Level of operational detail for which formal rule-making perogatives are maintained or assumed by District School Board and/or EVA, District- or area-level professional staffs, building level administrators, teachers, paraprofessionals, citizens' groups, students.	District School Board and EVA records Records and files of District-and area-level professional staffs Records and files of building-level administrators Personal knowledge of District School Board and EVA members, District-and area-level staff, building administrators, teachers, paraprofessionals, citizens Unrecorded decisions, directives, and assumptions of authority by school personnel at various levels of responsibility Classroom, school, and community observation	Inspection of public records, minutes of meetings and files Personal interviews Classroom, school, and community observation	Political and historical analysis Content analysis

TABLE 1 (cont'd)

Political/Social Outcome Dimensions	Indicators	Data Sources	Data Collection Methods	Preferred Data Analysis Techniques
Administrative organization, practices, and behavior.	School staffing patterns and organization. Responsiveness of demonstration area and school administrators to student needs, parent concerns, and emerging educational issues. [Criteria: ability to identify needs and problems, and understand issues; speed, appropriateness, and effectiveness of response, ability to shift objectives or means in response to new information.]	School records, memoranda, and staff directives Records of demonstration area administration Press accounts Personal views and experiences of demonstration area and school administrators and parents. Students achievement records Discussions and debates among administrators and between parents and administrators. Observed behavior of school and demonstration area administrators.	Inspection of demonstration area and school records and files Inspection of newspapers Personal interviews Surveys School, classroom, and community observation Student achievement tests	Political and historical analysis Content analysis Appropriate statistical analyses (survey data)
Legal/constitutional ramifications.	Legal actions associated with EEVD provisions Court rulings	Court records Newspapers Views of attorneys and parties to legal actions Published court opinions	Inspection of court records and public documents Inspection of newspapers Personal interviews	Political and legal analysis Content analysis
Position of professional educators in community social system.	Influence on community expenditures, allocations, access to rewards (monetary, community prestige) status prerogatives.	School personnel, community leaders, officials Public records	Interviews Community observation	Content analysis, descriptive analysis

TABLE 1 (cont'd)

olitical/Social tcome Dimensions	Indicators	Data Sources	Data Collection Methods	Preferred Data Analysis Techniques
atus perquisites within chool system.	Influence on budget allocations, access to rewards, control of entry to profession, control over rules of school assignment, transfer salary increments	School personnel, teachers' unions, NEA	Interviews, organization records, school records	Descriptive analysis
hnic/racial/income istribution of students in demonstration chools.	Numbers of students in each ethnic, racial, income group before/after each school choice period; ethnic, racial, income distribution of student transfers.	School records	Inspection of records	Descriptive analysis
rent judgments of educational opportunities for heir children.	Expressed attitudes toward: child's response to school, congruence between parent desires for child's education and what schools provide; expressed aspirations/expectations for educational achievement of their children.	Parent respondents Parent groups	Survey Interviews	Appropriate scaling and other statistical analysis; descriptive analysis
rent assessment of ocal schools.	Expressed attitudes toward: relative merits of child's school, other schools in school district, schools elsewhere; schools in rich neighborhoods versus poor neighborhoods; public versus private information about schools; schools' use of public money. Expressed reasons for decisions about child's school.	Parent respondents Parent groups related to schools	Survey Interviews	Appropriate scaling and other statistical analysis; descriptive analysis
rent opinions regarding racial/ethnic ntegration in the chools.	Expressed attitudes toward the proportion of students, faculty, administrators who should be of the same ethnic background as child; reasons for child's problems in school; reasons for school selections (compared with student teacher ethnic distribution; reasons for mobility).	Parent respondents School records Parent groups related to schools	Survey Interviews Inspection of school records	Appropriate scaling and other statistical analysis; descriptive analysis

TABLE 1 (cont'd)

Political/Social Outcome Dimensions	Indicators	Data Sources	Data Collection Methods	Preferred Data Analysis Techniques
arent assessments of the EEVD.	Expressed attitudes toward congruence between parents' desired and experienced control over schools, between information about schools desired and provided by EVA, between school preferences and school assignments, between information about schools provided by EVA and parent experiences with those schools; expressed willingness over time to take various actions to influence schools; expressed judgments about who benefits most from EEVD.	Parent respondents Parent groups related to schools	Survey Interviews	Appropriate scaling and other statistical analysis; descriptive analysis
Parent participation in the education of their children.	Reported behavior in degree and substance of interaction with child about school, in parent/teacher contact; reported knowledge about child's school and school experience; expressed attitudes about role of parent in education of child.	Parent respondents	Survey	Appropriate scaling and other statistical analysis
Parent involvement in school-related activities.	Stated participation in school-related organizations, activities, events; in discussions about schools. Reported levels, substantive issues and outcomes of parent efforts to influence schools. Reported level of knowledge about schools in school district and elsewhere.	Parent respondents Minutes of parent meetings School-related parent groups	Survey Interviews Inspection of group minutes, proposals, etc.	Appropriate scaling and other statistical analysis; content analysis, descriptive analysis

TABLE 1 (cont'd)

Political/Social Outcome Dimensions	Indicators	Data Sources	Data Collection Methods	Preferred Data Analysis Techniques
Parent mobility.	Number of parents moving within, into or out of demonstration area and their reasons.	Parent respondents School records	Survey (plus special out-migrant survey) Inspection of school records	Descriptive statistics
Parent involvement in EEVD options.	Reasons for decisions regarding children's schools; type of change in selection (e.g., public to private, existing to new, etc.); transfers from schools after initial selection.	Parent respondents School records	Survey Inspection of school records	Appropriate statistical analysis; descriptive statistics
Community assessment of local schools.	Expressed attitudes toward relative merits of local schools and schools elsewhere, toward schools in rich versus poor neighborhoods, toward public versus private information about schools; expressed attitudes toward schools' use of public money.	Community respondents Community leaders	Survey Interviews	Appropriate statistical analysis
Community attitudes toward education.	Expressed attitudes about the importance of education, congruence between what children should be learning and what schools teach.	Community respondents Community leaders	Survey Interviews	Appropriate statistical analysis; descriptive analysis
Community opinions about racial, ethnic integration in the schools.	Expressed attitudes toward what proportion of students, faculty, administrators should be of same ethnic background as children; about most significant problems in community.	Community respondents Community leaders	Survey Interviews	Appropriate statistical analysis; descriptive analysis

TABLE 1 (cont'd)

olitical/Social tcome Dimensions	Indicators	Data Sources	Data Collection Methods	Preferred Data Analysis Techniques
mmunity assessments of hs EEVD.	Expressed attitudes toward congruence between control parents should exercise over schools and control permitted by EEVD; expressed judgments about who benefits most from EEVD; expressed opinions for EEVD to continue beyond demonstration period.	Community respondents Community leaders	Survey Interviews	Appropriate statistical analysis, descriptive analysis
mmunity attitudes toward political activism.	Expressed propensity toward political mobilization with respect to schools; expressed judgments about examples of group actions affecting schools.	Community respondents Community leaders	Survey Interviews	Appropriate scaling and other statistical analysis; descriptive analysis
nter-group conflict/ cooperation.	Attitudes and positions of group opinion leaders; group public positions on issues; group political activities and affiliations; other group attempts to influence public policies; group activities in schools.	Observed group activities Newspaper accounts of group activities Minutes and records of group and public meetings Personal observations of group leaders, school administrators, EVA members, and other decisionmakers	Inspection of public and group records and files; of newspapers Personal interviews Community observation	Political and historical analysis Content analysis
Political and social participation.	Voting rates Volunteer political and campaign activity Group membership and activity levels Direct participation in school affairs Volunteer school-related activities	Voting records Records and minutes of political and service organizations and groups Personal knowledge of community members Personal knowledge of organizational and group leaders Observed behaviour of community members (cont'd.)	Inspection of records, minutes, newspapers Personal interviews Surveys Community observation	Political and historical analysis Content analysis Appropriate statistical analysis (surveys)

