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ABSTRACT

The main objective of this study was the development of an evaluation and reporting system that would provide information considered to be meaningful to those involved at the local, district, state, and federal levels. Subobjectives are to determine the amount and type of evaluation information needed at each level to assess the ability and willingness of education agencies to report the information desired by higher levels, and to devise evaluation techniques and procedures which could be implemented in Title I settings. The evaluation and reporting system was presented to appropriate personnel in nine State Departments of Education and to an advisory panel representing additional local and state agencies. Attitudes toward the system are reported as very favorable and are interpreted as indicators of success in achieving the study's objectives. A followup project has been initiated that will involve, among other things, further refinement of the system developed. Ways of extending its flexibility have been identified, and work is in progress to enhance both the utility and acceptability of the system. Presently, the prognosis is seen to appear excellent in that the system will be widely adopted in the next few years resulting in vastly improved Title I evaluation and reporting practices. Tables providing raw data and appendices containing the instruments and scales used are included. (Author/AM)

RMC Research Corporation
A Resource Management Corporation Subsidiary

RMC Report UR-294

STATE ESEA TITLE I REPORTS: REVIEW AND ANALYSIS OF PAST REPORTS, AND DEVELOPMENT OF A MODEL REPORTING SYSTEM AND FORMAT

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October 1975

Prepared for
U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Office of Education/Office of Planning, Budgeting, & Evaluation

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Mountain View, California

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Many people helped the RMC project staff at one time or another during the course of the study, and all deserve our sincere gratitude. As groups, we wish to thank all of the educational policy makers we interviewed in Washington, the Title I Coordinators and/or Evaluators who took time from their busy schedules to prepare for and participate in our telephone interviews, and especially, the personnel in the nine states we visited for the courtesy, patience, and many thoughtful comments they provided.

During the course of the project we met four times with our Policy Advisory Panel for two-day working sessions. The members of the Panel included:

Gary Brummitt	-	Missouri SEA
Richard Faunce	-	Minneapolis LEA
Constance Gomes	-	Title I Parent, Providence
Weldon Idol	-	Winston-Salem LEA
Rose Loving	-	Title I Parent, New Orleans
Vincent Madden	-	California SEA
Andrew Nutt	-	Council of Chief State School Officers, Committee for Evaluative Information Systems
Wallace Roby	-	Connecticut SEA
Paul Rost	-	Albuquerque LEA
Ricky Silberman	-	National Advisory Council on the Education of Disadvantaged Children

Each Panel member contributed thoughts and suggestions at the meetings. They also worked between meetings providing additional input by mail. Finally, they were ambassadors of good will and helped immeasurably in disseminating our ideas and encouraging receptivity to them. Their impact on the project has been very large indeed, and we look forward to a continued relationship with them as we begin a follow-on project.

Three individuals from the U. S. Office of Education had perhaps the greatest influence on both the conduct and outcomes of the study. George Mayeske was the original Project Officer and is responsible for development

of the work statement and for guidance of the project during its early months. Janice Anderson assumed that role at a later date although George continued to work with the RMC staff. William Lobosco, representing the USOE Title I Program Office, was extremely helpful throughout the study providing expertise in the area of Title I legislation and regulations as well as many insights regarding field operation of the program. It has been a pleasure to work with Bill.

Jan Anderson, of course, as Project Officer for the major portion of the project, is the one to whom we are most indebted. She did a tremendous amount of work providing ideas, reviewing manuscripts, assisting with arrangements, and providing counsel on technical issues. It was rewarding for all of us to work with her, and whatever we accomplished is better because of her involvement.

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EXECUTIVE SUMMARY

Background

Title I of the Elementary and Secondary Education Act, which became law in 1965, authorizes financial assistance to Local Education Agencies (LEAs) that have concentrations of economically disadvantaged children. The authorized funds are used to provide programs specifically designed to meet the special needs of educationally disadvantaged children.

Title I is a categorical grant program that appropriates funds to State Education Agencies (SEAs) for distribution to their eligible and participating LEAs which, in turn, bear primary responsibility for designing, implementing, and evaluating local projects. In their applications to State Education Agencies, LEAs must provide assurances that they will comply with Title I regulations, guidelines, and program criteria. States, in turn, are required to provide assurances to the U. S. Office of Education (USOE) that they will monitor LEA compliance with Title I directives, furnish technical assistance to LEAs, and submit annual statewide program evaluation reports to USOE.

Title I legislation requires annual or periodic evaluations of the program at each of the various levels of its administration. LEAs are required to evaluate their local programs and submit evaluation reports to their SEAs on an annual basis. States are required to aggregate local data and submit a periodic State Title I Evaluation Report to USOE. On the basis of State Reports, surveys conducted by the National Center for Educational Statistics, and special studies, USOE is required to provide an annual report to Congress on the national impact of the program.

It has become increasingly clear in recent years that, despite considerable effort, an adequate assessment of Title I has yet to be accomplished. The State Reports have not been successful in fulfilling their potential as a source of information on program effectiveness. This failure is due in part to the quality of the inputs from the LEAs, problems in the methods used to aggregate data across school districts, and differences from state to state with respect to both the information reported and the

formats adopted for its presentation. Guidelines provided by USOE were inadequate to achieve the objectives of standardized content and formats and were abandoned in 1971.

National surveys were equally unsuccessful in producing valid data regarding the nationwide impact of the Title I program. Two such surveys (USDHEW/OE, 1970; & Glass, 1970) were able to obtain meaningful cognitive impact data on only 9% and 7.5% of the population served, respectively. These samples, unfortunately, were not only small, they were non-representative as well, and thus provided no useful picture of overall program effectiveness.

Special studies have also proved inconclusive, and one recent attempt to synthesize all existing evaluation data relevant to Title I (Wargo, Tallmadge, Michaels, Lipe, & Morris, 1972) concluded:

> Analysis of all possibly relevant data sources immediately indicated that nationally representative and valid impact data are simply not available and that some data relating to participation and expenditures also suffer from severe limitations (p. 32).[1]

Obviously, the failure of past attempts to obtain adequate evaluation data has not diminished the need for such information. On the contrary, there appears to be an increasing insistence that the program be meaningfully evaluated. The Education Amendments of 1974 (P.L. 93-380), for example, specify that:

> "Sec. 151. (a) The Commissioner shall provide for independent evaluations which describe and measure the impact of programs and projects assisted under this title. Such evaluations may be provided by contract or other arrangements, and all such evaluations shall be made by competent and independent persons, and shall include, whenever possible, opinions obtained from program or project participants about the strengths and weaknesses of such programs or projects.

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1 Wargo, M. J., Tallmadge, G. K., Michaels, D. D., Lipe, D., & Morris, S. J. ESEA Title I: A reanalysis and synthesis of evaluation data from fiscal year 1965 through 1970. Palo Alto, Calif.: American Institutes for Research, March 1972, (AIR-27400-3/72-FR)

" (b) The Commissioner shall develop and publish standards for evaluation of program or project effectiveness in achieving the objectives of this title.

" (c) The Commissioner shall, where appropriate, consult with State agencies in order to provide for jointly sponsored objective evaluation studies of programs and projects assisted under this title within a State.

" (d) The Commissioner shall provide to State educational agencies, models for evaluations of all programs conducted under this title, for their use in carrying out their functions under section 143(a), which shall include uniform procedures and criteria to be utilized by local educational agencies, as well as by the State agency in the evaluation of such programs.

" (e) The Commissioner shall provide such technical and other assistance as may be necessary to State educational agencies to enable them to assist local educational agencies in the development and application of a systematic evaluation of programs in accordance with the models developed by the Commissioner.

" (f) The models developed by the Commissioner shall specify objective criteria which shall be utilized in the evaluation of all programs and shall outline techniques (such as longitudinal studies of children involved in such programs) and methodology (such as the use of tests which yield comparable results) for producing data which are comparable on a statewide and nationwide basis.

The intent of this legislation seems clear--not only with respect to the objective of obtaining good evaluation data, but regarding the manner in which the data should be compiled as well.

While the present study was initiated prior to the existence of the legislative mandate cited above, it was motivated by the same felt need for better information concerning the largest federal program providing support for education. The study was also undertaken in the belief that the state reporting system constituted the single most viable source for obtaining the desired information.

Normally, almost all Title I activities are evaluated in one way or another at the local level, and some type of evaluation report is passed up from LEAs to SEAs. It has generally also been true that where Title I activities are directed at the basic skill areas of reading and math, the evaluations have included some form of achievement testing. Finally, it has been the assumption of at least some investigators working in the field that evaluators and project administrators alike are sincere in their efforts to assess the impact of their Title I projects on participating pupils.

Given these conditions and assumptions, it seemed both reasonable and appropriate to attempt to design an evaluation and reporting system suitable for nationwide implementation at local, district, state, and federal levels. It also seemed reasonable to expect that such a system, if adequately constructed and "installed," could satisfy many, if not most of the evaluation needs of the Title I program at all levels.

Objectives of the Study

From what has been said above, it should be clear that the single, over-arching objective of the present study was to develop an evaluation and reporting system that would provide meaningful information to those involved at each level of the process. Implicit in this goal, although perhaps not immediately obvious, were the several sub-objectives of (a) determining the amount and type of evaluation information needed at each level of the program's administrative hierarchy, (b) assessing the ability and willingness of education agencies at each level to report the information desired by the higher levels, and (c) devising evaluation techniques and procedures which could be implemented in Title I settings and which would yield meaningful, valid, and useful data. Unless each of these sub-objectives could be achieved with a high degree of success, it was clear that there could be little hope for the overall success of the research and development effort.

In pursuing these goals, it was clearly appropriate to examine past State Title I Annual Evaluation Reports. As a logical outgrowth of this activity, the USOE-prepared Work Statement called for evaluating these reports along several relevant dimensions, aggregating whatever valid and comparable data could be extracted from them, and examining any trends which might be found with respect to reporting practices and the content of reports. The activities associated with this objective, while of only indirect relevance to the design of a model evaluation and reporting system, consumed a very large proportion of the total contract effort.

Methodology and Results

The task of determining the amount and type of evaluation information needed at each level of the Title I administrative hierarchy was accomplished somewhat more rigorously at the national than at other levels. Interviews were held with educational policy makers in order to learn their information requirements regarding Title I operations and effects.

Among those interviewed were a small number of federal legislators and senior professional staff members of all of the legislative committees and subcommittees involved with the ESEA Title I program. Most of the senior Title I program personnel in the U. S. Office of Education, and many others in DHEW and USOE who have responsibility for Title I legislation, regulations, guidelines, program criteria, and/or evaluation were interviewed as well. While the list of interviewees was certainly not all-inclusive--particularly with respect to Senators and Congressmen involved in educational legislation--it was felt to be sufficiently large and representative to reflect current thinking at the federal level. This view was reinforced by the substantial consensus observed among the interviewed policy makers on nearly all of the issues discussed.

The interviews were unstructured to give the interviewers freedom to discuss any topic of concern and to prevent possible preconceptions of the research staff from shaping or limiting interview coverage. While this approach unquestionably had merit, it unfortunately precluded a precise tallying of attitudes regarding specific issues. It was evident, nonetheless, that for nearly all of those interviewed the single most pressing concern was for some sort of measure of program impact on the children served. The comment was frequently encountered that after some ten years of program operation, it seemed only reasonable to have some objective and representative data regarding student outcomes.

There was also almost universal concern for information about the number of children served, the adequacy with which their needs had been assessed, the services offered to them, and the costs associated with Title I projects and programs. While these concerns were expressed by almost everyone, it was clear that the continued existence of at least marginally ade-

quate information in these areas over the years had not produced the same feelings of urgency and frustration that emerged in discussions about impact data.

A number of other concerns were brought up by one or more of those interviewed. For the most part these concerns related to what might be termed the conditions of success. There was interest in such issues as whether it was better to serve children in early grades rather than later in their school careers, whether there was a clear-cut relationship between per-pupil expenditures and gains, and whether the intensity and/or duration of Title I treatments were crucial to their success. The inputs and effects of Parent Advisory Councils was another significant area of concern, but it was brought up by fewer than fifty percent of those interviewed.

The conclusions to be drawn from the policy interviews were clear and unambiguous. The highest priority in developing a model evaluation and reporting system should be given to the assessment of Title I impact on the participating students. Considerable effort should also be given to methods for collecting and reporting information on Title I participation, resource allocation, and needs assessment. Then, to the extent possible, means should be developed for identifying possible relationships between program input variables and student outcomes.

No first-hand data were collected regarding the information needs of state, district, or local school personnel involved in the administration of Title I projects or programs. These needs were inferred from the contents of the many local, district, and state evaluation reports which were read during the course of the study. Since most of these reports were prepared in the absence of guidelines or requirements imposed by higher levels, it seemed reasonable to assume that they contained information which their originators considered relevant and useful. Not surprisingly, it was found that these reports contained much the same kind of information which was wanted at the federal level, although there were gross variations in the data breakdowns and reporting formats used.

The task of assessing the ability and willingness of schools, districts, and states to report the amount and kind of information desired by each higher administrative level was also accomplished largely through careful

reading and analysis of evaluation reports. Nearly 200 State Title I Annual Evaluation Reports for fiscal years 1971, 1972, 1973, and 1974 were examined as were many local-level evaluations. The variation in reporting practices was extreme, and report content ranged from near zero to the inclusion of more information than could conceivably be useful in any large-scale aggregation. Unfortunately, while it was clear that some agencies were able and willing to report large amounts of highly detailed information, it seemed equally likely that others could not or would not. From the documents alone, it was not possible to determine the amount and type of information it would be reasonable to expect all states to report.

A second issue which could not be adequately assessed through review of existing documentation was the extent of influence which SEAs exert over the LEAs within their jurisdiction. The two questions together comprised the basis for telephone inquiries directed to fifty-four State Title I Coordinators[1]. Using an open-ended, unstructured interview technique, information was sought regarding the amount and type of data which each state felt was reasonable to report. Relationships between each SEA and its LEAs were also explored.

In gross and somewhat oversimplified terms, the conclusions reached from the telephone interviews were that (a) standardization of reporting content and format appeared feasible in all areas except impact; (b) while some states perceived no great problem in adopting statewide testing and evaluation practices, others felt local autonomy was essential; (c) some states were moving strongly toward the use of criterion-referenced tests for Title I evaluations while others were equally strong advocates of standardized tests; and (d) the meaningfulness, accuracy, and validity of the reported data would be inversely related to the amount requested. These conclusions, coupled with the information expressed by the educational policy makers interviewed in Washington provided important design objectives for the model evaluation and reporting system.

Review of the State Title I Annual Evaluation Reports was an important

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1 Coordinators in American Samoa, Guam, and the Trust Territory were not contacted.

step in establishing design objectives for an improved reporting system. This task, however, was undertaken in substantially more depth than would have been necessary had that been the only objective to be achieved. The review also served the following additional purposes:

a. It provided a systematic examination of all State Title I Annual Evaluation Reports submitted for fiscal years 1970 through 1974 in terms of their content, the adequacy (representativeness) of the data they contained, the extent to which they addressed relevant policy issues, and their general readability.

b. It involved the preparation of critical summaries of each report for use in providing feedback to the author states.

c. It examined trends (or lack of them) in reporting practices.

d. It provided aggregations of data on Title I participation, resource allocation, and impact to the extent that the quality of the reported data and the comparability of reporting formats permitted.

Once it was determined that the most important information need of educational policy makers in Washington was for impact data and that it would be undesirable, if not impossible, to get all SEAs and LEAs to adopt a single evaluation procedure, work began on the design of an evaluation and reporting system which could accommodate these constraints. Most important, of course, was the requirement that the data generated through implementation of the system be reliable and valid. Unless that objective could be achieved, all others would become meaningless. It was also important to develop a means for aggregating impact data across reporting units so that useful summaries could be prepared.

Two RMC reports developed in conjunction with an earlier USOE/OPBE contract documented the hazards and constraints associated with carrying out valid impact assessments of educational projects (Tallmadge & Horst,

1974; Horst, Tallmadge, & Wood, 1975)[1]. The latter of these reports also outlined several evaluation designs which could feasibly be implemented in Title I contexts and which would yield valid and interpretable results. These designs formed the basis for the impact assessment portion of the prototype system.