TABLE 1 (cont'd)

olitical/Social itcome Dimensions	Indicators	Data Sources	Data Collection Methods	Preferred Data Analysis Techniques
ont'd.)		Minutes and records of public meetings Press accounts Personal knowledge of school personnel		
litical mobilization.	Formation of new groups or coalitions around EEVD-related issues Activization and/or expansion of existing organizations around EEVD-related issues. Emergence of new political leadership around EEVD-related issues	Observed behavior of groups and group leaders Records and minutes of group and public meetings Views of community leaders, respondents Press accounts	Community observation Personal interviews Surveys Inspection of public and organizational records, newspapers	Content analysis Appropriate statistical analysis (surveys) Political and historical analysis
ting behavior on key ssues (increased ocally funded ex-anditures for educa-ion, availability of ublic funds to arochial schools, ntegration and re-ated issues, provi-ion of new incentives o entrepreneurs).	Votes on education-related ballot measures Election outcomes for political candidates identified with various issues	Voting records, by precinct views of community leaders Views of community respondents	Inspection of voting records Personal interviews Public opinion polls Surveys	Political and historical analysis Content analysis Appropriate statistical analysis (surveys)
litical mobilization eyond demonstration rea.	Voting behavior on social and political issues; organizational activity aimed at reform of other community problems, at educational reform in non-demonstration schools; emergence of issues such as vouchers for other public services.	Community leaders, officials Voting records. School administrators	Interviews Inspection of records Community observation	Descriptive analysis

TABLE 2

ECONOMIC AND COST DATA

Economic and Cost Outcome Dimensions	Indicators	Data Sources	Data Collection Methods	Preferred Data Analysis Techniques
Structural changes in Educational Marketplace	Demand changes	Parent responses	Surveys	Statistical tabulations
	Changes in a number of feasible schooling options.	Parent responses Observations	Surveys Observations	Historical and descriptive analyses
	Product diversity and differentiation	School reports to ISA on curriculum, etc. School observation Interviews with school officials	See data sources	Curriculum content analysis Historical and descriptive analyses
	Changes in barriers to entry	Cost data	Interviews ISA records	Statistical cost analyses
		Legal codes and regulations	Interviews	Historical and descriptive analyses
		Public school organization and distribution of authority rules	Interviews	Historical and descriptive analyses
Behavioral changes among suppliers of educational services	Changes in information desired/available to parents	Parental responses	Surveys	Statistical tabulations
	Changes in school selection policies	School records	Reports and records Observations	Historical and descriptive analyses
	Changes in investment policies Changes in tuition policies Changes in admission policies Changes in educational offerings	School reports to EVA and other school records	Reports and records Interviews	Historical and descriptive analyses

TABLE 2 (cont'd)

	Indicators	Data Sources	Data Collection Methods	Preferred Data Analysis Techniques
mance	Parental satisfaction	Parent responses	Surveys	Statistical tabulations
	Prices, cost margins and profits	School records	Reports Interviews	Statistical tabulations Statistical cost analysis Historical and descriptive analyses
	Sales promotion costs	School records	Reports Interviews	Tabular analyses Historical and descriptive analyses
	Rates of innovation and curriculum change	School records	Reports Interviews	Historical and descriptive analyses
	Responsiveness to parental-demands	Parental views School records	Surveys Interviews	Historical and descriptive analyses
	Entry into and exit from market	EVA records Community observation	Reports Interviews	Historical and descriptive analyses
cation	Curriculum changes	School records (schedule of classes) (recommended lesson plans)	Reports Observations	Programmatic analysis of curriculum and other activities
	Changes in mix of resources			
	Changes in non-instructional activities			
	Changes in extra-school offerings			
hanges	Changes in revenue sources	Budgets Other financial reports	Reports Observations	Budgetary analysis including crosswalk
	Changes in expenditure patterns			Historical and descriptive analyses

TABLE 3

EDUCATIONAL DATA

Educational Outcome Dimensions	Indicators	Data Sources	Data Collection Methods	Primary Data Collection Responsibility	Preferred Data Analysis Techniques
Cognitive achievement	Achievement test scores	Standardized Reading Test Standardized Math Test Otis-Lennon Mental Ability Primary Mental Abilities Torrance Creativity Test Performance Scaling	Paper and pencil tests, and classroom performance	EVA*	Stratified sample comparisons of status and gain scores using various statistical procedures (analysis of variance, regression, contingency tests, etc.)
Affective growth	Self-report inventories	Sears Self Concept Coopersmith Self Esteem Myers n-Achievement Attitudes toward Self and School Student Survey St. John Scale	Paper and pencil tests	EVA	Stratified sample comparisons of status and gain scores using various statistical procedures (analysis of variance, regression, contingency tests, etc.)
Education objectives of parents and school personnel	Expressed attitudes and opinions	School records, views of school personnel and parents	Examination of school records, personal interviews, Delphi Attitude Estimation Survey	Rand	Content analysis, and statistical techniques, appropriate to Delphi (analysis of variance, linear estimations)
Teaching plans and practices	Formal and informal program process and curriculum plans; classroom behavior	School records, views of school personnel, observed classroom behavior of teachers	Personal interviews, examination of school records, classroom observation	Rand	Counting, sorting, rating, content analysis
Sociology of the classroom	Classroom behavior and organization	Observed classroom behavior, students	Classroom observation, paper and pencil tests	Rand	Counting, sorting, rating, content analysis, sociograms

TABLE 4

Elementary Education Voucher Data Classified by
Type of Data and Demonstration Year Collected

(Data (X) represent full year unless asterisks appear)

TYPE OF DATA	DEMONSTRATION YEAR				
	1972-73	1973-74	1974-75	1975-76	1976-77
STUDENT DEMOGRAPHIC	X	X	X	X	X
TEACHER DEMOGRAPHIC	X	X	X	X	X
MINI-SCHOOL DEMOGRAPHIC	X	X	X	X	X
STUDENT MAT	X	X	X	X	X
TEACHER OPINION	X	X	X**	X**	
PARENT OPINION	X	X	X*		
STUDENT PSYCHOSOCIAL				X**	
CLASSROOM OBSERVATION				X**	

* fall/winter administration only

** spring administration only

C. THE IMPLEMENTATION YEARS

Proponents of the voucher system had envisioned a unified structural change in a school system. However, the Alum Rock District and the Sequoia staff, the group hired to implement the Demonstration, lacked the resources and expertise to transform Alum Rock automatically into a voucher system. Mechanisms for operating the Demonstration needed to be developed. The proposed new budget and information systems necessary to the functioning of the voucher system posed technical problems which demanded considerable time to solve. For these reasons, the implementation of the Alum Rock Demonstration was accomplished using an incremental approach. Thus, the components of the voucher system--parent choice, parent information, evaluation, and per pupil budgeting were implemented sequentially. From a political perspective as well, the incremental approach was desirable: if the voucher system was to function, all parties involved would have to agree on major decisions affecting them. Therefore, decisionmaking was a negotiation process among the major participants in the Demonstration. The major decisions and events of each year of the Demonstration are described in the next few pages and summarized in Table 5.

1. 1972-73 (First Year)

The first year of the Demonstration consisted mainly of on-the-job organization. A mechanism for parent choice was created with the establishment of minischools. To encourage parents to take full advantage of the minischool options available to them, program descriptions were provided. Another major task this first year was to plan an income-outgo budget tying dollars to school enrollment on a continuous basis.

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TABLE 5

THE IMPLEMENTATION YEARS

ar	Dominant Theme	Voucher Components	Other Related Events
2-'73	On-the-job organization	Parent choice expands with establishment of minischools Per pupil budgeting-planning of voucher budget system; $200 per pupil in extra federal funding Established parent information system	Six schools participating (about 5800 students) Established: Educational Voucher Advisory Committee Central voucher staff Parent Advisory Committees
3-'74	Program expansion and attempt to include additional earlier proposed features	Per pupil budgeting-operation of previously planned system; $200 per pupil in extra federal funding; voucher schools (not minischools) began to receive State Compensatory educational funds (about $75 per pupil) Parent choice further expanded as minischools are formed. Six new programs created, three of which failed; attempted private school participation failed	Seven more schools joined Demonstration Satellifting of popular programs attempted and failed Carry-over funds removed Agreed to fix total school size and allowed minischool size to float till June Squatter's rights abolished Advisory Boards required for all district schools Parent counselors subordinated to principals HRC hired to do communications training Sequoia Institute more readilly identified as part of the district
4-'75	Dominated by budgetary concerns and trend toward recentralization beginning	Per pupil budgeting-previous income-outgo voucher budgeting system replaced by a twice annual budget adjustment; $100 per pupil in extra federal funding Parent Choice-51 minischools in operation; minischools limited student transfers Parent Information-parents received reports on student cognitive performance and attitudes toward schools	One more school joined, totaling 14 (over 9,200 students in Demonstration) Local revenue base decreasing, inflationary district costs, federal voucher funding near end, carryover funds removed again Teacher/aide layoffs adversely affecting minischools Class sizes fixed Consumer interest in minischools decreasing Minischool size maintained 50% of original Advisory Boards still functioned

TABLE 5 (cont'd)

ominant Theme	Voucher Components	Other Related Events
hool recentrali- tion continuing; oucher concept luted	Parent Choice-minischool diversity eroding as programs per school were limited to three; schools given option to return to single school-wide educational program; planning and budgeting done at school level rather than minischool level Per pupil budgeting-$100 per pupil in extra federal funding	Size and number of minischools maintained Minischool autonomy lessened Voucher-funds allocation to total not minischool Non-voucher schools given the option to offer multiple programs Merged discretionary funds into one pot and allocated to schools based on achievement scores
oucher concept ving way to ltiple option stem	Parent choice-twenty school-within-school alternatives	Seven of the fourteen Voucher schools continued minischool form of organization; two nonvoucher schools joined District termed all of its schools "alternatives"
periment with rent choice ong distinctive ucational programs s ended	Parent Choice-only two schools were offering more than one educational program; open enrollment	

Other operating mechanisms established during the first year were a central voucher staff and the Educational Voucher Advisory Committee (EVAC), an advisory group composed of voucher parents and teachers.

2. 1973-74 (Second Year)

The second year was characterized by program expansion and attempts to include additional earlier proposed features of the Demonstration. In the first year, six schools and 22 minischools had participated. During the second year, 13 schools and a total of 45 minischools participated. Attempts to satellite, i.e., to expand enrollment in popular programs by annexing available space, failed due to management problems. The school district also tried to decentralize utilization of curriculum coordinators and psychological services to the minischool level. However, the district incurred financial losses by paying salaries of personnel whose services had either not been used or had not been charged properly.

The operation of the previously planned income-outgo budget was an important part of the second-year effort. The budgeting system worked well technically and was expanded to all schools in the district during year three.

After extensive negotiations with teacher organizations, a private school was finally admitted to the Demonstration. Unfortunately, the long delay caused many parents to lose interest; ultimately, the school did not participate due to underenrollment.

At the end of the second year, three new programs had been created and three previously created programs had failed due to lack of demand. Parent choice was expanded by abolishing squatter's rights which had

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guaranteed every child a neighborhood school. The fragmentation and suspicion previously existing among the central staff, Sequoia, voucher and nonvoucher principals had abated. The Sequoia Institute became identified as part of the district rather than as an outside group.

3. 1974-75 (Third Year)

Budgetary concerns dominated the third year of the Demonstration. As the end of federal voucher funding drew near, the local revenue base was decreasing due to declining enrollments and district costs were mounting due to inflation. Teacher layoffs, an inevitable economy measure, had adverse effects on minischool programs since the layoffs were based on seniority and failed to consider the impact of the loss of teachers who had special skills (e.g., bilinqual ability) required by special programs.

Class sizes were fixed to allow the district to predict accurately how many teachers they would need. This change meant that programs could no longer acquire more money by enrolling more students. This "carryover" money had enabled schools to operate autonomously; when i was removed for the second year in a row, minischools' fiscal independence decreased substantially.

Continuous, income-outgo budgeting was replaced with a budget that was adjusted twice a year. Principals felt that this new system would give them the same income and discretion as the older system and would decrease the large amount of work frequent budget adjustments required.

Although parent advisory committees had been established for all voucher minischools, only 50% of these advisory groups still functioned at the close of the third year.

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At the end of the Demonstration's third year, a pattern of recentralization was apparently forming at both the district and the school levels. At the district level, maximum school and class sizes had been fixed, portable classrooms had been removed, and a rule that schools could not hire personnel in order to lower class size had been established. These decisions to depart from the earlier voucher concept reflected the district's response to its precarious budget system. A contradiction impeded voucher innovation; the desire to decentralize decisionmaking conflicted with an economic need for strong fiscal controls.

4. 1975-76 (Fourth Year)

School-level recentralization continued during the fourth year of the Demonstration as all discretionary funds were merged into one pot. These funds were distributed to schools, not minischools, on the basis of reading scores, with larger amounts given to lower-achieving schools.

Arguments for recentralization at the school level were that it decreased paper work and that the previous incentives for a decentralized system had been removed. Without their own di cretionary budgets, principals now preferred to control the total school budget. Fixed class sizes and the removal of basic carry-over funds diminished the incentive for minischools to administer their own funds, especially since most principals allowed minischools limited discretion over expenditures. By the Demonstration's fourth year, minischools appeared to be losing program diversity and their autonomy was eroding as the planning and budgeting was done at the school, rather than the minischool, level.

5. 1976-77 (Fifth Year)

Minischools, the mechanisms for increasing parental choice among distinctive educational programs, continued on a more limited basis. As

mentioned previously, the removal of carry-over funds, the merging of discretionary funds, and the fixing of class sizes served to lessen the minischools' power and autonomy. In the fifth year of the Demonstration, only seven of the original voucher schools maintained the minischool form of organization. When these seven schools were joined by two non-voucher schools, there were a total of twenty school-within-school alternatives.

At this time, the district chose to call all of its schools alternatives. The term "alternative" was somewhat misleading, since single-program schools served mainly as neighborhood schools which did not attempt to differentiate themselves by program theme. In addition, only 25 percent of the teachers in single-program schools preceived themselves as teaching in an alternative program.

6. 1977-78 (Sixth Year)

For all practical purposes, the Alum Rock Demonstration ended in the Spring of 1977. Its original objective, namely, to observe what would happen if a school district gave parents the opportunity to enroll their children in the public or private school of their choice, at the district expense, was never realized. The Voucher Demonstration became, instead, a test of the idea of free parent choice among alternative programs within the public schools.

By 1977-78, only two schools in Alum Rock still offered more than one educational program, although open enrollment continued to be the district policy. The voucher concept assumed that parents would actively use their power of choice to make the system operate for their children's benefit and that programs would compete with each other for resources. The district's experiment did not bear out this assumption as fully as expected.

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II. SUBSTUDY DESCRIPTIONS

A. DEMOGRAPHIC DATA BASE

1. Background and Purpose

Creating a Demographic Data Base was the result of an administrative data collection and data processing effort to support other evaluative activities performed during the Elementary Education Voucher Demonstration. Specifically, the demographic data were used by the Demonstration research staff to assist in sample selection, to generate class lists, and to perform analyses when used in combination with other Demonstration data.

2. Sample

The Demographic Data Base describes three populations: minischools, voucher students, and voucher/nonvoucher teachers. The entire universe was the target population for each of these groups.

3. Data Base Designs

The files comprising the Demographic Data Base were designed by the data management contractor (DMC) in anticipation of the research needs of the Demonstration research staff. Since the staff required comprehensive and up-to-date information on minischools, students, and teachers, a five-year longitudinal data base was constructed. Several types of information were included in this data base.

- identifying information;
- individual and family demographic information;
- program information (e.g., dates of openings and closings, size, grade levels, etc.);
- attendance information;

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- federal program participation;
- transfer information;
- teacher employment/salary/credential information.

File-level documents provide detailed information on the structure of the Student, Teacher, and Minischool Demographic Files.

Data for the Demographic Data Base were not generated by a specific instrument; rather, they were obtained from a variety of sources, shown in Table 1.

TABLE 6

Sources of Demographic Data

Population	Source
Minischools	Student Demographic File Teacher Demographic File Voucher Dollar Reports
Alum Rock Attendance System (ARAS)	Voucher School Data Fields computed from other minischool fields Teacher Rosters Rand Quarterly Reports
Students	School Attendance Records School Registration Records Parent Requests for Transfers
Teachers	Alum Rock Employee Payroll File

4. Statistical Analysis

In addition to cleaning and merging data, the DMC checked the consistency and range of the values of variables in the Demographic Data Base. However, no statistical analyses were performed on these data as part of data base construction. These data were combined with other questionnaire data and analyzed in the context of several other Demonstration substudies.

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5. Findings

Since no specific analyses of these data were performed, there are no findings to report.