The system was designed so that any one of three evaluation models could be selected at the state, local, or even at the classroom level while other models could be chosen at other sites. Furthermore, two of the three models could be used with either standardized achievement tests or other types of tests for which no normative data were available, (e.g., criterion- or objectives-referenced tests). The models were all constructed to yield a measure of treatment effect defined as the difference between observed post-treatment performance (posttest scores) and an estimate of what performance would have been without the special instructional treatment. The models differ only with respect to the manner in which this no-treatment expectation is generated.

Since the models all produce the same kind of impact measure, it would be possible to aggregate data across models using a simple additive process if all evaluations used the same test instrument. Since, however, one of the design objectives was to permit different sites to use different tests, a means had to be devised for expressing scores from different tests in terms of a common metric. The metric which was chosen for this purpose was the national distribution of achievement levels.

The publishers of standardized achievement tests always provide tables whereby raw test scores can be converted into indices (usually percentiles) which define the status of individuals or groups with respect to a nationally representative sample of their age or grade-level peers. Since an individual or a group is likely to achieve a score approximately the same relative distance above or below the national norm regardless of which particular stan-

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[1] Tallmadge, G. K., & Horst, D. P. A procedural guide for validating achievement gains in educational projects (Revised). Los Altos, Calif.: RMC Research Corporation, December, 1974. (Technical Report No. UR-240).

Horst, D. P., Tallmadge, G. K., & Wood, C. T. A practical guide to measuring project impact on student achievement. Report 573-586, Washington, D. C.: U. S. Government Printing Office, 1975.

dardized test is used (assuming the tests cover comparable subject matter areas), these status indicators can be meaningfully aggregated using appropriate statistical procedures, whereas such aggregation would be meaningless using raw test scores. With standardized achievement tests, then, simply converting raw scores to scores reflecting status with respect to the national distribution solves the problem of the common metric and enables the aggregation of impact data across different test instruments.

The aggregation problem is somewhat more complex where criterion- or objectives-referenced tests are used since, generally, no nationally representative normative data are available for these instruments. Two of the three evaluation designs included in the system were suitable for generating a no-treatment expectation and, thus, a measure of the treatment effect using unstandardized tests. The resulting measure, however, would be expressed in terms of raw scores rather than the desired common metric. To convert the raw score gain to the common metric, it would be necessary to know how a nationally representative sample of children would perform on the test. However, since unstandardized tests have by definition not been administered to nationally representative samples, it was necessary to devise a means of estimating the performance of such groups from other data sources.

The estimation technique developed to serve this purpose required that scores be collected for treatment group children on a standardized achievement test as well as on the unstandardized instrument used for pre- and posttesting. The second step of the estimation process entailed calculating measures of the variability of scores (standard deviations) obtained by the treatment group on the standardized test as well as on the unstandardized posttest. The standard deviation of the nationally representative sample on the standardized test was next obtained from the test publisher's manual. Under the assumption that that the ratio of the standard deviation of scores for the treatment group to the standard deviation of scores for the nationally representative sample would be the same for the unstandardized as for the standardized test, it was then a simple matter to compute the needed estimate of the performance (standard deviation) of a nationally representative sample on the unstandardized test.

Once this estimate was calculated, measures of treatment effects obtained from unstandardized tests could be expressed in terms of the same common metric as that devised for use with standardized achievement test scores. To do so required only that the raw score treatment-effect measure be divided by the estimated standard deviation for a nationally representative sample.

Once the common metric was developed, a few additional steps were taken to convert the scores into a form which was both easier to work with and easier to interpret than that which resulted directly from the computational procedures described above. The final common-metric scale has the same range (1 to 99) and midpoint (50) as the percentile scale and has the additional statistically desirable characteristic of possessing equal-interval score values (a characteristic not shared by the percentile scale). Values on the final, transformed scale were given the name, Normal Curve Equivalents (of percentiles) or NCEs. They can be interpreted in much the same way as percentiles since, on the average, one NCE equals one percentile.

After the system was developed conceptually and appeared to meet all of the design objectives set for it, work began on laying out procedures for its implementation. Preliminary forms were developed for recording, analyzing, and reporting data on participation, expenditures, personnel and training, Parent Advisory Councils, and impact. Detailed instructions were also prepared to facilitate filling out the forms correctly and consistently.

Separate sets of forms and instructions were developed for use at the project level, the LEA level, and the SEA level. Separate forms and instructions were also prepared for each of the three evaluation models and for the variations which enabled two of the models to be implemented with unstandardized as well as with standardized tests.

The preliminary forms and instructions were reviewed by representatives of USOE and the project's Policy Advisory Panel, and revisions were made in accordance with their recommendations. The system was then taken to nine SEAs selected to represent different evaluation situations and approaches. The system was presented and explained in detail to appro-

priate SEA personnel, and their comments and suggestions were solicited. A second revision was made to the system after the comments and suggestions received from the nine SEAs were reviewed by USOE and Advisory Panel personnel.

Summary and Conclusions

Analyses were conducted of (a) the information needs of educational policy makers regarding ESEA Title I operations and impact and (b) the willingness and ability of educational agencies at different levels to provide reliable, valid, and consistently formatted data relevant to these needs. Based on these analyses, design characteristics were established for a new Title I evaluation and reporting system which would meet as many of the expressed information needs of the policy makers as possible within the constraints stated or implied by the agencies who would provide the data. Additional system design requirements were derived from technical considerations relating to education measurement and evaluation design.

An evaluation and reporting system was developed which appeared to meet all of the design objectives established for it. It includes standardized forms and procedures for reporting information on participation, expenditures, personnel and training, and Parent Advisory Councils. It also provides three evaluation designs, two of which can be implemented with either standardized or unstandardized test instruments, which will yield valid and comparable impact data. Finally, it incorporates a method for expressing all impact data in terms of a common metric thus enabling the aggregation of information across schools, districts, and states while allowing freedom of choice at all levels as to the evaluation design and test instrument to be used.

The evaluation and reporting system was presented to appropriate personnel in nine State Departments of Education and to an Advisory Panel representing additional SEAs, LEAs, and other groups concerned with Title I evaluation. While many comments and suggestions for revision were received, it appeared in general that attitudes toward the system were very favorable. Several SEAs expressed an eagerness to adopt the system immediately and nearly all wanted to participate in a field test of the system which may

be undertaken in the future. These reactions were substantially more positive than had been anticipated at the beginning of the contract effort and were interpreted as indicators of success in achieving the study's objectives.

A follow-on project has been initiated which will involve, among other things, further refinement of the developed system. Ways of extending its flexibility have been identified, and work is currently in progress to enhance both the utility and the acceptability of the system. At the present time, the prognosis appears excellent both that the system will be widely adopted in the next few years and that its adoption will result in vastly improved Title I evaluation and reporting practices.

I. INTRODUCTION

Since passage of its enacting legislation in 1965, Title I of the Elementary and Secondary Education Act has been the largest federal program providing support for education. Designed to serve educationally disadvantaged children in schools serving economically disadvantaged populations, the program has long been the center of continuing controversy encompassing many technical, political, and even ethical issues.

The often heated debates which have arisen over the Title I program have stimulated many attempts to assemble evaluative information about it. However, as pointed out by Wargo, Tallmadge, Michaels, Lipe, and Morris (1972), all evaluations have had serious methodological deficiencies. Often they have amounted to no more than collections of anecdotal information from which no meaningful inferences could be drawn. The cited report concluded:

> Analysis of all possibly relevant data sources immediately indicated that nationally representative and valid impact data are simply not available and that some data relating to participation and expenditures also suffer from severe limitations [p. 32].

Obviously, the failure of past attempts to obtain adequate evaluation data has not diminished the need for such information. On the contrary, there appears to be an increasing insistence that the program be meaningfully evaluated. The Education Amendments of 1974 (P.L. 93-380), for example, specify that:

> "Sec. 151. (a) The Commissioner shall provide for independent evaluations which describe and measure the impact of programs and projects assisted under this title. Such evaluations may be provided by contract or other arrangements, and all such evaluations shall be made by competent and independent persons, and shall include, whenever possible, opinions obtained from program or project participants about the strengths and weaknesses of such programs or projects.
>
> " (b) The Commissioner shall develop and publish standards for evaluation of program or project effectiveness in achieving the objectives of this title.
>
> " (c) The Commissioner shall, where appropriate, consult with State agencies in order to provide for jointly sponsored

objective evaluation studies of programs and projects assisted under this title within a State.

" (d) The Commissioner shall provide to State educational agencies, models for evaluations of all programs conducted under this title, for their use in carrying out their functions under section 143(a), which shall include uniform procedures and criteria to be utilized by local educational agencies, as well as by the State agency in the evaluation of such programs.

" (e) The Commissioner shall provide such technical and other assistance as may be necessary to State educational agencies to enable them to assist local educational agencies in the development and application of a systematic evaluation of programs in accordance with the models developed by the Commissioner.

" (f) The models developed by the Commissioner shall specify objective criteria which shall be utilized in the evaluation of all programs and shall outline techniques (such as longitudinal studies of children involved in such programs) and methodology (such as the use of tests which yield comparable results) for producing data which are comparable on a statewide and nationwide basis.

The intent of this legislation seems clear--not only with respect to the objective of obtaining good evaluation data, but regarding the manner in which the data should be compiled as well.

While nationwide surveys have been attempted in the past (e.g., USDHEW/OE, 1970; Glass, 1970) they have been particularly unsatisfactory. The two national surveys discussed by Wargo et al. (1972) covered fiscal years 1968 and 1969 and provided meaningful cognitive impact data on only 9% and 7.5% of the population served respectively. These samples, of course, were nonrepresentative of the population as a whole and thus provided no useful picture of overall program effectiveness.

The usefulness of other data sources was also assessed by the Wargo et al. (1972) report which concluded that, "State Title I Annual Evaluation Reports...represented the largest source of potentially useful data available in a set of apparently homogeneous reports [p. 34]." While it was clear from the analyses included in the study that the reports in no way lived up to their potential, there is agreement in many circles that the potential <u>does</u> exist and substantially exceeds that of survey approaches. It was, in fact, the belief that much of this potential could be realized through improvement and standardization of state evaluations and reporting practices which led to initiation of the present study. It was the same

belief, presumably, which led to the specific legislative foundations quoted above. Thus, while the research was initiated prior to the legislative mandate, agreement was high with respect to both objectives and approach.

The objectives of this study were to summarize the overall impact of Title I programs to the extent possible from FY 69-74 State Title I Annual Evaluation Reports, and to design an improved reporting system which would increase the amount and usefulness of data contained in future State Reports. Phases I and II of the research were primarily addressed to the first of these objectives while the third and fourth phases were directed toward the more important latter objective.

The research and development activities of the study were all oriented toward the ultimate objective of achieving meaningful and valid nationwide assessments of Title I impact through optimization of state and local-level reporting systems. In working toward this objective, the reports for 1969-74 were examined and analyzed for trends, and the feasibility of alternative procedures and practices were investigated through direct contact with cognizant SEA personnel. The recommendations and model reporting system resulting from these activities represent a concerted attempt to reflect system output priorities, the practical time and monetary constraints existing at each level of the reporting system, the technical measurement and sampling considerations required for drawing valid inferences, and even the personal preferences of evaluators at all levels to the extent that they can be accommodated without compromising other features of the system.

In the following chapters, the activities of each phase of the study are described in detail. At the end of each section, conclusions and recommendations resulting from that phase of the study are presented, although in many cases these recommendations were revised or dropped at a later point in the study. This report, then, provides a record of all the processes which contributed to the model reporting system, including the particular activities or inputs which resulted in decisions about what types of information should be included in or excluded from the reporting models.

II. PHASE I

Summary of Phase I Tasks

The first phase of this study encompassed six tasks. Most of them closely paralleled analyses undertaken by Wargo and his colleagues (1972) and were, in fact, designed to permit comparison of findings across time periods covered by the two studies. The first task was to analyze the content of the State Title I Reports and entailed tabulating information on program participation, resource allocation, and impact. The goal of this task and the corresponding analyses conducted by Wargo et al. (1972) was to compile whatever useful information the State Reports contained so as to synthesize a nationwide picture of Title I operation and impact.

The first part of this study involved making a content analysis of the State Reports to identify the types of population characteristics which were reported and to determine whether these characteristics could be aggregated across most of the states. The results of the study, however, showed that there were serious discrepancies between the State Reports which precluded the aggregation of information across more than a few states at a time. A similar finding in the earlier study by the American Institutes for Research (AIR) led the authors to conclude:

> In summary, state reports provide only a minimum amount of population characteristic information that is comparable across states and fiscal years. Also, those data that are reported are greatly reduced in value by the confusion as to whether their population counts are duplicated or unduplicated. Finally, as a result of the duplicated/unduplicated count problem, determination of interrelationships between population characteristics and other variables across states are subject to inaccuracies that are indeterminable (Wargo, et al., 1972, p. 35.)

The AIR investigators also examined the breakdowns for expenditures and for the types of evaluation designs and tests used by the states. Their results again showed that the states had few consistent procedures for reporting expenditures and evaluation programs. Hence, the content analysis conducted by AIR revealed that it was not possible to fulfill the national evaluation requirements of Title I because the information contained in most reports could not be aggregated across the states. The content

analysis conducted in conjunction with the present study indicates that the states have not become significantly more consistent in terms of selecting similar population characteristics and evaluation techniques. This conclusion was reached by comparing the data from the last four years with the AIR data.

The second task, evaluating the adequacy and validity of the reported data, also followed the earlier AIR work and made use of the Data Adequacy and Validity Scale employed in that study. The scale was used to assess the representativeness of the evaluation samples described in the reports and to determine the extent to which cognitive benefit information was related to target group characteristics, types of projects, and total or per-pupil costs. The results of the AIR evaluation again showed that there were serious problems concerning the validity of the data reported by most states, and the authors concluded:

> Sampling considerations, unfortunately, were not the only factors limiting the usefulness of reported cognitive data. Variations in experimental design, types of scores reported, and analytical unit (e.g., grade level, project, regular/summer) not only made the pooling of information across states difficult or impossible but, in some cases, actually precluded any meaningful interpretation of the data presented (Wargo, et al., 1972, p. 174.)

The present study involved rating the states' FY 71, 72, 73 and 74 reports and included a trend analysis across the six years covered by the two studies. Again, the more recent reports reflected essentially the same problems as were described by AIR, and there were no identifiable trends toward more valid or consistent evaluation or reporting practices across the years.

The third task was determining whether important policy issues were discussed in the reports. Information about which issues were "important" came from interviews conducted by RMC staff members with key officials in H.E.W. and U.S.O.E. as well as with federal-level legislators and their professional staffs.

There was substantial agreement among the individuals interviewed as to which policy issues were the most relevant. In essence, the major concerns expressed were centered on the necessity of knowing how Title I

funds are being spent, how target groups have been defined, how needs of the groups have been assessed, and whether the treatments have resulted in significant educational gains. The greatest emphasis was placed on the last of these areas and most of the interviewees expressed a felt need for impact data to be presented at the project level.

The Policy Relevance Scale was constructed by listing the important issues and weighting them to reflect their relative importance to the policy makers interviewed. The ratings associated with each listed issue were analyzed in terms of frequency counts and percentages of states which obtained scores at different points on the scale. Comparisons across years were also made. The majority of the reports examined presented little policy-relevant information. The evaluation criteria, however, were developed after the fact and no guidance had been provided to states as to what issues they should address in their reports. Low ratings on the Policy Relevance Scale, therefore, cannot be interpreted as either a disinclination or inability on the part of the states to provide data desired at the federal level.

The final Phase I task was concerned with evaluating the readability of the State Reports. A rating scale was developed which reflected stylistic guidelines from handbooks such as the APA Publication Manual (1974) and Strunk and White's Elements of Style (1959). The eight dimensions included in this scale were designed to assess both the literary style and the thoroughness of the technical descriptions. All available State Reports for FY 71, 72, 73, and 74 were rated on the scale, and reports generally received high ratings.

The content analysis and rating data which are presented in the following chapter were used to identify the major reporting problems which currently exist and which would have to be eliminated in order to produce more meaningful assessments of Title I projects and programs. The analyses led to recommended changes in current evaluation and reporting procedures which were then assessed in terms of acceptability, feasibility, and cost in later phases of the study. It must be pointed out that the analyses described in this following chapter were not used to criticize

previous reporting methods, but rather to improve the quality of future reports. Not only would it have been inappropriate to assess reports in terms of criteria developed after they were written, but also no useful purpose could have been served by any kind of evaluative comparison among reports or states.