6. File Descriptions

There are three files corresponding to each population in the Demographic data base.

a. Minischool Demographics

The purpose of collecting the data in this file was to track physical changes in the Alum Rock school buildings and to describe the operating characteristics of each minischool. To meet this end, such information as location, teacher, administrator, enrollments, number of classrooms, and voucher funds was collected. The file covers five years and contains one record for each minischool.

Year	Minischool	Variables
1972-73	26	76
1973-74	58	76
1974-75	67	76
1975-76	67	76
1976-77	100	76
	318	

b. Student Demographics

The data in this file describe voucher students in the Elementary Education Voucher Demonstration. Designed to assist research staff, it contains information on a number of student characteristics, among them, identification code, voucher status, birth year, sex, ethnicity, grade, school, program, enrollment date, attendance category, handicaps, first

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language, federal program participation, residence, family status, transfers. The data for each of the 5 years of this study have been merged and the resulting file contains 33,090 cases and 155 data items.

c. Teacher Demographics

Like the other files in the Demographic Data Base, this file covers five years. Its purpose was also to assist researchers: it serves as a basis for generating lists for surveys. The data it contained were often combined and analyzed with questionnaire results. It contains data on both voucher and nonvoucher teachers. This file contains 1,980 cases and 73 data items.

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B. PARENT/COMMUNITY SURVEYS

1. Background and Purpose

The question of parental choice in schooling has been of limited interest in the past because there has been very little variation in school decisions. Most American children (89%) attend the public schools in their neighborhoods; however, a sizeable minority (10%) attend parochial schools, and a small proportion (1%) attend other private schools (Grant, DHEW, 1973).

When parents were dissatisfied with their child's schooling, their range of options have usually consisted of: (a) moving family residence to a preferred attendance area, (b) requesting an inter-school transfer, (c) asking for a particular teacher, classroom, or program, (d) going outside the public school system to a private or parochial school, or (e) keeping the child out of school altogether.

While these options have traditionally existed, they have always been strongly influenced by families' financial resources and social influence. Families with low resources and little influence have had difficulty taking advantage of the mechanisms necessary to provide educational alternatives for their children.

Those in favor of further increasing parental choice, see a number of benefits for their children and their families:

First, some view increased parental choice as a means of giving families more control over schools. The underlying assumption is that teachers will work harder under such a system, thereby improving student performance.

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Second, alternatives in schooling will provide an outlet for those parents who hold views different from those prevalent in the public school.

Third, parent[illegible]werlessness and alienation[illegible]can i[illegible]se their participation in their children's schools.

Fourth, parents may indeed prove to be better at matching their children with a specific educational program than the professional educators, thus maximizing overall student progress.

The Educational Voucher Demonstration in Alum Rock California was not only an attempt to increase parental choice, it also sought to give parents a set of distinct program alternatives from which to choose. The Demonstration did so by stimulating competition between schools and by creating multiple programs within the public school system. Fostering competition between minischools presumably would improve the quality of these programs by introducing the market motive into the educational system.

However, rapid and complex changes in organization and procedures occurred in the Alum Rock district as a result of the Demonstration. These changes rai[illegible]qu[illegible]stions about the problem that other districts would encounter in attempting to implement a system of educational alternatives. Among some of the questions on which the evaluation focused in Alum Rock were:

- How do parents react to the Demonstration?
- Do parents understand their choices under this new system?
- How do parents exercise their options?

To provide answers to these questions, six Parent/Community Surveys were conducted [illegible]r the five years of the Alum Rock Voucher Demonstration. The six surveys were conducted at the following times:

- Fall 1972,
- Spring 1973,
- Fall 1973,

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- Spring 1974,
- Fall 1974,
- Fall 1976.

2. Sample

New samples of families were selected during October of each year of the Demonstration. The respondents to the Parent/Community Survey interviews were drawn in order to represent two factors relevant to the evaluation design: parental status (i.e., parent or non parent) and residence (within the voucher area or outside the voucher area). Thus, the evaluation samples selected for the analysis of educational voucher demonstration were

- voucher parents,
- voucher non-parents,
- non-voucher parents,
- non-voucher non parents.

The latter three subsamples served as control groups. These control groups helped to eliminate the influence of parental status and residential location on the attitudes and behavior toward educational vouchers and to study more closely the effects of vouchers on the subsample of major interest, the voucher parents themselves.

A number of supplementary samples were added to the sampling design in order to investigate the effects of refusal rates, outmigration of panel members, and program/school changing behavior. Thus, samples were broadly classified as experimental samples in contrast to the purely evaluative samples described above. The major types of experimental samples are listed below.

- Outmigrants sample,
- Immigrants sample,

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- Changer sample,
- Panel sample.

In the following section, the evaluation and experimental samples drawn in each of the six parent/community surveys is defined and the method of sample selection is briefly described.

a. Fall 1972 Parent/Community Survey

There were six subsamples in the Fall 1972 survey.

- Voucher Parents: Parents who have children attending voucher schools
- Changers: Parents who have children attending voucher schools who changed the school that any one of their children in voucher schools attend
- Voucher, Non-Parents: Adults living in the voucher area who do not have children attending voucher schools
- Two subsamples of Non-Voucher Parents: Parents who have children in grades K to 8 who live outside the voucher demonstration area. Two separate subsamples of non-voucher parents were drawn, one using block quota sampling techniques and the other using probability sampling from lists of parents in selected (RECAP) schools
- Non-Voucher, Non-Parents: Adults living outside the voucher demonstration area who do not have children in grades K to 8

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The two methods used to draw the subsamples were a probability method and a block quota sampling technique. Two methods were used because the probability method would not represent all of the non-voucher schools.

b. Spring 1973 Parent/Community Survey

Six subsamples were drawn in the Spring 1973 survey.

- Recurring Changer Sample: This is a sample of families who again exercised their voucher option to transfer the child who qualified them for inclusion in the fall 1972 changer sample. Only six families were targeted for this subsample.

- New Changer Sample: Families comprising this sample exercised their voucher option to change the school(s) or program(s) of one or more of their children for the first time between October 1, 1972 and October 1, 1973. Sixty-nine families were targeted for this subsample.

- Post Changer Sample: These families are a sample of changer families from the fall 1972 survey, who still resided in the demonstration area and did not choose to transfer the child who initially qualified them for inclusion in the 1972 changer sample. The target population for this subsample was 50 families.

- Panel Sample: This subsample of families currently reside in the school district and was interviewed in the fall 1972 survey. The target group was 150 families.

- Panel Control Sample: This subsample consisted of parents not previously interviewed. This subsample became part of the panel sample for the third wave of the survey. Fifty families were targeted for this subsample.

- Immigrant Sample: This subsample of families migrated into the Demonstration area after the fall 1972 survey had been administered. It was used to replace members of the panel sample who had migrated out.

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Respondents for each of the six groups were selected in a probability sampling of lists of parents who met the eligibility criteria. The panel sample was stratified by school and ethnicity; the panel control sample was stratified by ethnicity alone. Although the inmigrant sample was not stratified, each immigrant family was of the same ethnicity as the out-migrant family it replaced. The changer samples were not stratified by the ethnicity of the fall survey because such a distribution would differ from the population as a whole and, therefore, bias the sample.

c. Fall 1973 Parent/Community Survey

Seven subsamples were drawn in Fall 1973.

- Voucher Parents: Parents who have children attending voucher schools
- Voucher Non-Parents: People living in the voucher area who do not have children attending voucher schools
- Non-Voucher Parents: People living outside the voucher district who have children in grades K-8 in public, non-voucher schools
- Non-Voucher, Non-Parents: People living outside the voucher district who do not have children in grades K-8 in public schools
- Parent Panel: Parents in the Demonstration district who had previously interviewe in November 1972 and/or June 1973
- Panel Control: Parents who have lived in the Demonstration district since November 1972 and have

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not been previously interviewed.

- In-migrants — Parents who had moved into the Demonstration district since June 1973.

The subsamples for this survey were drawn in two ways: from lists of parents with children in voucher schools (voucher parents, parent panel, control, in-migrants) or by a random selection of households using a two-stage area probability sample consisting first of city blocks, then households (voucher non-parents, non-voucher parents, non-voucher non-parents).

d. Spring 1974

This survey consisted of three separate subsamples.

- Changer Sample — Parents of children in voucher schools who changed schools or programs during the 1973-74 school year
- Changer Control Sample — Parents of children in voucher schools who did not change schools or programs during the school year 1973-74
- Alternate Changer Control Sample — This subsample was identical to the Changer Control sample. The families within this subsample were used whenever a family from the former subsample could not be interviewed.

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All three samples for the spring 1974 survey were selected randomly from lists of parents in the voucher schools. The changer sample was selected first and the changer control families were then chosen and matched, child by child, according to sex, ethnic background, school, program, grade, and classroom. The alternate changer control sample was drawn in the same manner as the changer control sample.

e. Fall 1974 Parent/Community Survey

Three separate subsamples were surveyed in fall 1974:

- Voucher Parents: Parents who have children attending voucher schools
- Non-Voucher Parents: Parents living in the voucher district who have children in grades K-8 in public, non-voucher schools, and who have been previously interviewed
- Non-Voucher Parents: Parents living in the voucher district who have children in grades K-8 in public, non-voucher schools, and who have not been previously interviewed

The samples for this survey were drawn to meet quotas defined by school building and respondent ethnicity. The entire sample of voucher parents and the majority of the sample of non-voucher parents were drawn from lists of voucher parents who had been interviewed during the fall 1972 or fall 1973 surveys but who had not been interviewed subsequently. A sufficient number of families were drawn randomly for each building/ethnicity cell so that the completion quota for each cell could be met, given reasonable completion rates within cells.

f. Fall 1976 Parent/Community Survey

The survey sample for this study consisted of three subsamples:

- Old Voucher Parents: Parents who reside in the area defined as "old voucher catchment areas"
- Voucher 2 Parents: Parents who reside in areas defined as "new voucher catchment areas"
- Non-voucher Parents: Parents who reside in the non-voucher catchment areas

3. Study Design

The study design can best be described as a grease experiment. The Demonstration occurred in a natural setting where random assignment to experimental groups and laboratory controls were impossible to achieve. However, the study design contained longitudinal elements and control groups where possible, and attention was given to the best group assignment possible, given the realities of the situation.

The two purposes of the survey design were 1) to obtain sufficient data from voucher parents, so that inferences could be made about the effect of the Voucher Demonstration on parental attitudes and behavior, and, 2) to investigate important methodological issues that occur in the evaluation of large-scale social experiments.

In accordance with these two expressed purposes, the survey design contained both an evaluation and an experimental component. To accomplish

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this first purpose (evaluation), it was necessary to isolate the impact of educational vouchers on voucher parents. This involved collecting data from other populations likely to be affected by the demonstration, namely, non-parents and parents in non-voucher catchment areas. Thus, four subsamples consisting of the focal group voucher parents and three control groups formed an experimental design which crossed two factors: parental status and residential location. (See Figure 3.)

EVALUATION DESIGN

Residential Area	Parental Status: P	Parental Status: NP
V	X	O
NV	O	O

X = focal group

O = control group

Figure 3

In order to determine how parents felt about educational vouchers, whether they understood them, and if they used them, the survey design investigated several methodological problems associated with the evaluation of social programs. This investigation represents the experimental component of the design. It was experimental because, while it was not necessary for the evaluation per se, the methodological investigation attempted to discover alternative approaches to the evaluation.

Three experiments were performed in this phase of the study: the panel experiment, the changer experiment, and the probability sample - block quota sample experiment.

The panel experiment attempted to contrast the relative merits of a panel design versus an independent sample design. This experiment explored the factors that led to attrition and the extent to which inferences from panel designs tended to be biased because of attrition.

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The changer experiment sought to develop a model to predict school changes and to explore the reasons parents changed their children's schools.

The probability sample-block quota experiment was influenced by Sudman (1968) who has contended that block quota sampling techniques are more cost-effective than probability sampling methods. Sudman's impression was formed using national level data; the voucher study sought to test his hypotheses on the local level.

4. Statistical Analysis

The Parent/Community Survey data were analyzed using a variety of statistical techniques. Much of the data in this survey were analyzed using simple descriptive statistics (e.g., frequencies, proportions, rankings, means, and standard deviations). Using appropriate tests of statistical significance (the square and median test), the independence between and within groups of parents were determined for each study year and across study years. Group differences were analyzed using analysis of variance. A path analytic model was constructed to note the effects of parental characteristics on the decisions they made about their children's schooling. When significant trends were apparent in parental attitudes and behavior over time, Maxwell tests (1963) were used to partition these trends into linear and nonlinear components.

5. Findings

The findings of the Parent/Community Surveys are summarized below under the three topics: a. parental information levels about educational alternatives; b. parental schooling decisions; and c. parental attitudes about educational alternatives.

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a. Parental Information Levels

- Information levels were higher among socially advantaged families; educational background emerged as an especially important factor.
- The variability among parents' information levels decreased as parents became more experienced with the choice system.
- Less educated families put more reliance on information gleaned from personal contacts with more educated parents. The more educated parents relied more on printed information.

b. Parental Schooling Decisions

- Regardless of educational background, mothers were more involved in schooling decisions. Less educated fathers appeared somewhat more involved with their sons' educations than their daughters'.
- Geographic location remained the most important factor in parents' placement decisions, even when free transportation was provided.
- The more distinct programs were from each other and the older the child, the less important geographic location became in parents' placement decisions.
- On the whole, curriculum factors were less important than noninstructional factors (SES school composition, maintenance of sibling and friendship relationships, school location, etc.)
- Less educated parents are more likely to emphasize children's obedience and respect for authority than more educated families who tend to encourage creativity and reliance upon internally set standards.

- When parents have free choices, children from socially advantaged families will tend to be over-represented in less structured, open classrooms.

C. Parental Attitudes

- Parents' global evaluations of the schools were generally lower than their evaluations of the classroom teachers who came in contact with their children.
- The more powerless parents felt, the less satisfied they tended to be with the educational system and the performance of school personnel.
- In general, parents' satisfaction with the schools increased at the outset of an innovation and then began to fall as the situation failed to live up to their original expectations.
- Parents' satisfaction tended to decrease when their schooling alternatives were limited after a period of wider choice.

6. File Descriptions

There are six Parent/Community Survey files, each corresponding to an administration of the survey. Since the type of data and kinds of respondents have been described earlier, only information on respondents and number of variables is summarized here.

File/Administration	Respondents	Variables
Fall 1972	1,447	428
Spring 1973	239	574
Fall 1973	1,502	556
Spring 1974	233	534
Fall 1974	8,170*	435
Fall 1976	844	334

* Total number of records (number of cases not available).

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C. TEACHER SURVEYS

1. Background and Pupose

The Teacher Surveys were a part of the overall evaluation of the Elementary Education Voucher Demonstration. The primary purpose of the evaluation was to measure changes in the Alum Rock district attributable to the Voucher Demonstration and to determine, specifically, the relative impact of various aspects of the Demonstration on educational, political, and social developments in the community. Periodic measurement of voucher and nonvoucher teacher attitudes toward the Demonstration was an essential component of this evaluation. Seven Teacher Surveys were conducted, the first in fall 1972 and the last in winter 1977. The Archive contains information on the first six surveys.

The purposes of the individual surveys differed somewhat. For instance, the first survey emphasized the expected outcomes of the EEVD and the winter 1974 survey attempted to discover possible nonresponse bias. However, all of the Teacher Surveys shared a common purpose, namely, to elicit teachers' attitudes toward, and experiences with, the Voucher Demonstration in Alum Rock.

2. Sample

The universe of Alum Rock teachers was targeted for all but one Teacher Survey. The major reasons for targeting the total population were 1) the desire to obtain the largest possible response and 2) its size (600 to 700 teachers), which posed no distribution or coding problems for the evaluators.

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The overall response to the seven surveys was relatively substantial, with rates ranging from 63.1% to 87%. Follow-up procedures were used to improve response rates, and, in later surveys, the questionnaires were distributed and completed during conference time, rather than mailed to teachers' homes. A study of possible nonresponse bias showed no significant differences between respondents and non-respondents in the Teacher Surveys.

All but one survey drew a sample from the universe of Alum Rock teachers. Because the Winter 1974 Teacher Survey was conducted by telephone, it was too costly to target the universe, which numbered 636 teachers at that time. This survey targeted 25% of Alum Rock teachers (159) and had a response rate of 94%.

3. Data Collection

Since there were several administrations of the Teacher Survey, information on the date, type of survey, and number and length of the questionnaire forms is best related in a tabular fashion.