Content Analysis

Methods

When the FY 71, 72, 73, and 74 reports were reviewed, operational definitions were made for checklist categories in order to make the content analysis consistent across reviewers. At the time the content of these reports was analyzed, definitions used in the review of FY 69 and 70 reports in the AIR study (1972) were not available. After the analysis of the later reports was complete, a comparison of the data across all five fiscal years indicated that the later review had been done somewhat differently from the review of the FY 69 and 70 reports. A search through the files at AIR produced documents which revealed several differences in analysis techniques and definitions between the AIR review and the RMC review. The most important difference between the reviews was a difference in method. In the present study, credit was given for any data element which could be derived from others through summation or subdivision processes even if the element itself was not presented directly. For example, if a state only reported the number of Title I participants by grade levels but the total number could be calculated by summing across grades, the report was given credit for reporting the total number of participants. This was not done by the AIR reviewers, who only tallied data that were specifically labeled in the reports. This difference in method contributed to an unknown degree to the apparent increase in the reporting of unidimensional breakdowns from FY 69 and 70 to FY 71, 72, 73, and 74 (see Tables 1 through 3.)

In the RMC review, a "program" was defined as a broad area of instruction or service, such as reading, mathematics, health services, or food. A "project" was defined as a unit of one or more such services under a single administration. In the AIR analysis, no attempt was made to adopt uniform definitions, and tallies were made in accordance with the words

used in the reports. Since states used the terms interchangeably, the AIR tallies by program and project are virtually meaningless, and are not comparable to the RMC tallies.

In the current review, the target population and expenditure data were considered as being reported by LEA when the reported breakdown appeared to be by LEA but was not specifically defined as such. In the AIR review, LEA was marked only when the report stated that data were broken down by LEA. This difference probably accounts for the apparent increase in breakdowns by LEA from FY 69 and 70 to FY 71, 72, 73, and 74.

Despite these known differences in methods and definitions between the two analyses, and despite the possibility that unknown differences may also exist, it is possible to draw some conclusions about the content of the reports across the five fiscal years. Overall, the reports probably have changed very little in content.

Results

As can be seen from Table 1, almost every state reported the total population served for each of the six fiscal years. Figures for FY 74 are somewhat lower than those for previous years because several reports from that fiscal year were not available for analysis. (See Appendix A for a list of reports which were analyzed for each fiscal year.) The most common unidimensional breakdowns in FY 71, 72, 73, and 74, as in FY 69 and 70, were public/nonpublic participation, summer/regular year participation, participation by program, and participation by grade level. Although multidimensional breakdowns were used somewhat more frequently in the later reports, no such breakdown was used by more than nine states across all four years.

As with the FY 69 and 70 reports, it was not always possible to determine for FY 71, 72, 73, and 74 whether participating children were counted more than once when they fell within more than one population breakdown. Figures in the reports were sometimes identified as duplicated counts and sometimes as unduplicated counts, but many times the methods used in obtaining the figures were not reported. Thus, for all six years, any

TABLE 1

Number of State Reports Giving Breakdown of Target Population Served by Various Categories for FY 69(N=46), 70(N=45), 71(N=53), 72(N=52), 73(N=52), 74(N=30)

Target Population reported by:	Total Population						Evaluation Sample						Other Sample					
	69	70	71	72	73	74	69	70	71	72	73	74	69	70	71	72	73	74
Geographic Units																		
State	46	43	49	46	47	25					2							
County	4	1		1	4	1			1									
School District	4	3	2	2	2	2	1	1		1	1			1		1	1	
LEA		3	5	4	5													
Other	2			1	2	3												
Public-Nonpublic	44	42	39	33	35	16				1	1	4						
Summer-Regular Year	6	4	21	17	21	12					1	2						
Ethnic Group	5	4	7	10	12	8		1	1	1	2					1		
Urban-Rural	0	1	1	1	1		4	3			1							
Family Income			1					1										
Program	15	14	23	28	28	20	1		2	2	3	1	1	6				
Project	1	3	4	2		1			1	1	1				2	1	2	
Grade Level	16	14	24	23	26	21	4	6	2	1	5	1	2	2				
Grade Band		1	6	7	8	4					1							
Interactions																		
Grade x county	1		1															
Grade x program	3	4	2	3	2	3			2	1	1	1						
Grade x project		1							1	1	1							
Grade x public-nonpublic	8	5	9	14	16	10					1							
Grade x pub/non x sum/reg x prog	1	1	3	3	3	2												
Grade x pub/non x sum/regular	1	2	8	4	4	4												
Grade x pub/non x school district	1																	
Grade x summer/regular	1	2	10	7	6	6												
Grade x urban-rural							1	2										
Program x pub/non x summer/reg	2			1	3													
Program x pub/non x county	1					1												
Program x summer/regular	1		7	10	7	6					1				1			
Public/non x LEA		1	2	2	2													
Public/non x district		1				1												
Public/non x summer/regular		1	5	5	7	3												
Summer/regular x race x county	1																	
Other			18	10	13	5			2	3	4							
No Data		2	1	1		1												

Note. Total population was defined as the total number of children served. The evaluation sample comprised the total number of children for whom impact data were reported. Other samples were nonrepresentative groups such as children in rural schools, those in the northeastern part of the state, etc.

aggregation of population data across states and across fiscal years would be influenced to an undeterminable degree by the mixing of duplicated and unduplicated counts.

As in FY 69 and 70, data on expenditures in the Title I evaluation reports for the four later fiscal years were less complete than those dealing with the population served. A total of 42 reports over the four fiscal years presented no data at all on expenditures (See Table 2). In every case, per-pupil expenditures were reported less frequently than were total expenditures. For total expenditures, breakdowns of expenditures by program and by specific instructional/specific supportive services could be aggregated across 13 and 4 states respectively. Presumably, aggregations could be made across a larger number of states if more 74 reports were available. Breakdowns by regular year/summer expenditures could be aggregated across five states.

Table 3 shows the formats used by states in reporting cognitive benefits resulting from Title I projects. The category "Criterion-referenced Tests" was added for the current analysis. States were tallied in the "All Samples" portion of the table when there was no variation in evaluation designs within the state report. Thus, reports which presented only one sample, even if nonrepresentative, were tallied in this column as well as reports which presented data on a number of samples using the same evaluation design. The "Some Samples" column was used to indicate those reports that presented data based on a variety of evaluation designs.

In FY 70, 71, 72, 73, and 74, a few more states reported cognitive benefit data than did states in 1969. As can be seen, sample characteristics varied greatly among states for all six fiscal years. In a total of 54 reports over the last four fiscal years, the method used in selecting the sample was not reported. It should be noted that in the RMC analysis, one sample often was marked in several categories in an effort to describe the selection process fully. If a state randomly selected certain projects and presented evaluation data for those projects, both "Random Selection" and "Selection by District/Project" would be marked. States frequently indicated that they included data only for projects or districts which had submitted their data before a certain deadline. In this case, "Other Selection Process"

TABLE 2

Number of State Reports Providing Expenditures by Various Categories for FY 69(N=46), 70(N=45), 71(N=50), 72(N=52), 73(N=52), 74(N=30)

ESEA Title I expenditures reported by:	Total						Per-Pupil					
	69	70	71	72	73	74	69	70	71	72	73	74
Geographic Units												
State	25	22	35	38	36	18	15	9	17	16	19	9
County	4	2	3	2	4	1	2					1
School District	6	3	3	3	3	1	2	1		1	1	2
LEA		2	2	3	4	1				2	2	
Other			1		1	2					1	
Program	11	14	20	25	25	13	6	9	7	8		10
Project	2	3	8	4	2	2	1	1	3		1	1
Instructional Services/Supportive Services	15	12	17	18	19	5	1	1	1	2		3
Specific Instructional and Specific Supportive Services	13	12	15	17	20	4	3	3				
Regular Year/Summer	5	7	7	13	11	5	1	4	6	7	6	1
Interactions												
Program x regular year/summer	1	3	4	5	5	6	1	3	1	1	2	1
Program x regular/summer x county	1				1							
Program x instruc/support x reg/summer	1		2	3	1		1					
Program x school district		1										
Specific instruc/support x county	1											
Specific support services x reg/sum	1		1	3	2		1					
Instructional/support services x reg/sum		1	5	5	4	1						1
LEA x regular year/summer		1	1	1								
Elementary/secondary x county		1										
No Data	17	15	13	11	11	7						
Other				1						2	1	1

TABLE 3

Number of States Providing Evaluation Data of Various Types for FY 69, 71, 71, 72, 73, and 74

Evaluation Design	All Samples						Some Samples					
	69	70	71	72	73	74	69	70	71	72	73	74
Pre- & posttest	34	35	40	39	35	19	3	3	9	9	7	5
Posttest with norms	2	1					2	4	2	2		1
Experimental/comparison	2	3	2	1	1		4	2	3	3	3	
Criterion Referenced Tests					1	2					3	2
Data Reported, design not specified	2	1			2	1					4	1
Sample Characteristics												
N given	39	37	42	35	33	20			4	6	8	
Random Selection	4	2	5	5	4	3			1		3	2
Selection by use of same tests	15	13	10	9	6	5	1	1	2	2	1	2
Selection by district/project	6	9	7	5	8	10	2	3	1	3	1	1
Sample of grade levels	6	6		2	2	1	3	1	1	1	1	1
Selection by Program	3	2	5	3	4	3		1			1	
Other selection process	3	3	13	14	13	8			2	3	1	
Data reported, method not given	12	7	17	12	18	7		1	2	2	2	2
Score Breakdowns												
State (no breakdowns)	9	9		1			2	4	1		1	
County			1	1	1							
School District	1	1	5	3	5			1	1	2		1
LEA	1	1	1					2				
Urban-rural	1	1	1		1					1		
Instructional program	5	4	15	16	17	18	2	1	3	5	3	1
Project	5	1	3	2	1	2		1	6	3	3	3
Grade level	24	24	20	20	22	19	6	5	11	11	10	2
Grade band	3	2	1	1	1	4		1	3		2	
Public-nonpublic	1	2	2	3	1	2	1		2	3	2	
City size	1							1				
Regular year/summer	2	4	4	6	6	3	1	1	3	1		
Interactions	3	1	12	11	10				1	5	5	
Other		3	8	7	11	6	1	3	9	10	8	3

TABLE 3 (cont.)

Evaluation Design	All Samples						Some Samples					
	69	70	71	72	73	74	69	70	71	72	73	74
Type of Score Reported												
Raw Scores	4	2	2	2	5	1	5	3	4	9	5	2
Standard scores (K, T, Z)	2	1	1		1		2		1	2	4	3
Stanine		1							1	2	6	1
Percentiles	2	3	6	3	1		3	4	4	5	3	2
Deciles	1	1				1	1			2	1	
Quartiles	11	8	3	2	3	1	2	2	5	2	1	
Grade equivalent	12	9	4	4	2	4	5	6	6	4	5	3
Grade-equivalent gains	14	18	29	29	31	18	6	6	14	13	12	7
Other		6			1	2	3	7	7	3	3	4
Summary Statistics												
Mean	22	25	21	17	24	20	9	3	15	17	14	3
Median	4	2	3	1			2		2	2		
Mode	1	1								1		
Standard deviation	2	5	2		4	2	4	3	4	4	3	1
Percent upward shift	3		15	15	7	3	2		13	14	15	2
Other				1					1	1		
No Data	5	3	2	3	3	1						

was marked. The methods used in the AIR analysis for this section are not known.

Across all six years, states most commonly used a pretest-posttest design, and they usually reported grade-equivalent gain scores for whatever samples were used. The evaluation design matrix used in analyzing the FY 71, 72, 73, and 74 reports shows that the combination of pretest-posttest design with grade-equivalent gain scores was most commonly used within the majority of State Reports (see Table 4). Across all six years, states most frequently broke down scores by grade level. For all six years, scores were most frequently summarized by means, and measures of variability were rarely reported. However, the variety in reporting formats and methods of presentation is inadequately represented here. The length of time between pretest and posttest varied greatly within states. In some instances, gain scores over varying treatment intervals were combined per month; and in still other cases, scores were reported separately for each treatment interval.

As can be seen in Table 5, many different tests were used by the states, although several states provided no information about what tests were used to obtain cognitive benefit data. Even when information on tests was provided, reviewers frequently were unable to determine exactly what test was being referred to, because reports often listed tests by giving incomplete titles. For example, when a report referred to the "Durrell," reviewers were unsure whether the Durrell Analysis of Reading Difficulty, the Durrell Listening Test, the Durrell Silent Speed Reading Test, the Durrell Oral Speed Reading Test, or the Durrell-Sullivan Test of Reading Capacity was meant. In FY 71, 72, 73, and 74, as in FY 69 and 70, when several tests were used within a state, the state sometimes pooled the results of various tests, sometimes reported results for only the more commonly used tests, or occasionally reported results separately for each test used. Across the years 1969 through 1973, the California Achievement Test, the Gates MacGinitie Reading Tests, the Iowa Tests of Basic Skills, the Metropolitan Achievement Test, and the Stanford Achievement Test - or subtests - were most frequently reported. In FY 74, the SRA

TABLE 4

Number of Reports which used Particular Types of Experimental Designs and Test Scores for Fy 71, 72, 73, and 74

	Pre-Post		Post Only	
Fiscal Year 71	Norm ref.	Control	Norm ref.	Control
Raw Scores	2			
Standard Scores				
Stanines				
Centiles, dec., quart.	2			
Grade Equivalents	8			
Raw, Std., Stanine Gain	2			
Centile, dec., quart. Shift	7			
Grade Equiv. Gain	36			
Residual Gain	1			
Criterion ref.				
Fiscal Year 72				
Raw Scores				
Standard Scores				
Stanines				
Centiles, dec., quart.	2			
Grade Equivalents	1			
Raw, Std., Stanine Gain	1			1
Centile, dec., quart. Shift	4			
Grade Equiv. Gain	36			
Residual Gain				
Criterion ref.				
Other not specified	1			
Fiscal Year 73				
Raw Scores				
Standard Scores				
Stanines				
Centiles, dec., quart.	2			
Grade Equivalents	3			
Raw, Std., Stanine Gain	2			
Centile, dec., quart. Shift				
Grade Equiv. Gain	36			
Residual Gain				
Criterion ref.		1	1	
Other not specified	3			
Fiscal Year 74				
Raw Scores				
Standard Scores				
Stanines				
Centiles, dec., quart.	1			
Grade Equivalents	3			
Raw, Std., Stanine Gain				
Centile, dec., quart. shift	2			
Grade Equiv. Gain	24			
Residual Gain	1			
Criterion ref.	1			
Other not specified				

* Only the most commonly used experimental design and test score were recorded for each report.

TABLE 5

Frequency with which Various Standardized Tests were Cited in the State Title I Annual Evaluation Reports Presented by Fiscal Year*

Standardized Test	Fiscal Year					
	69	70	71	72	73	74
California Achievement Test	29	20	17	25	23	7
Comprehensive Test of Basic Skills			5	10	9	2
Durrell-Sullivan Test of Reading Capacity	4	4	5	5	3	2
Gates-MacGinitie Reading Test	16	23	29	26	29	9
Gray Oral Reading Test	6	2	1	3	5	2
Iowa Tests of Basic Skills	21	19	16	19	19	6
Lee-Clark Readiness Test	3		1	2	4	
Metropolitan Achievement Test	18	20	26	29	24	7
Nelson Silent Reading Test			2	5	1	1
Peabody Picture Vocabulary	2	2	1	6	10	6
Sequential Test of Educational Progress			1	1		
SRA Achievement Test	8	8	17	16	14	8
Stanford Achievement Test	29	23	27	26	22	7
Wechsler Intelligence Scale	2		1		1	
Wide Range Achievement Test			6	10	17	9
Other	6	5	38	46	55	30

* As pretests, posttests, or both.

Achievement Test and the Wide Range Achievement Test were also frequently reported. In FY 71, 72, and 73, the tests that were reported most frequently were also reported by many states as being among the most frequently used within the state (see Table 6.) This information was not compiled for FY 69 and 70, and the information for 1974 is too scanty to use in drawing generalizations. The tests shown in Table 5 as being used by several states in FY 71, 72, 73, and 74, and by none in FY 69 and 70, were added to the checklist during the current review and probably were not recorded when the FY 69 and 70 reports were reviewed.

Overall, a comparison of the results of the content analysis across fiscal years suggests that there have not been any significant trends. Chi square tests performed on each of the three sections of the content analysis (target population, expenditures, and evaluation data) for FY 71, 72, and 73 did not reveal any significant differences in the frequency with which various data were reported. These analyses were not performed on FY 74 reports because of the small number of reports available, and because the analyses of earlier reports resulted in no significant differences.

The absence of trends in reporting practices is particularly interesting because a Program Information Memorandum was issued by U.S.O.E. in April, 1971 rescinding all reporting guidelines which had previously been in effect. The fact that the relaxation of requirements produced no noticeable changes in report content can only lead to speculation on a number of issues. One wonders, for example, how closely the guidelines had been followed while in effect. If the states originally adopted only those portions of the guidelines with which they concurred, no changes would be expected. On the other hand, the system may have so much inertia that change, even in desired directions, rarely occurs.

TABLE 6

Standardized Tests Used Most Commonly within States
Presented by Fiscal Year

Standarized Test	Fiscal Year 71	72	73	74
California Achievement Test	11	9	7	3
Comprehensive Test of Basic Skills	3	2	1	3
Durrell-Sullivan Test of Reading Capacity			1	
Gates-MacGinitie Reading Test	17	16	16	5
Gray Oral Reading Test			1	
Iowa Tests of Basic Skills	10	9	7	
Lee-Clark Readiness Test				
Metropolitan Achievement Test	14	17	13	4
Nelson Silent Reading Test				
Peabody Picture Vocabulary		1		
Sequential Test of Educational Progress				
SRA Achievement Test	6	3		
Stanford Achievement Test	17	11	13	4
Wechsler Intelligence Scale	1			
Wide Range Achievement Test	1	1	3	1

* As pretests, posttests, or both.

Data Adequacy, Policy Relevance, and Readability Ratings

In addition to the content analyses described in the previous chapter, the work statement for Contract OEC-0-74-9182 called for the rating of FY 71, 72, 73, and 74 State Title I Annual Evaluation Reports in terms of their readability and policy relevance, and the quality (representativeness and validity) of the data they contained. Again, this activity was closely related to the previous AIR work (Wargo, et. al., 1972) and made use, in fact, of the Scale of Adequacy and Validity of Reported Data developed by AIR. A copy of this scale is presented in Appendix B along with instructions for its use. Comparable scales for Readability and Policy Relevance (see Appendices C and D) were developed by the RMC project staff.

Before discussing the RMC-developed scales, it is appropriate to summarize the features of the Data Adequacy Scale. The areas measured by the scale included the representativeness of the sample used to evaluate program success, the validity of the experimental design, and whether specific types of information were presented concerning the target groups, program, and costs. The range of the total scale was 0.0 to 7.6.

The first portion of the scale is concerned with cognitive benefit information. Full credit was earned when achievement data were presented for all students served or for a representative sample.

The scale had anchor points corresponding to samples which were judged "probably not biased" and "probably biased." There was also an anchor point midway between these points which corresponded essentially to a "can't tell" situation. The number of points which could be obtained for the "Representativeness of the Sample" was from 0.0 to 2.0.

Once a sample rating was determined, it was adjusted according to the type and quality of the data presented. Points were subtracted for such deficiences as not presenting both pre- and posttest scores,

not reporting standard deviations, etc.. The adjusted rating was named the "Cognitive Benefit" portion of the scale (points could range from 0.0 to 2.0).

Target Group, Program, and Cost Information categories provided add-ons to the Cognitive Benefit scores, and the scores in each category were doubled if: (a) a score of 0.7 or more was obtained on the Cognitive Benefit dimension, and (b) the data contained in the categories were integrated with the cognitive data used to measure program outcomes. The Total Data Adequacy score was based upon adding the points obtained on this portion of the scale to the Cognitive Benefit score.

Development of the Policy Relevance and Readability Scales

The Policy Relevance Scale was intended to reflect the current concerns of educational policy makers and legislators in accordance with the assumption that one of the main purposes served by the state reporting system is to provide these individuals with the information they need for the effective execution of their responsibilities. For this reason, interviews were set up and conducted by members of the RMC staff with key personnel selected by U.S.O.E.

The Title I staff was interviewed in depth including individual sessions with the Director of Title I, Richard L. Fairley, and members of the Program Support Branch and Program Services Branch of Title I; Paul Miller, William Lobosco, Joseph Vopelak, Velma James, and John Staehle.

Interviews were conducted with other officials in the Office of Education as well. Duane Mattheis, the Acting Executive Deputy Commissioner of Education; Robert Weatherford, Special Assistant to the Commissioner; Robert Wheeler, Deputy Commissioner for School Systems; and John Rodriquez, Associate Commissioner for Compensatory Education contributed their thoughts.

Relevant policy question information was discussed with individuals directly concerned with the formulation of legislation involving Title I. Congressman Victor Veysey was interviewed as well as Christopher

Cross, House Minority Counsel to the Sub-committee on Education; Jean Froelicher, Counsel to the Senate Sub-committee on Education; and Charles Cooke, Deputy Assistant Secretary for Legislation.

Alan Ginsberg of HEW/ASPE; Carl Wisler, Director of the Elementary and Secondary Programs Division (USOE/OPBE); and George Mayeske also of the Elementary and Secondary Programs Division added their insights concerning the policy issues to be considered.

There was a general consensus among the individuals interviewed as to which policy issues were the most relevant. The emphasis in the discussions as well as in the new legislation was on the importance of being able accurately to describe and assess what is occurring at the level of the local Title I project. More specifically, information is desired concerning (1) the manner in which the needs of the children are originally assessed, (2) the number of children involved in a project, (3) the per-pupil expenditure of each project, and (4) evidence of project achievement benefits. In essence, the major concerns expressed were centered on the necessity of knowing how Title I funds are being spent, how target groups have been defined, how needs of the groups have been assessed, and if the treatments have resulted in significant educational gains. Information in this form, presumably, could then be aggregated to reveal state- and nationwide pictures of the impact of Title I.

The number of non-public school children as well as the number of public school children participating in Title I was an issue of interest to many of those interviewed. Further, there was a desire to know if the services received by these two groups are comparable in terms of meeting the needs of these children, not simply on a cost per pupil basis.

Four other issues were mentioned less frequently and would appear to be of secondary interest to those interviewed. First, concern was expressed about the need to have relevant information on the Parent Advisory Councils, i.e., that they do exist, their function, their

membership, etc.. Second, the results of a study mentioned by one interviewee indicated that a positive correlation exists between the number of hours spent in the classroom and the amount of achievement gain. It was therefore suggested that the amount of instructional time and the nature of the time (one-to-one, small group, regular classroom) would be of interest in developing policy. Third, in trying to decide if funding and program efforts should be concentrated at the early grade levels, the elementary grades, or the secondary grade levels in order to achieve maximum benefits, it was mentioned that any information pertaining to the most effective "time of intervention" would be of interest. Fourth, data concerning the availability of other state and federal compensatory education funds within the states would be helpful in deciding whether Title I funds act as an incentive or a hindrance to the development of other compensatory education programs.

After conclusion of the interviews,[1] the issues were listed and then each issue was appropriately weighted to reflect its relative importance to the policy makers interviewed. The result of this procedure was the creation of the Policy Relevance Scale which is attached as Appendix D. The State Title I Reports for the fiscal years 1971, 1972, 1973, and 1974 were subsequently rated with this scale, and the results are presented below.

The other scale developed by the RMC staff was the Readability Scale. It appeared that this type of scale was necessary to determine whether the reports adhered to basic standards related to clear technical descriptions and were organized in a coherent manner. Eight format and stylistic dimensions were identified through review of standard texts on the subject, and point assignments within each dimension were worked out through group con-

[1] Additional interviews were conducted after development of the Policy Relevance Scale. The interviewees were Congressman Albert Quie; John Evans, Assistant Commissioner for Planning, Budgeting and Evaluation; Al Alford, Assistant Commissioner for Legislation; Jack Jennings, House Majority Counsel to the Subcommittee on Education; and Roy Millenson, Counsel to the Senate Subcommittee on Education. In general, the comments of these interviewees were in close agreement with those described above.

census. Six different versions of the scale were developed before it was generally felt that ambiguities had been removed and adequate between-rater agreement could be achieved.

Interrater Reliability

The rating of reports was accomplished by four members of the project staff. Each rater worked with several reports and discussed questions with other raters before the formal rating process began. At that time a random sample of 30 reports was selected for the purpose of assessing interrater reliability.

In the most commonly encountered rating situation, two or more raters rate a set of entities. The extent of their agreement is typically measured in terms of a coefficient of correlation and, if it is adequately high, ratings for each entity are subsequently determined by pooling the values assigned by the individual raters. This procedure is entirely suitable for the situation where all raters rate all entities. In the case of the State Reports, however, it was clear from both the number of reports to be rated and the length of time required to rate each report that the rating task would have to be shared. It would not be possible for any rater to rate all reports within the existing time constraints.

Under these conditions, the reliability issue becomes more complex and it is necessary to demonstrate not only agreement with respect to the relative ratings assigned to different entities but with respect to the absolute values of these ratings as well. This type of agreement cannot be measured using correlation techniques. An analysis of variance technique was therefore adopted.

The first analysis of variance was computed after 12 reports had been independently rated by each of the four raters. The results are presented in Table 7 which shows statistically significant differences among raters, among states, and among scales; and significant rater-by-scales and states-by-scales interactions.

The difference among states was to be expected and simply reflected real differences in the quality of different reports. Similarly, the

TABLE 7

Analysis of Variance Performed on Data from Twelve States
(Ratings by Individuals)

Source	SS	df	MS	F
Raters (A)	13.37	3	4.46	5.79*
States (B)	162.16	11	14.74	19.14*
Scales (C)	1450.05	3	483.35	627.73*
A x B	29.76	33	0.90	1.17
A x C	41.53	9	4.61	5.99*
B x C	107.60	33	3.26	4.23*
A x B x C	76.10	99	0.77	

* $p < .01$

among-scales difference simply reflected the fact that the scales were scored differently and had different ranges of possible scores. The among-raters difference and the raters-by-scales interaction, on the other hand, signified that different raters did, in fact, employ different rating strategies or criteria.

Visual inspection of the rating data revealed that there appeared to be two distinct patterns of ratings, each reflected in the values assigned by two of the raters. Thus, it appeared that two similar "teams" could be formed by pairing the dissimilar raters. The overall difference between pairs was essentially zero and a Chi Square analysis showed no significant deviations from expectations in the matrix of rater-by-scale values. It appeared that, if this pattern held up, it would be possible to allow pairs of raters to rate different reports without compromising the reliability of the ratings. A decision was therefore made to proceed with the remaining 18 reports in the selected sample to determine whether the pairing strategy would continue to be effective.

Table 8 presents the results of the analysis done on the 18 reports

TABLE 8

Analysis of Variance Performed on Data from Eighteen States
(Ratings by Individuals)

Source	SS	df	MS	F
Raters(A)	4.35	3	1.45	1.88
States (B)	318.69	17	18.75	24.35*
Scales (C)	1585.03	3	528.34	686.16*
A x B	72.53	51	1.42	1.84*
A x C	75.56	9	8.40	10.91*
B x C	252.76	51	4.96	6.44*
A x B x C	118.57	153	0.77	

* $p < .01$

which showed that there was no significant difference between raters across the four scales. However, as was the case with the 12 reports, the raters-by-scales and states-by-scales interactions were significant. Unfortunately, the χ^2 tests again revealed that the raters-by-scales interaction was significant even after the raters' scores were paired in the same manner as was previously described. Pairing the raters did, however, as in the twelve-state χ^2 analysis, reduce the size of the interaction substantially. It also eliminated the raters-by-states interaction.

The between-pairs reliability coefficients were calculated for all 30 reports for each of the four scales (the Cognitive Benefit portion of the Data Adequacy Scale was considered separately). The following results were obtained.

Cognitive Benefit	=	.70
Data Adequacy	=	.82
Policy Relevance	=	.76
Readability	=	.82

These reliability results were considered marginal and, in a further attempt to increase reliability, the pairs were asked to re-rate those

reports on which substantial disagreement was observed. The members of each pair were asked to discuss their ratings with one another in order to reach more agreement with respect to certain states. However, no discussions took place between the pairs.

The re-ratings of the reports produced small but meaningful increases in reliability, and the following between-pairs reliabilities were obtained:

Cognitive Benefit	=	.74
Data Adequacy	=	.87
Policy Relevance	=	.83
Readability	=	.89

The "paired," "discussed" ratings for all 30 states were also subjected to an analysis of variance and the results are presented in Table 9.

TABLE 9

Analysis of Variance Performed on Data from Thirty States
(Ratings by Pairs)

Source	SS	df	MS	F
Pairs (A)	0.14	1	0.14	0.14
States (B)	1057.79	29	36.48	37.61*
Scales (C)	6034.44	3	2011.48	2037.69*
A x B	62.43	29	2.15	2.22*
A x C	27.69	3	9.23	9.52*
B x C	786.68	87	9.04	9.32*
A x B x C	84.09	87	0.97	

* $p < .01$

Examination of the pairs-by-scales interaction revealed that the differences between pairs were again significant for the Data Adequacy

and Readability Scales. Because these differences were also found to be remarkably consistent across the 12 and 18 report samples, it was concluded that this particular interaction effect could be effectively countered by using appropriate weightings. Consequently, each of the ratings of the "low" team was increased by an amount equal to the mean difference between the pairs on the 30-report reliability sample. Unfortunately, no similar solution came to mind for dealing the with rater-by-states interaction and this source of variance had to be considered error.

Further avenues for improving inter-rater reliability could not be identified and the decision was made to proceed using the approach just described. Each report was rated by one team whose two members discussed their independently made ratings wherever discrepancies were found. The two ratings of each report were then averaged and those of the lower-rating team were weighted to adjust for the established difference between teams.

Procedures Followed for Rating All of the State Reports

The 157 state reports not included in the reliability sample were assigned to pairs randomly by state in an attempt to maximize the comparability of the analyses of trends from year to year. Where one or two of a state's reports were included in the reliability sample (and thus had been rated by both teams), the ratings of the team assigned the remaining reports of that state were retained and those of the other pair were discarded. There were two instances in which all the reports from a state were included in the reliability sample. In these cases, the pair whose ratings were retained was decided by flipping a coin. This approach appeared to offer the most reasonable method for achieving comparability between the ratings of reports in the reliability sample and those not in it.

After the ratings were completed, discussed by the pairs of raters, and possibly revised based on the discussion, the mean rating of each pair was computed for each scale. Then, weights were used to adjust for the differences between pairs observed on the rating of reports in the reliability sample. The low scoring pair's ratings were increased by 0.7 on the Total Data Adequacy Scale and by 1.1 on the Readability Scale for each

state. The weighting procedure was not used on the Cognitive Benefit and Policy Relevance Scales because the pairs were not significantly different on these scales. The weighted, average ratings were then normalized to eliminate the skewness (piling up of ratings at the low end of the scale) reflected in the original scores and standardized to form an equal-interval scale with a mean of five and a standard deviation of two. This transformation was identical to that performed by AIR and was intended to enable comparison of our results with those obtained by Wargo and his colleagues in the cognitive benefit and data adequacy areas. Unfortunately, ratings by states are not included in the AIR report and it has not been possible to retrieve them from the AIR "archives."

Overall Consistency of Reporting Practices

To assess the overall consistency of reporting practices followed by the states, correlations were calculated between years separately for the cognitive benefit, data adequacy, policy relevance, and readability ratings. These correlations are presented in Table 10. Although most of the correlations were statistically significant, the size of the relationships indicated that there was considerable variation in the quality of individual State Reports from year to year. The correlations between 1972 and 1973 indicated that across all scales the ratings for those years were more alike than those of any other pair of years. The highest correlations were found between 1972 and 1973 on the readability scale and between 1973 and 1974 on the cognitive benefit and total data scales, but even these figures reflected substantial variation between years.