TABLE 7: Teacher Survey Forms

Administration	Type	Forms	Number of Data Items Per Form
Fall 1972	self-administered mailed	voucher	338
		nonvoucher	-
Spring 1973	self-administered mailed	voucher	236
		expansion	-
		nonvoucher	-
Winter 1974	telephone interview	voucher	-
		nonvoucher	-
Spring 1974	self-administered mailed	voucher	94
		nonvoucher	-
Spring 1975	self-administered at faculty meetings	voucher	141
		nonvoucher	-
Spring 1976	self-administered at faculty meetings	voucher	109
		nonvoucher	-

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The changes made in the Teacher Survey instruments for each administration are discussed generally below. In this discussion, only the voucher forms are treated. Subsidiary forms (nonvoucher and expansion forms) were always shorter versions of the voucher form since questions about participation in the Demonstration were omitted.

a. Fall 1972

The fall 1972 instrument was the longest version of the Teacher Survey. Its general content areas were

- teacher background data;
- descriptions of the educational situation in Alum Rock before vouchers;
- attitudes and expectations concerning the Demonstration;
- opinions about educational problems.

b. Spring 1973

The instrument used in the spring 1973 Teacher Survey was a shorter version of the fall 1972 Survey. The following types of questions were deleted:

- questions relevant only at the outset of the Demonstration;
- seasonal questions;
- questions about attitudes that were not expected to change over the short run;
- questions that did not provide useful answers in the first administration.

The most important difference between the fall 1972 and spring 1973 versions was that the spring version tried to uncover teachers' actual experiences with the Voucher Demonstration now that it was underway. A question in the fall 1972 version concerning expectations was reworded to draw out experiential data.

c. Winter 1974

The winter 1974 Teacher Survey was administered by telephone. As a result, this instrument differed dramatically in form and in length from the

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other six instruments. The instrument was similar to previous instruments only insofar as it included an open-ended question about general attitudes toward the Demonstration which appeared in every other instrument as a closed-ended question. Other open-ended questions posed in this survey concerned changing teacher roles, positive and negative features of the Demonstration, and changes teachers would recommend to improve the voucher system.

d. Spring 1974

Like the preceding and subsequent survey instruments, the spring 1974 Teacher Survey instrument sought to gather information about teachers' characteristics and general attitudes toward the Demonstration. Some new question areas were added: costs and benefits of the Voucher Demonstration to teachers; educational offerings and outcomes of the Demonstration; and, teacher control over minischools, including the use of the income/outgo budgets. Despite these new topical areas, this instrument was the shortest of the self-administered Teacher Survey questionnaires.

e. Spring 1975

The instrument used in the spring 1975 Teacher survey was longer, due to the inclusion of a 36-item work environment scale (WES). Questions about background and general attitudes toward the Demonstration were retained. Questions about community/school relations were added to the parent/school section, and a new topic, educational diversity, was incorporated. This latter addition reflects a shift in emphasis in the Demonstration. The original voucher concept sought to increase parent choice through minischools; now educational alternatives were being created at the school level. Other new questions in this instrument concerned the organization of schools and minischools; perceptions of change in Alum Rock; decentralization and decisionmaking; and economic incentives and expenditure decisions.

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f. Spring 1976

In Spring 1976, the instrument used varied only slightly from the Spring 1975 version.

4. Study Design

The Teacher Survey was longitudinally designed, with the first survey (fall 1972) forming a baseline against which teachers' attitudes, expectations, and experiences in the subsequent implementation years could be compared. However, over the years of implementation, the Voucher Demonstration deviated increasingly from the original transition model. This was most dramatically evidenced in the minischool's loss of autonomy and power which tended to remove teachers' incentives to maintain new minischool programs.

As a result, new issues and problems arose (e.g., interest in the school as a work environment) which necessitated changes in the Teacher Survey instrument. While a core of items remained in all of the Teacher Survey instruments, much of the data lacked comparability from survey to survey. To some extent, this limits the usefulness of the original longitudinal design.

5. Data Analysis

A variety of techniques were used to analyze Teacher Survey data. Items were intercorrelated to determine whether they were actually measuring the same thing. Percentages and crosstabulations were used to show the degree of favorable teacher response to questions about the Demonstration and teachers' assessment of specific factors of the Demonstration (e.g., class size, discipline, and instructional equipment). Significance tests were performed to compare voucher and nonvoucher school teachers' background characteristics and general predisposition to the Voucher Demonstration.

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Eight indices were constructed from the survey data using a variety of techniques: simple summation, correlation, and factor analyses. Regression analyses were used to develop general parameters of teacher response and to determine the best predictors for teachers' overall support of the Voucher Demonstration.

6. Findings

Many teachers liked the Demonstration primarily because it meant extra money, choices for parents, and more influence for teachers. However, as the Demonstration progressed, teachers' loss of influence over curriculum, budget, and staffing decisions contributed to the demise of minischools.

Most voucher teachers initially thought the quality of education in Alum Rock would be improved, but, by the fourth year, less than half thought that it actually had improved. The average nonvoucher teacher thought the Demonstration would not affect the quality of education in Alum Rock one way or another.

Throughout the Voucher Demonstration, a large minority of teachers felt that parents lacked the necessary information to make the best program choices for their children. In 1977, after a major reorganization of programs, only 16 percent of the teachers in Alum Rock felt confident that parents had enough information to make good choices.

Teachers in the original six voucher schools were more enthusiastic than the expansion school teachers about the alternatives the Demonstration afforded. Of the three teacher groups, nonvoucher teachers were least enthusiastic about the Demonstration. Consistent with their level of support for the Demonstration, voucher teachers were most likely to favor parent choice. The best predictor of support for parent choice was the teachers' assessment of the Demonstration's effects on students.

7. File Descriptions

Since descriptions of the purposes and forms of the Teacher Survey have been presented earlier in this section, the description of the files here is limited to a listing of the number of respondents and the number of variables in each administration.

File/Administration	Respondents	Variables*
Fall 1972	409	345 +
Spring 1973	417	282
Winter 1974	151	14
Spring 1974	441	95
Spring 1975	534	145
Spring 1976	505	113

* This number pertains to the variables in the voucher version.
+ 287 of these variables related to nonvoucher teachers.

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D. Student Metropolitan Achievement Test

1. Background and Purpose

Neither the theoretical model of education vouchers, nor the modified system of alternatives implemented in Alum Rock included explicit plans for improving the educational performance of students involved in the Demonstration. Student performance was never considered a sole criterion of the Demonstration's success. Regardless of whether particular performance standards were achieved, if parents were more satisfied with the education their children received, the Demonstration would have succeeded in meeting one of its stated objectives. However, the Demonstration could not be considered completely successful if the performance of participating students declined. For this reason, it was necessary to evaluate whether or not students did as well as might be expected if no innovations had been introduced.

The use of student outcome measures has been, and continues to be, the subject of much controversy among educational researchers. A particularly important issue in this debate is the extent to which outcome measures should be tailored to specific program objectives (Ebel, 1978; Popham, 1978). Standardized achievement tests provide a common "yardstick" for comparing one program with another; they are relatively easy to use since they are accompanied by simple guidelines for making comparative, norm-referenced interpretations. Opponents of standardized tests argue that these benefits are obtained at the cost of relevance and specificity and that meaningful assessments of program impacts should employ measures which permit "objective based" comparisons. Such criterion-referenced tests are designed specifically to determine whether a particular program or treatment is achieving its stated

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goals. These tests do not employ a neutral or commonly-agreed-upon goal as do norm-referenced measures.

The Demonstration evaluation staff was well aware of the issues associated with using standardized achievement data for measuring academic student outcomes. The staff chose to use these tests because they would generate the best available data.

In analyzing student standardized achievement, the evaluation attempted to answer two questions,

- To what extent has the Alum Rock Demonstration modified the performance of participating students?
- What measured features of the Demonstration can be shown to account for variations in Alum Rock student outcomes?

2. Sample

Two samples for this substudy consisted of four grade-level cohorts (3rd through 6th grades) which had usable test data and were in the elementary grades throughout the third, fourth, and fifth years of the Demonstration. The cohort sample sizes varied from analysis to analysis. Roughly 60% of these cohorts were Spanish surnamed and the same percentage were eligible for free lunch. More than 60% of each sample were voucher students. The grade six cohort contained a somewhat higher percentage of voucher students, since by the sixth grade many nonvoucher students had begun to move to middle schools, which were predominately voucher schools.