The increases in the correlations on the cognitive benefit and total data scales from 72-73 and 73-74 as compared to 71-72 suggest that the states became more consistent in their reporting procedures. Interestingly enough, the AIR study (Wargo, et al., 1972) found even lower correlations than those listed in Table 10. However, the correlations between 73-74 on the policy relevance and readability scales are quite low. It is possible that these low correlations are due in part to the fact that only 30 FY 74 reports were available at the time of the analysis. To determine

TABLE 10

Correlations and t Tests for Paired Observations
for Yearly Comparisons on the Four Rating Scales[1]

Years	Cognitive Benefit		Total Data		Policy Relevance		Readability	
	r	t	r	t	r	t	r	t
71-72 (n=51)	.61**	0.88	.72**	-1.98	.57**	0.07	.69**	-1.91
71-73 (n=50)	.26	-0.73	.44**	-1.91	.32*	-1.19	.58**	-4.28**
71-74 (n=27)	.04	-2.10*	.28	-2.25*	.06	-1.70	.28	-3.42**
72-73 (n=49)	.64**	-0.77	.67**	-0.46	.69**	-1.74	.78**	-2.79**
72-74 (n=27)	.61**	-2.54*	.48*	-1.66	.21	-2.68*	.22	-2.51*
73-74 (n=28)	.77**	-2.09*	.85**	-1.17	-.22	-7.21**	.54**	-3.42**

* $p < .05$, two-tailed

** $p < .01$, two-tailed

1. The formula used for making the t tests for paired observations was:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2 + s_2^2 - 2r_{12}s_1s_2}{N - 1}}}$$

whether the variations in reporting quality were random or reflected systematic trends from year to year, t tests were calculated between years using the same rating data. The obtained t ratios are also presented in Table 10.

The negative t values in Table 10 indicate higher mean ratings for the more recent of the two years being compared than for the earlier year. Since all of the ts were negative, there appears to be a trend toward improved reporting practices. Thirteen of the ts were statistically significant, most of them reflecting comparisons of 1974 with the preceding years. Again, this may be due to the small number of 74 reports available rather than to a systematic trend.

Cognitive Benefit Scale. The cognitive benefit portion of the Data Adequacy Scale was designed to measure whether adequate sampling procedures were followed in selecting the children who were tested, and the number of points on the scale ranged from 0.0 to 2.0. The median ratings obtained for the years 1971, 72, 73, and 74 were 0.7, 0.8, 0.6, and 0.7 respectively. Thus, most of the reports were judged inadequate with respect to sampling and the majority of the ratings fell into the "Biased", "Probably Biased", and "Possibly Biased" categories (See Table 11). However, it must be emphasized that no guidelines for selecting samples had been provided to the states, nor had it been suggested to them that samples should be representative. Clearly, however, guidance with respect to sampling will be required if future reports are to provide a valid indication of Title I impact.

Table 11 shows that the major changes which occurred between 1971 and 1974 were in the "Probably Biased" and "Probably Representative" categories, as indicated by a 22-point decrease in the first category and a 15-point increase in the second. In addition, 92, 85, 83, and 74 percent respectively of the ratings for these four years were in categories which ranged from "No Cognitive Benefit Data" to "Possibly Biased." Only 8, 15, 17, and 26 percent of the states appear to have used representative samples.

Table 12 compares the percentage of states which reported on samples

TABLE 11

Percentages and Median Ratings of Reports in Each Cognitive Benefit Category

	No Cognitive Benefit Data 0.0	Biased 0.1-0.4		Probably Biased 0.5-0.9		Possibly Biased 1.0-1.4		Probably Representative 1.5-1.9		Representative 2.0
Years	%	%	Mdn	%	Mdn	%	Mdn	%	Mdn	%
1971	2	19	0.3	45	0.6	26	1.0	8	1.7	0
1972	12	13	0.3	37	0.7	23	1.1	15	1.7	0
1973	8	8	0.3	42	0.7	25	1.0	11	1.7	6
1974	7	3	0.1	23	0.7	40	1.1	23	1.7	3

TABLE 12

Percentage of States which Selected either Biased or Representative Samples

Years	No Cognitive Benefit Data	Certainly to Probably Biased	Probably to Probably Biased	Possibly Biased to Representative
1969 and 70* (n=91)	9	40	25	26
1971-1974 (n=187)	7	17	46	30

* From (Wargo, 1972)

ranging from "Certainly Biased" to "Representative" in 1969 and 70 (from Wargo, et al., 1972) with those from 1971, 72, 73, and 74. Although the percentage shifts in Table 12 indicate that the 1971-74 reports had relatively fewer "Certainly to Probably Biased" samples than did the 1969-70 reports, the percentage of reports which were based upon representative samples did not show a comparable improvement. It appeared that there was some improvement in the more recent samples but the improved level was still far below minimally acceptable standards.

Clearly, consistent and representative sampling procedures were not used by most of the states. Whether this deficiency can be attributed to the absence of specific guidelines concerning valid sampling procedures still must be determined. It seems likely, however, that there will be difficulties associated with gathering adequate evaluation samples which will not be removed by the simple provision of guidance.

Policy Relevance Scale. The median ratings and ranges for the Policy Relevance Scale "Total Score" are presented in Table 13. Table 14 shows the frequency distributions of scores for the five issues felt by the educational policy makers interviewed to be the most significant. Clearly, most of the states obtained low scores on these issues. It is interesting to note that the highest ratings occurred in the Achievement Benefit area with the Resource Allocation area second. The Public/Nonpublic participation issue was very inadequately covered while most states also received ratings in the lowest range on the Parent Advisory Council and Needs Assessment issues.

It can be seen that the ratings were quite low with even the highest rated report earning slightly over half of the maximum possible score. Again, however, it should be emphasized that these ratings were made in a post hoc manner, i.e., the scale was developed and used to rate reports which had been written without any relevant guidelines. For this reason, the ratings in no way reflect either the willingness or the ability of the states to address the issues and thus, comparisons among states are not meaningful.

TABLE 13

Median and Range of Ratings on the Policy Relevance Scale (Raw Scores) Presented by Fiscal Year

	1971	1972	1973	1974
Median	5.2	4.9	5.5	6.4
Range	1.6-8.5	0.8-8.8	0.5-10.4	2.5-9.0

TABLE 14

Percentage of Reports which Obtained Ratings within each Policy Issue

Policy Issues	Rating Categories				
	0.0-0.9	1.0-1.9	2.0-2.9	3.0-3.9	4.0
Achievement Benefit Information					
1971	11	42	43	4	0
1972	17	35	46	0	2
1973	11	29	58	2	0
1974	7	10	70	10	3
0 = No achievement data[1]					
4 = Achievement test data; pre, post, and gain by project and aggregated across state[2]					
Needs Assessment					
1971	79	11	8	2	0
1972	75	19	6	0	0
1973	84	6	6	4	0
1974	57	30	10	3	0
0 = No needs assessment data					
4 = Project level descriptions of needs assessment procedures and results plus statewide summary					
Resource Allocation					
1971	38	25	38	0	0
1972	31	23	42	4	0
1973	31	23	42	4	0
1974	33	13	53	0	0
0 = No data on expenditures					
3 = Project level breakdown of expenditures by service area and statewide aggregation					

TABLE 14 (cont.)

Policy Issues	Rating Categories				
	0.0-0.9	1.0-1.9	2.0-2.9	3.0-3.9	4.0
Public/Nonpublic					
1971	94	6	0	0	0
1972	94	6	0	0	0
1973	94	6	0	0	0
1974	93	7	0	0	0

0 = No breakdown
2 = Breakdown of expenditures and number of participants by county plus statewide aggregation

Parent Advisory Councils					
1971	85	15	0	0	0
1972	81	19	0	0	0
1973	77	23	0	0	0
1974	63	37	0	0	0

0 = No information
2 = School or district level descriptions of PAC membership composition, activities, and achievements plus statewide summary

1. Number of points for lowest rating.

2. Number of points for higest rating.

Readability Scale. The analysis of the readability scale was confined to the total score for each state. Since there was a high correlation among the rating elements, a breakdown by elements did not appear to be useful. The total readability score seemed to reflect the overall quality of the reports as well as frequency counts of ratings on individual elements. A high total score on this scale usually indicated high ratings in categories concerned with the abstract, organization, integration, writing style, technical presentation, tables and figures, summary, and copying. It should be noted that the readability ratings were substantially higher than the ratings on the other scales. This fact would seem to suggest that, where guidelines are generally known, reporting quality is high.

The data shown in Table 15 reveal that a slight increase in the readability ratings occurred between 1972 and 1973 and between 1973 and 1974. The increase between 1973 and 1974 does not appear to be caused by selective attrition factors, since the states for which 1974 reports were unavailable included almost an equal number of low and high 1973 ratings.

TABLE 15

Median and Range of Ratings on the Readability Scale Presented by Fiscal Year

	1971	1972	1973	1974
Median	7.2	7.2	8.0	8.7
Range	3.2-10.7	2.0-11.0	4.1-10.2	5.8-10.5

Conclusions and Recommendations

This chapter has described the analyses which were undertaken during Phase I of the four-phase study as well as the findings which resulted from them. While the findings may be interpreted in several different contexts, it should be kept in mind that the primary purpose of the Phase I effort was to assess the current state-of-the-art in Title I evaluation reporting for the purpose of generating reasonable recommendations for improved evaluation and reporting practices.

The standards for evaluating the reports were (a) a Policy Relevance Scale developed on the basis of interviews with carefully selected, federal-level, educational policy makers, (b) a Data Adequacy Scale developed to reflect technical considerations affecting the meaningfulness and interpretability of statistical information contained in the reports, and (c) a Readability Scale designed to reflect well-accepted principles of expository presentation. A content analysis was also undertaken in Phase I and provides an additional basis for evaluation when actual content is compared against the expressed desires of the policy makers who were interviewed.

It was clear, long before the formal analysis was completed, that the typical State Title I Annual Evaluation Report falls far short of the ideal. A substantial number of the reports which were examined contained no data which could be aggregated, and the sum total of the reports could not be used to synthesize a national-level assessment of Title I effectiveness. These findings, however, came as no surprise.

Consideration of the quality of the average report also provided little insight as to what kind and how much improvement it might be possible to effect through education, guidelines, or even sanctions. The formal analyses described in previous sections of this report were of little value in seeking answers to these questions. Some insights, however, could be obtained from individual reports. A few states provided reasonably representative and interpretable statistical data for at least one of the three years. Also, all of the policy issues were addressed completely by one or more of the reports. And many of the reports were

quite well written. These observations made it clear that the standards against which the reports were assessed are not unattainable individually -- although in aggregate they may be.

In general, it appeared that those states whose reports contained the best statistical data were those which had standardized evaluation and reporting practices on a statewide basis. Where this situation prevails, of course, it is possible for the State Department of Education to aggregate the reports they receive from the LEAs with a minimum of difficulty. Where states provide no guidelines, they are often faced with the impossible task of aggregating such incompatible information as average monthly gains reported by some LEAs with quartile shifts reported by others.

Clearly it is desirable to allow the LEAs some flexibility in the choice of their own evaluation and reporting practices. Furthermore, whatever standardized practices are adopted must be acceptable and useful to the LEAs. Unless some standardization is effected, however, there is little hope that State Reports will ever be useful for obtaining a national-level assessment of Title I impact. The standardization must, of course, be accomplished across as well as within states, and this need may constitute the most difficult obstacle to be overcome in achieving the study's objectives.

It follows from the preceding paragraphs that there appears to be no theoretical barrier preventing State Title I Annual Evaluation Reports from including coverage of the desired content areas and presenting the desired information in a standardized format which would enable aggregation across states. The problems with achieving these goals stem from practical rather than theoretical considerations and the analyses conducted to date are of little help in trying to determine how closely the objectives can be approximated. Compromises will be required, but it seems possible to achieve a suitable tradeoff between the amount of information presented and the quality of the data so that whatever is contained in future reports will be both meaningful within states and suitable for aggregation across states.

One problem area where no compromise appears workable is that of assessing and reporting cognitive achievement benefits. As shown by the content analysis, the great majority of cognitive benefit assessments have been based on norm-referenced comparisons and reported in terms of grade-equivalent scores or grade-equivalent gains. These characteristics probably invalidate all such evaluations. Work done by RMC in conjunction with another project (Tallmadge & Horst, 1974; Horst, Tallmadge, & Wood, 1975) has demonstrated convincingly that grade-equivalent scores cannot provide valid gain indices when used in norm-referenced evaluation models and that the valid use of such models imposes stringent requirements on testing times and the use of normative data which are generally not known or recognized. SEAs and LEAs must be taught the pitfalls associated with the models they are currently using and must be convinced of the necessity of using valid designs such as those presented in Horst, et al. (1974).

III. PHASE II

Summary of Phase II Tasks

As the first task of Phase II, each State Report for FY 71, 72, 73, and 74 was re-read by one of the staff members responsible for the Phase I ratings, and the contents were described in the form of a critical summary. Each critical summary included a description of the following topics: participation, expenditures, cognitive impact, needs assessment, and Parent Advisory Councils, as well as the general readability of the report. If the report contained no information on a topic, this fact was noted in the summary. The critical summaries also included the standardized scores each report received on the Cognitive Benefit, Data Adequacy, Policy Relevance, and Readability Scales completed in Phase I.

While these ratings provided a quantified numerical evaluation of the reports, the critical summaries provided a more detailed narrative description and assessment of the same material. In essence, the critical summaries pointed out the strengths and weaknesses of each report. They also illustrated the review process each report underwent during the ratings in Phase I. An example of a typical critical summary and a more detailed explanation of their exact content are given in the next chapter.

The second and third tasks of Phase II involved the extraction and aggregation of data from the state reports that related to resource allocation, participation, and cognitive achievement. Information relevant to needs assessment and Parent Advisory Councils was also excerpted. Not all states reported information on each of these categories, and those that did often employed different summarizing formats precluding the aggregation of more than a few states at a time. The aggregates of useable data are clearly not representative of the entire nation; however, in most cases, the data are representative of the states reporting them.

It should not be assumed that reports containing data which could be aggregated were superior to reports which had adopted other reporting formats. In fact, the existence of common formats appeared to be more coinci-

dental than the result of any conscious effort either to optimize the usefulness of the data presented or to achieve comparability.

A larger number of states contributed comparable data to the category of participation than to resource allocation. The greatest difficulty in finding comparable data across the states was in the area of program impact. Before aggregation was possible, a state's impact data had to be based on a representative sample of children and had to share the format of another state.

A description of the reliability and validity standards required of the data in each category and the methodology involved in making the aggregations are discussed in later chapters of the report along with the aggregations themselves.

The final Phase II task was the analysis of within-year and across-year program trends. As far as possible, the aggregations in the present study were designed to permit comparison with those in Wargo, Tallmadge, Michaels, Lipe, and Morris (1972) and thus enable the trend analysis to encompass FY 69-70 as well as FY 71-74. In some cases, however, the methodology used by Wargo, et al. (1972) was incompatible with the objectives of the present study, and discrepancies occurred that limited the number of generalizations that could be made across the six years. Specific differences in procedures are discussed at relevant places in later chapters.

Each trend analysis, regardless of category, was also limited in that it was based on a non-representative sample of states. It could not be concluded that the observed trends existed on a national, or even a regional level. Despite these drawbacks, some trends within each category were identified and they are discussed in the report.

Critical Summaries

During the second phase of the project, a critical summary of each State Title I Annual Evaluation Report was prepared by one of the staff members responsible for rating the report during Phase I. These summaries briefly discussed the reports' readability and described the contents of the reports related to issues of target population, resource allocation, cognitive impact, needs assessment, nonpublic participation, and Parent Advisory Councils. Topics covered by the three rating scales (Data Adequacy, Policy Relevance, and Readability) used earlier in the project were summarized, as were aspects of data presentations which were not included in the rating scales but which were relevant to the aggregation of data across states.

Preparation of the critical summaries required a closer inspection of the reports than had been necessary during Phase I of the project. In each report, all data on each topic were examined and compared in an effort to determine their reliability and validity. For example, if several different breakdowns of target population or resource allocation data resulted in different totals, this contradiction was reported in the critical summary and an attempt was made to discover an explanation for the discrepancy. Wherever possible, the critical summaries also discriminated between duplicated and unduplicated counts of participants and between reports of allocations and of actual expenditures. Patterns of reporting participation and resource allocation data, and additional information which could be computed from data in the reports were also discussed.

Cognitive impact data in the State Reports were described in terms of the sample of students for whom data were presented and the "representativeness" rating this sample received on the Data Adequacy scale. This rating was considered particularly important since unrepresentative samples could not be included in aggregations across states. Samples which received ratings below the level of "possibly biased" were not considered suitable for inclusion in an aggregation. Impact data were

also examined for deficiencies which were not covered by the rating scale, such as the inclusion of different students in pretest and posttest data, or the mixing of summer term data (having very short pre- to posttest intervals) with regular term data. The methods of presenting impact data and the amount of explanatory material accompanying the data were also considered in writing this section of the summary. The types of scores reported, breakdowns used, and any analyses presented were discussed, as well as whether or not tests and testing times were reported.

The critical summaries also described any information the reports presented on the methods and outcomes of needs assessments, on the membership and activities of Parent Advisory Councils, and on nonpublic school participation in Title I. Additional policy-relevant topics which were discussed briefly if they appeared in the reports were comparability, Title I instructional time per pupil, time of Title I intervention, integration of Title I with other compensatory programs, and the administrative activities of the SEA.

The final topic of the critical summary was the readability of the State Reports. In this section the reviewers attempted to point out any difficulties they encountered in reading the report or in extracting data from it, and briefly to explain any factors which significantly influenced the report's score on the Readability scale. The critical summaries also included, at the beginning, each report's normalized, standardized score on each of four scales: Cognitive Benefit, Total Data Adequacy, Policy Relevance, and Readability.

Each State Title I Coordinator received a copy of the critical summaries of his or her state's reports at the beginning of Phase III of this project. The summaries were accompanied by an explanatory letter which also prepared these officials for the telephone calls they were to receive from project staff during Phase III.

A sample critical summary follows on the next page. This is not a summary of an actual State Report, but is a compilation of ratings and descriptive sections taken from the critical summaries of several different reports. It illustrates the basic intent of all the Critical Summaries, which is to describe specific characteristics of the Title I evaluation report for that year, to state the report's problems in such a way that suggested improvements are obvious, and to mention the report's strong points in such a way that the practices are incorporated into future reports.

Critical Summary

CALISSIPPI

FY 72

Ratings

Cognitive Benefit: 3.6 out of a possible 10
Total Data: 5.8 out of a possible 10
Policy Relevance: 6.3 out of a possible 10
Readability: 7.6 out of a possible 10

Target population

The report provides an unduplicated statewide count of participating students in a breakdown of public/nonpublic by regular year/summer/after hours. Figures in this breakdown can be summed to produce what is presumably an unduplicated total. Breakdowns by instructional program, grade level, and county are also presented. Ten exemplary projects are also described, and numbers of students participating in each of these projects are given. No information is provided on numbers of Title I eligible students who were not served.

Expenditures

The total amounts of money granted to the LEA's for each year since 1965-1966 are reported. Per-pupil expenditures are presented for some selected projects in language arts.

Impact data

Impact data are reported for 25 reading projects which represent a 15% sample. The method used for sample selection is not clear; however, the report states that a review of the sample revealed a wide and representative range of project objectives, sizes, locations, and expenditures. The sample was rated "probably to possibly biased," and the data were not aggregated. Results are presented by project, and include information on project cost, number of students, cost per pupil, and number of

students scoring in each quartile on the pre- and posttest. The numbers of students taking the pre- and posttests do not match, however, and this indicates that systematic biases may have been introduced into the data. There is no information on tests or test intervals.

Needs assessment

The report contains a discussion of needs assessed by the statewide testing program. No information is reported on local assessments.

Public/Nonpublic participation

Nonpublic participation and total and per-pupil expenditures for non-public school participants are reported by grade band and school session.

Parent Advisory Councils

The membership composition of PAC's and PAC activities are reported in a statewide summary.

Readability

The report is well organized and written in a clear and unambiguous manner. Most tables are easily readable. Statements summarizing the major findings included at the end of the report provide a good overview for the reader.

Participation

State Title I Annual Evaluation Reports presented participation data which were more comprehensive and reliable than data on resource allocation and cognitive impact. The major problem associated with the aggregation of participation data was in dealing with duplicated versus unduplicated counts. Unduplicated counts of Title I participants are desirable for total state participation and grade level breakdowns, while an accurate picture of participation by program requires a duplicated count. Some State Reports gave duplicated counts in both instances. In a number of State Reports, the figures were not labeled duplicated or unduplicated, and it was difficult to determine how they were derived. In Wargo, et al., (1972) there was no distinction made between duplicated and unduplicated counts for the FY 69 and FY 70 participation data. Here, there is an indication for each breakdown whether duplicated or unduplicated counts were used. Because of this difference in aggregation procedures, conclusions that can be drawn from participation data across the years 1969 through 1974 are limited.

The State Reports contain participation data that are not included in this report since only those data that were presented in a format shared by several states could be aggregated. Data were not aggregated from State Reports that contained information on regular year participation only.

Table 16 presents the total Title I participation by state for fiscal years 1969 through 1974. The 1969 and 1970 figures, which have been taken from the Wargo, et al., 1972 report, include migratory and institutionalized participants, and are usually based upon duplicated counts of children. The figures for 1971 through 1974 exclude migrants and institutionalized children, and are based on counts clearly labeled unduplicated or counts which could be presumed unduplicated. A footnote indicates each of those cases in which it was not clear from the State Report whether the count was duplicated or unduplicated.

For all six fiscal years, there are large differences in participation among states. For FY 70 and 71, Nevada had the smallest number of Title I participants, while New York had the largest. In

TABLE 16

Pupil Participation in Title I Presented by State and Fiscal Year

State or Territory	FY 69	FY 70	FY 71	FY 72	FY 73	FY 74
Alabama	664,271	777,634	DNA	DNA	DNA	DNA
Alaska	12,463	16,777	17,321[1,3]	3,106[1]	4,400[1]	RNA
Arizona	103,294	61,930	49,744	44,272	37,983	36,220
Arkansas	149,616	154,524	158,223	124,599	96,317	72,312[1,4]
California	251,311	223,723	258,221	314,281	343,627	596,921
Colorado	53,355	38,600	37,840[2]	39,513	46,819	42,784[1]
Connecticut	33,579	41,505	41,207	41,622	39,610	40,654
Delaware	10,313	RNA	6,685	6,787	6,988	7,444
Wash. D. C.	RNA	DNA	DNA	DNA	DNA	DNA
Florida	197,523	107,496	46,517	97,713[1]	DNA	82,127
Georgia	204,024	RNA	182,148	158,904	131,107	115,771
Hawaii	8,891	7,874	DNA	DNA	7,966[1]	RNA
Idaho	34,742	38,592	44,965	33,200	17,226	20,396
Illinois	201,533	RNA	242,788[3]	148,844	138,513	134,711
Indiana	154,493	123,847	120,438	122,826	136,468	119,507[4]
Iowa	95,547	114,084	85,007[1]	78,330[1]	67,905	RNA
Kansas	64,481	69,299	63,189	51,643	41,336	RNA
Kentucky	DNA	DNA	DNA	RNA	238,122	DNA
Louisiana	228,030	157,949	163,283	145,988	120,302	RNA
Maine	38,115	33,459	DNA	31,316	RNA	27,727
Maryland	RNA	56,781	87,385	68,944	DNA	RNA
Massachusetts	103,071	69,824	68,985	75,886	65,114	RNA
Michigan	147,452	110,706	132,954	168,125[1]	DNA	RNA
Minnesota	55,500	RNA	55,138	DNA	DNA	RNA
Mississippi	266,190	318,424	198,385[1]	202,235[1]	183,917[1]	147,886
Missouri	128,878	119,767	102,724[1]	86,367	80,943	72,155
Montana	12,081	7,420	8,441	10,213[1]	7,905	RNA
Nebraska	38,758	78,229	68,498	52,921	38,524	41,758
Nevada	1,958	1,329	1,443[3]	2,839[1]	1,903	RNA
New Hampshire	DNA	DNA	6,508[1]	3,006[1]	DNA	RNA
New Jersey	133,149	78,303	86,524	93,926	88,694	RNA
New Mexico	50,228	51,064	54,041[1]	30,802[1]	22,860[1]	RNA
New York	DNA	DNA	944,766	435,955	RNA	RNA
N. Carolina	273,386	260,582	263,908	225,595	173,043	RNA
N. Dakota	63,875	49,036	38,784	27,432	23,998	23,998
Ohio	165,047	159,239	140,261[1]	132,928[1,4]	123,340	122,629
Oklahoma	166,852	RNA	156,712[1]	90,646	DNA	DNA
Oregon	32,494	34,445	42,254	37,521[2]	44,007	RNA
Pennsylvania	298,178	265,556	DNA	339,567[2]	334,580[2]	DNA
Rhode Island	16,705	16,843	15,993	12,805	17,604[1]	RNA
S. Carolina	320,128	313,111	256,157	165,393	152,613	121,370
S. Dakota	36,865	35,396	37,604	30,882	22,467	22,551
Tennessee	222,877	DNA	223,778[1]	169,651[1]	161,736	RNA
Texas	RNA	467,838	227,248[1]	429,257[1]	392,317[1]	368,646
Utah	12,902	10,796	14,786[1]	12,284[1]	RNA	RNA
Vermont	14,471	14,239	13,937	13,908	14,293[5]	9,500[2]
Virginia	148,310	142,416	130,667	129,070	136,257	118,100
Washington	62,491	72,054	63,103[1]	56,028[1]	DNA	RNA
W. Virginia	95,493	88,871	83,572	68,620	49,049	RNA
Wisconsin	65,667	63,101	57,855	57,174	54,799	RNA
Wyoming	20,912	16,289	10,298	9,289	8,289	RNA
American Samoa	DNA	DNA	RNA	DNA	1,360	1,700
BIA	DNA	DNA	DNA	DNA	22,180	25,328
Guam	7,388	5,517	RNA	RNA	1,430	DNA
Puerto Rico	RNA	679,437	220,585[6]	RNA	RNA	RNA
Virgin Islands	RNA	RNA	RNA	RNA	RNA	DNA
Range	1,958 - 664,271	1,329 - 777,634	1,443 - 944,766	2,839 - 435,955	1,360 - 392,317	1,700 - 596,921
Number Reporting	46	43	46	46	42	24

DNA= Data Not Available RNA= Report Not Available

1. This figure may be a duplicated or unduplicated count. 2. An estimated figure.
3. An approximate figure. 4. This figure may include nonpublic participants.
5. This figure may include summer participants. 6. This figure represents the total enrollment in Title I schools. It may also represent the number of Title I participants.

FY 73, American Samoa had the smallest number of participants and Texas had the largest. In FY 74, American Samoa again had the smallest number of participants and California had the largest.

Far more states had a decreasing number of total participants than had a relatively stable or increasing number over the last four fiscal years. Although the explanation for this trend is unclear, it may be due to an attempt by several states to concentrate more funds on smaller numbers of children. This explanation is supported by an increase in mean per-pupil expenditures over the last four fiscal years (Table 31.)

The percentages of nonpublic participants for each state reporting such data are presented in Table 17. The data for FY 69 and FY 70 have been reproduced from the Wargo report. Both duplicated and unduplicated counts were used for this breakdown, since it was assumed that the amount of duplication would not vary significantly between public and nonpublic participants. Of the 40 states that reported the number of nonpublic participants for 1971, Oklahoma had the smallest percentage, 0.2, and New York had the largest, with 16.6 percent of their Title I participants from nonpublic schools. For FY 72, Alaska had the smallest proportion of nonpublic students, while Massachusetts had the largest. Tennessee had the smallest percentage of nonpublic students, and Massachusetts again had the largest in FY 73. In FY 74, Georgia reported the smallest proportion of nonpublic students and Nebraska reported the largest.

Over the six fiscal years, there was a decrease in the number of State Reports providing information on public versus nonpublic participation and the explanation for this is not clear.

There is considerable variation in percentages of nonpublic participation both within and between states. Twenty-three states showed a decrease in the proportion of nonpublic participation over the six-year period, several states had no identifiable pattern or stayed about the same, and only four states showed an increase. Data on the percent of eligible nonpublic students served by Title I are not available in the State Reports.

Table 18 provides data on the percentages of Title I participants enrolled in regular, summer, and yearlong sessions in FY 71, 72, 73, and 74. This breakdown uses both duplicated and unduplicated figures. Only about one-

TABLE 17

Percentage of Nonpublic School Children
Served by Title I Presented by Fiscal Year

State or Territory	FY 69	FY 70	FY 71	FY 72	FY 73	FY 74
Alabama	1.0	0.7	DNA	DNA	DNA	DNA
Alaska	8.4	3.1	2.1[1]	0.0[1]	DNA	RNA
Arizona	DNA	6.6	4.1	3.8	4.6	3.4
Arkansas	0.6	0.8	0.8	1.0	0.4	DNA
California	6.0	3.6	3.8	3.3	2.7	2.3
Colorado	6.0	6.2	4.6[1]	3.6	2.2	3.7
Connecticut	10.3	10.7	7.0	5.0	5.1	5.4
Delaware	5.5	RNA	4.4	1.4	5.0	4.8
Wash. D. C.	RNA	DNA	DNA	5.0	4.5	DNA
Florida	5.0	2.9	3.5	3.0	3.4	DNA
Georgia	0.6	RNA	0.5	0.3	0.3	0.5
Hawaii	6.0	3.5	1.3	0.8	1.0	RNA
Idaho	1.9	2.0	2.3	0.8	1.8	0.8
Illinois	7.9	RNA	8.1	10.3	3.8	4.8
Indiana	6.3	3.9	6.2	4.9	DNA	DNA
Iowa	10.8	9.9	8.7	9.9	9.2	RNA
Kansas	10.2	4.4	3.7	3.7	3.6	RNA
Kentucky	DNA	DNA	DNA	RNA	1.1	1.9
Louisiana	4.5	6.0	5.1	DNA	3.1	RNA
Maine	5.7	6.5	DNA	5.2	RNA	4.7
Maryland	RNA	5.1	1.9	2.1	DNA	RNA
Massachusetts	16.1	17.5	12.0	13.0	13.1	RNA
Michigan	10.0	7.7	6.0	DNA	DNA	RNA
Minnesota	9.0	RNA	8.9	DNA	DNA	RNA
Mississippi	0.5	0.2	DNA	DNA	DNA	DNA
Missouri	5.3	4.2	3.7	4.7	4.4	5.6
Montana	12.3	5.7	6.2	6.4	3.9	RNA
Nebraska	5.8	4.0	5.3	10.5	DNA	9.6
Nevada	3.4	4.4	DNA	DNA	DNA	RNA
New Hampshire	DNA	DNA	DNA	DNA	DNA	RNA
New Jersey	7.8	10.4	12.0	10.6	11.2[1]	RNA
New Mexico	8.2	8.8	5.4[1]	5.4	4.7	RNA
New York	DNA	DNA	16.6	DNA	RNA	RNA
N. Carolina	0.4	0.5	0.4	0.6	0.5	RNA
N. Dakota	8.9	9.4	6.9	4.3	4.5	4.5
Ohio	4.5	4.5	4.8	4.3	4.3	DNA
Oklahoma	0.6	RNA	0.2	DNA	DNA	DNA
Oregon	5.5	3.7	3.8	DNA	4.2	RNA
Pennsylvania	15.8	11.8	DNA	9.9	11.9[1]	DNA
Rhode Island	12.5	10.2	9.2	12.4	9.5	RNA
S. Carolina	0.5	0.4	0.8	0.8	0.7	0.6
S. Dakota	9.6	9.0	8.7	8.9	3.6	4.0
Tennessee	2.0	DNA	0.8[1]	0.6[1]	0.1[3]	RNA
Texas	RNA	2.4	2.3[2]	DNA	1.5	1.9
Utah	0.6	0.5	DNA	DNA	DNA	RNA
Vermont	0.7	6.4	6.8	5.7	6.8	DNA
Virginia	DNA	DNA	DNA	DNA	DNA	DNA
Washington	5.4	6.7	6.5	1.7	DNA	RNA
W. Virginia	1.7	1.5	DNA	DNA	DNA	RNA
Wisconsin	8.0	5.6	8.2	7.1	6.4	RNA
Wyoming	4.2	3.2	1.9	1.8	2.8	RNA
American Samoa	DNA	DNA	RNA	DNA	DNA	DNA
BIA	DNA	DNA	DNA	DNA	DNA	DNA
Guam	14.6	9.1	RNA	RNA	4.2	DNA
Puerto Rico	RNA	1.1	DNA	RNA	RNA	RNA
Virgin Islands	RNA	RNA	RNA	RNA	RNA	DNA
Range:	0.4 - 16.1	0.2 - 17.5	0.2- 16.6	0.0 - 13.0	0.1 - 13.1	0.5 - 9.6
Number Reporting	44	42	40	36	35	16

DNA= Data Not Available RNA= Report Not Available *Percent of Title I participants

1. Based on an approximate figure. 2. This figure may be based on actual data or on a projection from a sample. 3. This figure may include summer participation.