3. Study Design

Total reading scores from the Metropolitan Achievement Test (MAT) were the achievement data used as dependent measures in the analysis. Background measures of ethnicity, language spoken at home and socioeconomic status

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were used as covariates in the analysis; specific variables utilized were limited to those available on the longitudinal student file in the Demographic Data Base. Dummy variables were used to indicate whether a student was Spanish surnamed and whether Spanish was spoken in the student's home. Eligibility for the federally-funded free lunch program was used to approximate SES, since eligibility for the program is determined by family size and income. Absence from school was also used as a covariate in the analysis, as a possible intermediate level program effect and consequent cause of achievement differences.

The Student MAT substudy was designed as a quasi-experimental comparison of voucher students' scores on the MAT with those of a "control group" not exposed to the "treatment." The control group was composed of Alum Rock elementary students who did not participate in the Demonstration.

To related certain features of the Demonstration to student performance, information was drawn from teacher surveys administered in the third and fourth years of the Demonstration (1974-75, 1975-76). Some of the variables drawn from these surveys were teacher attitudes toward the Demonstration as a whole and their perceptions of the school environment and changing rates under the Demonstration. To explain student achievement on the MAT, other information was considered in the analysis. This other information included student program enrollment, place of residence, and perceptions of the school environment, as well as indicators of school and program characteristics.

4. Statistical Analysis

Analysis of covariance was used to assess the effect of the variable "school type"(i.e., voucher or nonvoucher) on reading achievement. Control variables used to adjust for nontreatment or nonparticipation related to

preexisting differences among students: ethnicity (Spanish surnamed or other), Spanish spoken at home, eligibility for free lunch, and number of days absent during the period of the analysis.

Analyses were performed on four cohorts of students--third, fourth, fifth, and sixth grades as of spring 1976--and three time spans--fall 1974 to spring 1975, fall 1974 to spring 1975, and fall 1974 to fall 1976. The MAT administered in fall 1974 served as the pretest.

5. Findings

The major findings of this substudy was that students who participated in the Demonstration performed less well on standardized achievement measures than students who were not directly involved in the Demonstration. The reasons for this difference appear to be unrelated to the existence of the Demonstration, and to have been largely unaffected by the Demonstration.

Regarding features of the Demonstration likely to affect student MAT scores, only minischool size seemed related. However, this effect was positive during the third year of the Demonstration and negative during the fourth year. Moreover, students who changed minischool programs did not achieve more educationally.

The attitudes and perceptions of teachers and students toward the Demonstration also appeared to be unrelated to reading achievement in voucher and nonvoucher schools.

6. File Description

The Student MAT data is housed in one file which covers five years of the Demonstration. This file contains 25,878 cases and 730 data items.

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E. CHILDREN'S SELF-SOCIAL CONSTRUCT TEST (CSSCT)

1. Background and Purpose

The evaluators of the Elementary Education Voucher Demonstration conducted a study to explore a number of student outcomes. Among these outcomes were both cognitive and noncognitive effects. Specifically, cognitive effects were measured using the reading component of the Metropolitan Achievement Test (MAT), which was administered several times during the Demonstration. Examples of the noncognitive effects the evaluators sought to measure were teachers' perceptions of their schools and attitudes toward the Demonstration, perceptions of change in Alum Rock school-community relations, student perceptions of the Demonstration, and a variety of psychosocial effects of the Demonstration on students.

The Children's Self-Social Construct Test (CSSCT) was one attempt to measure certain noncognitive student outcomes. Based on work by Ziller (1973), this nonverbal instrument measured the dimensions of self-esteem, social distance from significant others in the school environment, scope of peer attachment, and perceived individuation. The noncognitive psychosocial constructs measured were important to the Demonstration both as outcomes in themselves and as mediating effects on school achievement.

2. Sample

The sample used in the CSSCT substudy was drawn from the longitudinal Student MAT data file which contained data on 7,149 students in 1975 and 2,252 students in 1976. Approximately 65% of these students in Kindergarten through eighth grade were in voucher schools.

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3. Study Design

The basic pre- post-test design was used. However, since the data used were gathered in the Spring of the third and fourth years of the Demonstration, the examination of effects was limited to those occurring in this interval. Grade levels were combined in the analysis, since the instrument was appropriate for multiple grades. In addition, to investigating overall voucher/nonvoucher student differences on the CSSCT, the study explored school type (i.e., voucher/nonvoucher) by grade level interactions.

Similar items on the CSSCT were averaged to form four measures described below. These measures were used in the CSSCT substudy both as independent variables in analyses of achievement outcomes and as outcomes in themselves.

- Two types of items measured social distance from significant others in the school environment (i.e., from both teachers and peers) and lack of social interest. The last in a row of circles was marked to represent the target figure (teacher or peer). The student was asked to represent himself by marking one of the other circles. "Social distance" was the distance between the student's circle and the target figure's circle. Items measuring lack of social interest presented a set of three circles representing parents, teachers, and friends and formed a social influence triangle. The student was asked to represent himself by drawing a circle anywhere on the page. These items were scored according to whether the student's circle fell within or outside the triangle.

- To measure self-esteem students were told to choose a self-representing circle from a vertical or horizontal row of circles. Choosing a circle high on the vertical row or near the left end of the horizontal row indicated high self-esteem.

- A determination of the scope of peer attachments was formed using items which directed the student to draw any number of lines between circles representing other students and himself.

- Perceived individuation was measured by asking the student to choose a self-representative circle from a collection of circles, a few of which differed from the majority of circles.

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4. Statistical Analysis

Analysis of covariance was used to investigate the CSSCT data. The covariates used were free lunch eligibility, Spanish surname, school type, and the relevant premeasure. Due to a lack of variance on the fourth scale of the CSSCT (perceived individuation) this scale was dropped from the analyses.

5. Findings

The CSSCT results showed that voucher and nonvoucher student scores became increasingly similar to each other from the third to the fourth years of the substudy. An increase in social distance was noted between voucher and nonvoucher students. Voucher students indicated that they felt closer to their teachers and peers and more a part of the domain of social influence. As compared to nonvoucher students, voucher students had somewhat lower self esteem and a somewhat narrower scope of peer attachments.

6. File Description

The CSSCT file contains 46 data items for 7,149 students in 1975 and 2,252 students in 1976.

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PROGRAMMER'S GUIDE

ELEMENTARY EDUCATION VOUCHER DEMONSTRATION FILES

Submitted to
National Institute of Education

by

C.M. Leinwand Associates
February 7, 1980

PROGRAMMER'S GUIDE

This Guide provides a programmer with descriptions of linkage variables to assist in the merging of various existing archive files to produce new analysis files. First, it describes archive file categories: student, teacher, parent/community, and minischool. Then, it explains how the data in each of these categories are related or linked and how these data may be merged.

A. ARCHIVE FILE CATEGORIES

All archive files fall in one of the following categories. These categories represent units of observation for the particular file:.

- student (demographic and test data files);
- teacher (demographic and survey files);
- parent/community (survey files);
- minischool (various program data).

1. Student Files

There are 3 types of student files; they are structured as follows.

- Individual survey and test files
  - identification data (STUDENT-ID, FAMILY ROOT)
  - selected demographic and location data
  - survey and test data
- Metropolitan Achievement Test (MAT) longitudinal file
  - identification data (STUDENT-ID, FAMILY ROOT)
  - selected demographic, location, and voucher data
  - MAT scores

- Master longitudinal file
  - identification data (STUDENT-ID, FAMILY ROOT)
  - demographic data
  - location and attendance data
  - voucher application data
  - transfer data
  - teacher data (TEACHER-ID)
  - catchment data
  - federal program data (AFDC, free and reduced meal eligibility)
  - compensatory voucher data

In the student files, all records (or cases) are associated with, and describe, students. Each case is identified by a unique identifier called STUDENT-ID or DMC-ID. STUDENT-ID is nine-digit number derived from the following information:

- FAMILY ROOT: digits 1-6;
- SIBLING SEQUENTIAL NUMBER: digits 7-8;
- modulus 11 check digit: digit 9.

When the files were first created, each student was assigned a FAMILY ROOT. All siblings in a family were designated by the same FAMILY ROOT, and differentiated from one another by a SIBLING SEQUENTIAL NUMBER.