TABLE 18

Percentages of Title I Participants Attending Regular, Summer, and Yearlong Sessions Presented by State and Fiscal Year

STATE	FY 71			FY 72			FY 73			FY 74		
	Reg.	Sum.	Year-long	Reg.	Sum.	Year-long	Reg.	Sum.	Year-long	Reg.	Sum.	Year-long
Alabama	60.9	39.1		64.1	35.9							
Arizona				93.5	6.5		77.8	22.2		82.1	17.9	
Arkansas	89.0	11.0		91.3	8.7		96.6	3.1		92.9	7.1	
Colorado	88.5[1]	11.5[1]		94.0	6.0					90.7	9.3	
Florida											14.5	
Georgia	74.1	25.9		94.7	5.3		87.1	12.9		85.5	14.6	
Hawaii	67.0	33.0										
Illinois	57.6	42.4					85.5	14.5				
Kansas	65.7	34.3		67.4	32.6		63.0	37.0				
Louisiana	81.5	18.5		83.6	16.4		94.0	6.0				
Maine				85.9	14.1					87.3	12.7	
Maryland	76.8	23.2		93.3	6.7							
Michigan	44.4	25.4	30.2	50.0	42.5	7.0						
Missouri										74.8	25.2	
Nebraska				81.2	18.8		86.1	14.0		86.4	13.6	
New York	56.5	21.0	22.5									
North Dakota							91.9	8.1		92.0	8.1	
Ohio	60.3	25.3	14.4	66.7	20.0	13.3	68.1	22.9	8.9	71.1	20.9	8.0
Oregon	71.1	28.9					80.5	19.5				
Rhode Island	68.3	31.7										
South Carolina	87.0	13.0		87.0	13.0		94.2	5.8		93.4	6.6	
South Dakota	78.1	21.9		83.8	16.2		92.6	7.4		84.6	15.4	
Tennessee	85.4	14.6		85.4[1]	14.6[1]		86.5	13.5				
Vermont											14.5	
Virginia	67.7	32.3		77.2	22.8		80.2	19.8		78.6	21.4	
Wisconsin	61.9	28.1	10.0	61.1	26.5	12.4	68.3	22.4	9.3			
Range	44.4-89.0	11.0-42.4	10.0-30.2	50.0-94.7	5.3-42.5	7.0-13.3	63.0-96.9	3.1-37.0	8.9-9.3	71.1-93.4	6.6-25.2	None
Number Reporting	19	19	4	17	17	3	15	15	2	12	14	1

1. Based on approximate figure.

third of the State Reports contained data on participation by school session However, among those states providing such data, there was again considerable variation. As one would expect, all the states reporting such data have a higher proportion of regular year participants than either summer or yearlong. This emphasis may appear to be exaggerated, however, by figures from states that reported unduplicated counts and did not inlcude a breakdown for year-long participants. In these cases, presumably students enrolled for both regular and summer terms would have been reported only in the regular term category. This difference in categorization should be taken into consideration in looking at the wide ranges in school session participation rates between states.

Although variations within states tend to be rather small, most of the changes were in the direction of larger regular year percentages and correspondingly smaller percentages for summer and yearlong sessions.

Table 19 presents breakdowns of Title I participants by grade level by year, and Tables 20, 21, 22, and 23, present grade level data by state for FY 71 through FY 74. These percentages include both public and non-public participants, and are based on data labeled or presumed to be unduplicated. There is little variation from year to year in the summary data in Table 19. The highest proportions of participants are in the early elementary grades, with grades 1, 2, and 3 accounting for approximately half of the participation for each of the three years. This is true for most of the states included in Tables 20 through 23, although there is considerable between-state variation. This picture is consistent with data in the Wargo report showing participants by grade band. However, since the number of states reporting participation by grade levels and grade bands is small, it is difficult to draw a national picture of which grades are receiving the most attention.

Program participation and expenditures by state by fiscal year are shown in Tables 24, 25, 26, and 27. Percentages of participants were derived from duplicated counts and therefore total to more than 100.

There is considerable variation among states; however, reading and language arts consistently serve large percentages of participants.

TABLE 19

Percentage of Participants in Each Grade Level
Presented by Year

	FY 71	FY 72	FY 73	FY 74
Prekindergarten	1.8	2.5	1.8	1.1
Kindergarten	8.5	8.3	7.6	7.8
1	12.3	13.1	13.5	12.5
2	13.4	14.1	14.5	13.5
3	11.5	13.1	13.6	13.4
4	10.6	11.0	11.9	12.0
5	9.8	9.8	10.3	11.0
6	9.0	8.3	9.3	9.6
7	5.9	5.6	5.1	5.7
8	5.1	4.4	4.0	4.1
9	4.4	2.8	2.9	3.0
10	3.0	1.8	1.6	1.9
11	2.2	1.4	1.1	1.2
12	1.9	1.1	0.7	0.7
Ungraded	0.4	2.1	1.6	1.1
Out of School	0.0	0.4	0.1	1.2
Number of States Reporting	13	14	18	16

TABLE 20

Percentage of Participants in Each Grade Level, Present Fiscal Year 1971

State	Grade								
	Pre-K	K	1	2	3	4	5	6	7
Arizona	0.1	5.0	11.2	10.8	10.7	8.9	8.4	7.5	7.3
California	0.7	11.3	13.6	13.7	13.4	12.3	11.4	10.1	3.0
Florida		6.9[1]	12.3	14.6	13.8	8.9	7.4	9.4	8.7
Kansas		7.4	9.0	11.2	11.4	10.7	9.9	8.5	9.5
Maryland	1.0	10.0	7.8	22.9	20.8	13.4	10.3	8.0	1.6
Massachusetts	5.2	9.7	16.9	16.1	14.3	11.2	9.5	8.2	3.3
Montana	0.3	1.5	7.7	10.6	11.2	10.5	10.2	8.5	9.4
New York	2.7	9.5	13.2	13.5	10.2	10.3	9.7	8.9	5.9
Oklahoma			8.2	8.4	9.4	9.6	9.5	9.5	10.4
Oregon	0.9	5.0	10.4	11.6	11.9	9.6	7.8	6.8	7.2
Rhode Island	1.6	5.5	16.4	17.8	14.5	11.5	8.6	7.3	5.9
South Dakota	0.5	10.9	8.1	9.6	10.8	10.2	9.5	11.3	7.5
Wyoming	0.2	4.7	10.6	10.7	11.3	12.1	11.6	10.7	7.2
Range	0.1 - 5.2	1.5 - 11.3	7.7 - 16.9	8.4 - 22.9	9.4 - 20.8	8.9 - 13.4	7.4 - 11.6	6.8 - 11.3	1.6 - 10.4

1. Includes Pre-K

TABLE 20

icipants in Each Grade Level, Presented by State for Fiscal Year 1971

Grade											
3	4	5	6	7	8	9	10	11	12	Un-Graded	Other
0.7	8.9	8.4	7.5	7.3	6.9	10.6	5.5	4.0	2.7	0.4	
3.4	12.3	11.4	10.1	3.0	2.2	3.9	2.1	1.0	0.6	0.6	
3.8	8.9	7.4	9.4	8.7	5.9	3.1	2.8	1.4	1.1	2.6	
1.4	10.7	9.9	8.5	9.5	7.0	4.6	3.5	2.9	2.5	2.0	
0.8	13.4	10.3	8.0	1.6	3.9	0.0	0.1	0.0	0.0		
4.3	11.2	9.5	8.2	3.3	2.4	1.1	1.0	0.7	0.5		
1.2	10.5	10.2	8.5	9.4	7.9	8.2	6.5	3.4	2.8	0.8	0.4
0.2	10.3	9.7	8.9	5.9	5.2	4.1	2.8	2.0	1.7	0.2	
9.4	9.6	9.5	9.5	10.4	9.8	8.5	6.1	5.5	5.0		
1.9	9.6	7.8	6.8	7.2	6.0	6.3	5.5	6.2	4.9		
4.5	11.5	8.6	7.3	5.9	2.0	2.6	1.8	0.7	0.2	3.6	
0.8	10.2	9.5	11.3	7.5	6.6	4.0	3.2	2.9	4.1	1.0	
1.3	12.1	11.6	10.7	7.2	6.2	4.9	2.0	1.5	1.3	5.0	
9.4 - 0.8	8.9 - 13.4	7.4 - 11.6	6.8 - 11.3	1.6 - 10.4	2.0 - 9.8	0.0 - 10.6	0.1 - 6.5	0.0 - 6.2	0.0 - 5.0	0.2 - 5.0	

TABLE 21

Percentage of Participants in Each Grade Level, Presented
Fiscal Year 1972

State	Grade								
	Pre-K	K	1	2	3	4	5	6	7
Colorado		5.6[1]	10.3	11.5	11.1	9.4	8.1	7.9	6.9
Hawaii	3.0	5.2	8.3	8.9	10.0	10.0	9.6	9.4	8.5
Kansas	1.8	4.2	9.8	12.5	11.9	11.9	11.2	9.8	7.9
Maine		8.5	14.4	16.3	15.8	14.5	12.8	10.9	2.1
Maryland	3.2	13.0	20.5	19.1	15.2	7.9	5.8	2.9	4.4
Massachusetts	4.8	10.2	17.1	17.0	14.8	11.0	9.5	8.4	2.2
Missouri	0.8	2.7	8.3	11.9	12.6	13.2	12.8	11.2	8.4
Montana[2]	0.8	1.3	8.1	8.9	10.7	11.6	10.6	8.5	9.2
North Dakota		12.2[1]	8.9	10.4	10.6	11.5	11.4	10.7	7.1
Rhode Island	0.2	5.0	14.9	16.2	15.1	9.4	8.2	7.8	7.3
South Dakota	0.8	12.9	9.5	11.2	11.7	11.7	10.4	10.0	7.0
Vermont	2.1	6.0	13.3	13.5	13.5	10.7	9.4	8.7	7.3
Wisconsin	7.8	13.0	16.2	15.3	13.2	9.6	7.2	5.2	2.4
Wyoming		5.7	11.0	10.4	12.1	12.5	12.2	10.7	6.3
Range	0.2 - 7.8	1.3 - 13.0	8.1 - 20.5	8.9 - 19.1	10.0 - 15.8	7.9 - 14.5	5.8 - 12.8	2.9 - 11.2	2.1 - 9.2

1. Includes Pre-K

2. It is not clear whether this is a duplicated or unduplicated count.

TABLE 21

rticipants in Each Grade Level, Presented by State for Fiscal Year 1972

Grade											
3	4	5	6	7	8	9	10	11	12	Un-Graded	Other
11.1	9.4	8.1	7.9	6.9	7.1	5.4	3.8	3.4	2.6	6.9	
10.0	10.0	9.6	9.4	8.5	6.7	5.8	5.3	4.7	4.4		
11.9	11.9	11.2	9.8	7.9	5.8	4.4	2.8	2.5	2.1	1.4	
15.8	14.5	12.8	10.9	2.1	1.5					3.2	
15.2	7.9	5.8	2.9	4.4	3.2	0.2	0.1	0.0	0.0	4.2	
14.8	11.0	9.5	8.4	2.2	1.5	0.7	0.6	0.5	0.4	0.4	0.5
12.6	13.2	12.8	11.2	8.4	6.6	4.2	1.8	1.3	0.9	3.2	
10.7	11.6	10.6	8.5	9.2	7.9	7.6	5.9	3.9	2.3	1.1	1.3
10.6	11.5	11.4	10.7	7.1	5.8	3.4	3.0	2.7	2.4		
15.1	9.4	8.2	7.8	7.3	4.0	4.6	2.3	1.1	0.9	3.0	
11.7	11.7	10.4	10.0	7.0	5.3	3.6	2.3	2.1	1.3	0.3	
13.5	10.7	9.4	8.7	7.3	6.4	3.5	1.6	1.2	1.1	1.5	
13.2	9.6	7.2	5.2	2.4	2.2	1.7	1.7	1.0	0.7		2.7
12.1	12.5	12.2	10.7	6.3	7.2	5.0	4.0	1.2	1.1	0.5	
10.0 - 15.8	7.9 - 14.5	5.8 - 12.8	2.9 - 11.2	2.1 - 9.2	1.5 - 7.9	0.2 - 7.6	0.1 - 5.9	0.0 - 3.0	0.0 - 4.4	0.3 - 6.9	0.5 - 2.7

unduplicated count.

TABLE 22

Percentage of Participants in Each Grade Level, Presente
Fiscal Year 1973

State	Grade								
	Pre-K	K	1	2	3	4	5	6	7
Arizona	2.0	6.0	13.5	12.6	11.5	9.0	7.8	7.5	5.4
California	1.9	11.8	13.9	14.2	14.2	12.7	11.9	10.7	2.0
Colorado		6.6[1]	11.8	12.8	11.1	8.8	8.2	7.5	7.3
Idaho		8.6	10.4	11.1	11.6	10.9	10.3	10.0	6.4
Kansas		6.7[1]	11.0	15.1	12.5	11.2	10.5	9.0	8.6
Massachusetts	4.9	10.2	18.1	17.6	14.7	11.2	8.7	6.9	1.7
Mississippi[2]	0.8		17.0	16.3	14.1	12.8	12.0	10.8	6.4
Missouri	1.0	2.7	9.0	12.7	13.6	13.4	12.9	11.0	8.1
Montana[2]	0.3	1.5	7.7	10.6	11.2	10.5	10.1	8.5	9.4
New Jersey[2]	3.7	10.6	19.8	21.3	19.9	10.4	6.1	4.4	1.6
North Dakota	12.4		9.0	11.0	11.6	11.1	10.9	10.8	7.2
Rhode Island[2]	0.4	3.9	11.4	15.6	16.9	15.1	8.3	6.6	7.0
South Dakota	0.7	13.4	8.4	11.0	12.2	13.2	12.1	10.8	7.5
Texas[3]	1.1	7.1	11.2	13.2	12.1	12.1	10.1	9.7	7.3
Wisconsin	9.2	14.7	17.1	16.1	14.4	8.6	5.6	3.8	2.0
Wyoming		5.9	10.8	12.8	12.3	12.1	12.2	10.5	6.5
American Samoa[2]									
Guam		32.1	30.7	18.9	9.5	7.8	0.8	0.2	
Range	0.3 - 12.4	1.5 - 32.1	7.7 - 30.7	10.6 - 21.3	9.5 - 19.9	7.8 - 15.1	0.8 - 12.9	0.2 - 11.0	1.6 - 9.4

1. Includes Pre-K.

2. It is not clear whether this is a duplicated or unduplicated count.

3. It is not clear whether these figures represent projections from sample data or actual p
It is also not clear whether this is a duplicated or unduplicated count.