As new cases (students) were incorporated during the file maintenance process, it was necessary to determine whether a voucher student had siblings who were also participating in the Demonstration. If so, the "new" student's ID consisted of the FAMILY ROOT of his/her siblings and the next SIBLING SEQUENTIAL NUMBER. If not, a new FAMILY ROOT was created and the student was assigned the SIBLING SEQUENTIAL NUMBER 01. For subsequent Demonstration years 2, 3, 4, 5, the initial SIBLING SEQUENTIAL NUMBERS assigned were 11, 21, 31, 41, respectively.

Then, a standard modulus 11 check digit was generated. Since all Demonstration students from one family share a FAMILY ROOT, a one-way frequency analysis on FAMILY ROOT could be used to determine the total number of families, the number of participating siblings in a given family, the average number of participating students per family, and family size distribution.

In summary, each family is identified by a FAMILY ROOT and each student within each family is identified by a different SIBLING SEQUENTIAL NUMBER. Combined with modulus 11 check digit, this method results in a unique nine-digit STUDENT-ID for each participating student.

2. Teacher Files

The two groups of teacher files are structured in the following manner.

- Individual survey files
  - identification data (TEACHER-ID)
  - survey data
- Master longitudinal file
  - identification data (TEACHER-ID)
  - demographic data
  - employment data
  - assignment data
  - transfer data
  - absence data

In these files, each case unit of observation represents one teacher who is uniquely identified by a six-digit TEACHER-ID (DMC-T-ID). The identification number was created as follows:

- unique five-digit number: digit 1-5;
- modulus 11 check digit: digit 6.

As new teachers (cases) were identified during file maintenance, they were assigned next available sequential TEACHER-ID.

3. Parent/Community Files

Each parent/community survey file contains

- identification data (FAMILY ROOT),
- selected background data,
- survey data.

Each parent, that is, mother (or father, if mother was not available), is one case unit of observation, identified by a unique six-digit FAMILY ROOT. Parents whose child(ren) participated in the Demonstration have the same FAMILY ROOT as their child(ren).

4. Minischool File

Minischool file cases are organized into these sections:

- identification data (MINISCHOOL-ID),
- school data,
- minischool staff data (TEACHER-ID),
- minischool facilities data,
- enrollment data,
- classroom data,
- budget data,
- voucher dollar data,
- comments data.

The unit of observation, or case, in this file is one minischool program. Each case is uniquely identified by MINISCHOOL-ID or voucher program number.

B. FILE LINKAGE

1. General

In order to use specific identifiers to match cases from different archive files, it is necessary to understand several general characteristics of identifiers.

a. Once an identifier had been assigned, it remained unchanged from year to year.

b. To merge data from different files meaningfully, data extracted must pertain to the same time frame within the five-year Demonstration. That is, if one combines data from the files of a 1975 survey, s/he must select 1975 data from longitudinal files.

c. To merge data from different files for a portion of a year only, additional matching is necessary.

d. One or more TEACHER-IDs may appear in each case in the student longitudinal file. There are two reasons for this: 1) the student transferred from one school or minischool to another school or minischool; 2) teachers were re-assigned classrooms. To indicate when a student was in a teacher's classroom, a starting date was assigned to each TEACHER-ID in the student longitudinal file. Consequently, when merging student and teacher files for a given period within a school year, a TEACHER-ID corresponding to the student's teacher at that time must be selected.

2. Linking Data

The data desired for secondary analysis may reside on different archive tapes and, furthermore, may be stored in more than one of the categories described above. Therefore, the first step in creating a

new analysis file is determining which identifiers must be used to match and link corresponding cases.

In this section, we describe all possible linkage combinations for any two file categories. If three or more files are to be linked, two files are linked first to create a simple merged file; then the third file is linked to the merged file using the same procedure.

a. Student-Parent Link

Objective: link student transfer activity and parents' feelings and attitudes about voucher programs.

Variables describing student transfer data will be extracted from the student master longitudinal file; variables describing parents' feelings and attitudes will be extracted from the parent/community survey file. Cases will be linked by matching FAMILY ROOT (first 6 digits of STUDENT-ID) of student cases and FAMILY-ID of parent survey cases.

b. Student-Teacher Link

Objective: link student attendance and teacher experience?

The master longitudinal student file provides attendance data and the employment section of the master longitudinal teacher file provides teacher experience data. Cases from both files will be linked using TEACHER-ID from the teacher file and matching these TEACHER-IDs with with those in the teacher data section of the student file.

c. Student-Minischool Link

Objective: link student MAT scores and minischool classroom data

Student location data (school, minischool, and classroom) in the MAT longitudinal file will be matched with MINISCHOOL-ID in minischool

data and MAT score variables (from MAT file). Classroom data (from minischool file) will be extracted for matching cases.

d. Parent-Teacher Link

Objective: link parent's and teacher's survey responses on minischool programs.

The files will be linked by matching minischool data (TEACHER-ID) from the parent file and TEACHER-ID from the teacher file. Selected variables then will be selected from each matching case.

e. Parent-Minischool Link

Objective: link parent's educational background and minischool budget data.

Cases will be matched using the minischool data (MINISCHOOL-ID) in the parent file and the MINISCHOOL-ID in the minischool file. Selected demographic data on parents and minischool budget will then be extracted from both files.

f. Teacher-Minischool Link

Objective: link teacher absence data and minischool voucher dollar data.

Variables describing teacher absence data will be extracted from the teacher master file; variables describing voucher dollar data will be extracted from the minischool file. Cases will be matched on TEACHER-ID from the teacher file and TEACHER-ID from the minischool staff data of the minischool file.

C. FILE MERGING

Creating a work analysis file usually involves several steps. The example below illustrates the procedure used to merge student MAT scores and teacher experience in the second year of voucher demonstration.

Two utility programs are used in this example: SELECT and TAGUP (NORC, University of Chicago).

Step 1: Select Appropriate Files

In our example, the appropriate files are the student MAT longitudinal file and the longitudinal teacher master file.

Step 2: Create Reduced "Answer" File

The MAT file containing TEACHER-ID and MAT scores is used to create the reduced answer file. First, use the MAT codebook to identify the appropriate variables and their locations. In our example, TEACHER-IDs were in locations 21-26 and year two MAT scores were in locations 101-150 (10 variables in consecutive locations, each one occupying five-character fields). The SELECT utility program control statements are

```
100 EQ '2'.

M 21-26 To 1-6.
M 101-150 To 7-56.
```

This statement will select the MAT scores of only those students present and was tested in Year Two. The resultant output record will be 56 characters in length, since TEACHER-ID was moved into locations 1-6 and MAT scores were moved to locations 7-56.

Step 3: Sort

Sort created answer file on TEACHER-ID, that is, on major sort key in locations 1-6.

Step 4: Create a Second Reduced Answer File

The second reduced "answer" file will be generated using the teacher master file containing TEACHER-ID in locations 1-6 and variables in locations 7-30. The retrieval program SELECT described in Step 2 will be used.

Step 5: Sort Teacher Answer File

The teacher answer file is sorted by TEACHER-ID, using the procedures applied to the MAT answer file and described in Step 3.

Step 6: Merge the Two Answer Files

Now there are two answer files, each having a different number of cases. Since the MAT answer file describing each student's MAT scores has TEACHER-ID as an identifier, all students from one classroom have the same TEACHER-ID.

TAGUP is a suitable utility program for creating the new combined analysis file. TAGUP is capable of merging, or "tagging up," data from "group" records to corresponding sets of "individual" records. In our example, a group is a teacher and an individual is a student.

The inputs to TAGUP will be the MAT answer file, described to TAGUP as INDIVIN; and the teacher answer file, described to TAGUP as GROUPIN. The output will be an MAT answer file with teacher data "tagged" to it and described to TAGUP as INDIVOUT. The TAGUP control elements will then be:

```
GROUP = 1, INDIV = 1, LEN = 4.
TAG 24 7 57.
```

The first statement describes the starting positions of matching sequence numbers (TEACHER-ID) and their length (4 digits). The second statement will "tag" teacher data 24 characters in length (in locations 7-30) to each matching student record (locations 57-80).

The final INDIVOUT analysis file will have the following layout columns:

1-6	Teacher-ID
7-56	Student MAT scores
57-80	Teacher data describing teacher's experience.

Temporary answer files can now be discarded since the new merged file will be used as input to analysis programs.