TABLE 22

of Participants in Each Grade Level, Presented by State for Fiscal Year 1973

Grade												
2	3	4	5	6	7	8	9	10	11	12	Un-Graded	Other
.6	11.5	9.0	7.8	7.5	5.4	4.5	11.3	4.7	2.4	1.8	0.0	
.2	14.2	12.7	11.9	10.7	2.0	1.2	3.3	1.7	0.7	0.3	0.2	
.8	11.1	8.8	8.2	7.5	7.3	6.8	5.2	3.0	2.9	2.2	5.8	
.1	11.6	10.9	10.3	10.0	6.4	5.2	4.6	4.0	4.1	2.7		
.1	12.5	11.2	10.5	9.0	8.6	5.5	4.2	1.9	1.4	1.1	1.1	
.6	14.7	11.2	8.7	6.9	1.7	1.3	1.0	0.7	0.5	0.5	0.5	1.6
.3	14.1	12.8	12.0	10.8	6.4	4.9	2.1	1.1	0.9	0.7		
.7	13.6	13.4	12.9	11.0	8.1	6.0	3.0	1.4	1.0	0.6	3.5	
.6	11.2	10.5	10.1	8.5	9.4	7.9	8.2	6.4	3.4	2.8	0.8	0.4
.3	19.9	10.4	6.1	4.4	1.6	1.2	0.3	0.2	0.3	0.0		
.0	11.6	11.1	10.9	10.8	7.2	6.4	3.0	2.9	2.1	1.6		
.6	16.9	15.1	8.3	6.6	7.0	5.3	3.7	2.4	0.8	0.3	2.3	
.0	12.2	13.2	12.1	10.8	7.5	5.8	1.8	1.0	0.5	0.4	1.2	
.2	12.1	12.1	10.1	9.7	7.3	6.4	2.5	1.5	1.2	1.0	3.3	
.1	14.4	8.6	5.6	3.8	2.0	1.7	1.7	1.4	1.0	0.8		1.9
.8	12.3	12.1	12.2	10.5	6.5	5.4	4.6	0.9	0.8	0.6	4.4	
							27.9	30.5	25.6	16.0		0.1
.9	9.5	7.8	0.8	0.2								
.6 - .3	9.5 - 19.9	7.8 - 15.1	0.8 - 12.9	0.2 - 11.0	1.6 - 9.4	1.2 - 7.9	0.3 - 27.9	0.2 - 30.5	0.3 - 25.6	0.0 - 16.0	0.0 - 5.8	0.1 - 1.9

ed or unduplicated count.

esent projections from sample data or actual participation per grade level.
licated or unduplicated count.

TABLE 23

Percentage of Participants in Each Grade Level, Present
Fiscal Year 1971

State	Grade								
	Pre-K	K	1	2	3	4	5	6	7
Arizona	1.5	5.1	11.7	12.9	12.3	10.1	9.5	7.7	5.4
Arkansas	0.1	1.7	6.3	10.7	11.4	12.3	11.6	12.0	10.4
California	0.7	14.1	15.5	13.7	13.2	10.9	10.0	9.3	3.1
Colorado	1.6	5.6	12.7	13.1	11.7	8.8	8.4	7.6	7.3
Florida	0.3	5.9	15.8	18.4	15.5	11.2	10.5	8.7	6.7
Georgia		7.4[1]	10.9	13.8	13.3	11.8	11.0	9.9	9.3
Idaho	0.0	5.1	15.0	11.6	14.5	11.6	11.3	14.2	5.6
Kentucky	0.0	3.1	11.7	14.3	14.6	13.5	12.1	10.6	8.6
Maine	0.5	9.3	15.7	16.3	16.1	14.4	13.6	10.6	0.0
Mississippi	0.6	0.0	14.5	14.1	14.0	13.5	13.3	11.6	6.2
Missouri	1.3	4.6	7.6	13.6	14.1	13.9	13.5	11.8	7.9
North Dakota	11.9	0.0	9.7	11.9	13.2	12.6	11.1	10.6	7.1
Ohio	5.7	4.0	14.5	18.5	16.1	11.2	8.2	6.1	3.0
South Carolina	0.3	4.4	7.5	9.8	11.3	11.9	11.8	10.3	7.7
South Dakota	1.0	10.9	10.0	12.3	12.8	13.8	12.6	11.6	6.5
Texas	0.8	8.0	9.8	11.6	12.7	13.0	11.7	9.1	6.8
Range	0.0 - 11.9	0.0 - 14.1	6.3 - 15.8	9.8 - 18.5	11.3 - 16.1	8.8 - 14.4	8.2 - 13.6	6.1 - 14.2	0.0 - 10.4

1. Includes Pre-K

TABLE 23

cipants in Each Grade Level, Presented by State for Fiscal Year 1971

Grade											
3	4	5	6	7	8	9	10	11	12	Un-Graded	Other
2.3	10.1	9.5	7.7	5.4	5.1	11.5	4.4	1.8	0.8	0.0	0.0
1.4	12.3	11.6	12.0	10.4	7.6	4.6	3.4	2.4	1.8	2.7	0.9
3.2	10.9	10.0	9.3	3.1	2.0	3.3	2.0	1.1	0.6	0.4	0.0
1.7	8.8	8.4	7.6	7.3	6.3	3.8	2.6	2.5	1.6	6.3	0.0
5.5	11.2	10.5	8.7	6.7	2.5	1.6	1.5	0.4	0.1	1.0	0.0
3.3	11.8	11.0	9.9	9.3	5.8	3.4	1.6	1.1	0.7	0.0	0.0
4.[illegible]	11.6	11.3	14.2	5.6	4.5	3.3	1.4	1.1	0.7	0.0	0.0
4.6	13.5	12.1	10.6	8.6	6.8	2.7	1.0	0.5	0.5	0.0	0.0
6.1	14.4	13.6	10.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5
4.0	13.5	13.3	11.6	6.2	4.6	2.2	1.2	0.5	0.3	0.0	3.3
4.1	13.9	13.5	11.8	7.9	6.1	2.0	1.4	0.7	0.4	1.1	0.0
3.2	12.6	11.1	10.6	7.1	5.2	2.6	1.7	1.2	1.1	0.0	0.0
6.1	11.2	8.2	6.1	3.0	1.6	0.9	1.1	0.8	0.3	1.7	6.0
1.3	11.9	11.8	10.3	7.7	6.4	6.1	5.0	3.7	2.1	0.6	0.8
2.8	13.8	12.6	11.6	6.5	5.2	1.2	0.4	0.2	0.0	0.0	1.3
2.7	13.0	11.7	9.1	6.8	5.4	2.5	1.8	1.2	1.0	2.8	1.8
1.3 - 6.1	8.8 - 14.4	8.2 - 13.6	6.1 - 14.2	0.0 - 10.4	0.0 - 7.6	0.0 - 11.5	0.0 - 5.0	0.0 - 3.7	0.0 - 2.1	0.0- 6.3	0.0- 6.0

TABLE

Percentage of Participa
for Programs by State

Instructional	Alabama Par.	Alabama Exp.	Arizona Par.	Arizona Exp.	Arkansas Par.	Arkansas Exp.	Idaho Par.	Idaho Exp.	Kansas Par.	Kansas Exp.	Louisiana Par.	Louisiana Exp.	N Pa
Art		0.9	5.1	0.8	9.4	1.8		0.8	6.6		4.0	0.6	
Business Education		0.2	1.0	0.5	1.0	0.7		0.2	0.1		1.5	0.3	
Cultural Enrichment		4.5	21.4	2.1	0.6	0.7		0.2	2.4		3.5	0.6	
English-Reading		45.0	70.2	35.4	21.1	19.6		24.4	57.1		71.9	34.5	6
English-Speech		0.9	23.8	4.6	0.1	0.1					1.0	0.6	
English-Other L.A.		2.5	20.0	5.5	4.1	3.3		3.0	4.1		6.1	1.3	1
E.S.L.		0.0	20.1	8.4							0.4	0.4	
Foreign Language			0.6	0.2				0.2			2.5	0.1	
Home Economics		0.2	0.5	0.2	0.3	0.2		0.6			1.6	0.3	
Industrial Arts		0.3	0.9	0.4	1.6	2.0		1.6			2.4	0.8	
Mathematics		8.0	11.3	1.5	4.5	2.9		2.0	16.2		28.9	4.4	1
Music		2.1	8.9	1.2	26.7	5.1		4.8	3.1		10.7	1.6	1
PE, Health, Rec.		3.7	13.5	1.5	11.3	2.0		0.3	8.3		17.6	2.3	1
Natural Science		1.3	2.9	0.2	0.9	0.6		0.5	1.0		17.8	1.3	
Social Science		1.3	4.2	0.4	1.0	0.8		1.1	0.1		21.1	1.2	
Other Voc. Ed.		0.7	0.6	0.3	0.1	0.1		7.4	0.4		1.3	1.3	
Special Activities for Handicapped		3.9	1.6	4.6	2.1	6.9		2.5	4.1		5.0	6.6	
K & PreK		4.3	3.2	5.0	0.7	1.3		12.5	2.7		4.3	2.0	1
Other		1.0	6.0	1.5	10.8	16.6		0.6	2.2		28.1	1.8	
Supportive													
Attendance		0.7	10.5	0.9	15.0	0.8		0.0			10.9	1.6	
Clothing		0.0	4.8	0.1				0.2			0.1	0.0	
Food		1.9	10.3	0.7	30.1	2.7			7.9		4.3	0.2	
Guidance Counseling		5.5	27.1	10.6	37.7	6.6			22.1		34.9	5.9	
Health-Dental		0.6	3.3	0.6	9.5	1.2					5.6	0.6	
Health-Medical		1.5	20.1	1.4	38.4	3.9			23.5		37.6	3.1	
Library, Media Center		4.6			86.5	9.5		4.8	0.5		9.3	18.4	1
Psycho. Services		0.4	21.4	2.4	68.0	0.4		2.8	2.3		4.2	1.0	
Social Work		0.3	7.0	2.6	32.3	2.9			7.7		6.9	1.2	
Speech Therapy		0.4	9.4	1.7	3.3	1.6		0.6	3.4		5.0	2.4	
Transportation		2.3	2.5	1.2	1.3	1.1		1.6			9.3	1.1	
Spec. Services for Handicapped		0.0	19.8	2.0	0.0	0.0					2.1	2.1	
Other		0.9	9.6	1.6	31.5	4.6		27.2			1.9	0.6	

1. Percentages total to more than 100 because a number of children participated in more than one program. cated number of Title I participants was used to derive each program percentage.

LE 24

pants and Expenditures
e for Fiscal Year 1971

N. Dakota		Oklahoma		Oregon		Rhode Island		S. Carolina		S. Dakota		Virginia		Wyoming	
Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.
7.1	1.9	1.6		7.9	0.7	1.3		21.1	1.9	4.9	1.6	17.7	1.0	16.7	
		0.4		0.5	0.0	0.5		2.1	0.6	0.5	0.5				
		1.9		32.5	5.3	2.7		8.7	0.9	6.4	3.0	31.8	4.7	33.3	
63.2	52.7	6.7		67.6	51.7	41.8		75.3	30.9	46.3	44.2	98.4	38.1	49.9	
				4.6	1.1	1.1		3.2	0.5	0.5	1.6				
11.5	5.8	2.6		23.8	7.0	0.7		7.0	2.3	4.3	3.9	35.7[2]	8.5[2]		
				0.4	0.3	6.6		0.2	0.1	0.5	0.5			0.8	
				0.5	0.0			0.2	0.1	0.8	0.2	0.3		0.6	
				2.4	0.4			0.3	0.1	0.0	0.0	1.0	0.5		
0.0	0.0	0.6		2.6	0.5	1.2		1.1	0.0	0.2	0.2	0.7	0.4		
19.4	10.8	3.3		24.9	6.7	5.0		28.1	4.1	15.4	8.2	32.2	7.0	25.3	
18.8	4.9	3.0		4.0	0.4	1.0		26.3	2.5	1.6	0.2	20.5	1.5	16.8	
13.4	3.4	2.7		15.2	1.9	1.6		26.2	1.6	3.4	0.5	16.4	2.2	23.3	
1.7	0.6	1.9		5.2	0.7	1.1		39.9	2.5	1.2	0.7	12.4	1.6	19.5	
5.0	2.2	6.8		6.1	1.2	1.5		8.9	1.4	2.3	0.7	6.9	0.8	16.7	
		0.4		2.8	1.7	0.0		2.3	2.5	0.0	0.0	2.3	0.9	2.6	
0.7	3.1	1.6		1.7	1.2	4.0		3.8	3.8	0.9	1.1	2.9	5.6	1.4	
10.2	8.2			4.4	3.9	1.8		2.1	4.0	23.6	8.7	11.5	8.7		
		19.4		5.0	1.4	8.9		38.1	10.8					48.5	
		2.0		4.2	0.1	2.6		21.3	1.1	2.0	0.3	28.4	2.5	5.3	
		0.0		0.0	0.0	1.5		3.3	0.4	0.5	0.0	6.8	0.3		
		8.0		12.2	0.5	1.8		39.6	6.8	2.5	0.0	55.5	5.2	15.5	
9.5	1.5	19.5		12.8	4.4	3.6		24.6	2.2	9.1	2.5	20.1	1.4	15.2	
		1.1		2.9	0.3	0.2		12.2	1.1	0.1	0.0				
		20.5		4.4	0.7	1.7		55.0	3.5	8.8	1.0	40.9[3]	2.2	40.8	
14.1	4.0	4.4		10.6	1.2	0.3		68.9	5.7	9.2	0.8		3.5		
		0.3		2.2	0.6	0.4		6.8	0.6	1.1	0.2	6.2	0.8	13.5	
		2.5		1.9	2.2	2.8		13.8	1.5	1.8	0.5	10.0	0.6	1.1	
1.2	1.1			1.0	0.6	0.9		1.8	0.5	1.9	1.2	5.4	0.8		
				17.1	3.0	2.3		13.9	1.4	7.9	3.4	50.3	2.4	4.7	
				0.1	0.0	0.4		0.5	0.3	0.1	0.1				
				0.0	0.0	0.6		31.0	3.8	1.2	0.8	29.4		6.8	

The undupli-

2. Includes speech and ESL
3. Includes dental

TABL

Percentage of Particip
for Programs by State

Instructional	Alabama Par.	Alabama Exp.	Arizona Par.	Arizona Exp.	Arkansas Par.	Arkansas Exp.	Colorado Par.	Colorado Exp.	Idaho Par.	Idaho Exp.	Louisiana Par.	Louisiana Exp.	Maine Par.	Maine Exp.	Mass. Par.	Mass. Exp.	M Par.
Art			1.1		0.1	0.0			1.0	0.6	2.3				28.9[5]		
Business Education		0.0	0.1		0.4	0.2			1.4	0.1							
Cultural Enrichment		0.7	13.6		0.2	0.1	10.3		4.0	0.6	2.3				43.8		
English Reading		50.5	75.3		32.5	25.5	50.4		46.8	20.5	67.8	34.7	90.3		73.6		
English-Speech		0.0	17.1		0.1	0.1					0.4	0.3					
English-Other L.A.		1.8	20.1		8.4	5.3	21.0		39.3	1.5	5.5	2.0			12.6		
ESL			17.2		0.9										8.2		
Foreign Language												0.0					
Home Economics			1.0		0.4	0.2			0.3	0.2							
Industrial Arts		0.0	1.0		1.5	1.5			1.4	1.8	0.5	0.2					
Mathematics		16.7	9.2		9.9	5.1			7.8	1.2	41.4	14.3	15.7		35.5		
Music			1.8		0.3	0.0			16.0	2.4	2.3						
PE, Health, Rec.		0.1	3.6		1.1	0.1			58.6	5.8	0.5	0.1	5.0		20.7		
Natural Science		1.2	2.2		1.9	0.9	22.9[2]		2.7	0.2	2.8		4.1		13.7		
Social Science		1.4	2.1		2.1	0.9	9.6		4.3	0.9	3.0	0.6			9.0		
Other Voc. Ed.		0.0	0.4		0.3	0.4	5.6		2.4	1.5	0.8	1.3					
Special Activities for Handicapped		3.9	0.7		3.0	10.3	7.8		2.5	7.1	5.5	9.6	8.1				
K and PreK		6.8	2.6		1.5	1.9			5.9	5.8	2.1	1.3					
Other		4.4	2.7		16.2	27.6	17.3		36.6	8.1	26.1	10.4	4.0				
Supportive																	
Attendance		0.7	14.9		3.1	0.1			8.1	0.8	16.8	1.1					
Clothing		0.0	0.2				0.6		0.2	0.0	1.4	0.0	1.0		37.7[6]		
Food		0.3	4.7		5.3	0.3	5.0		4.1	0.2	2.1	0.2	5.9				
Guidance Counseling		2.4	18.1		44.7	5.1	43.7				26.5	5.5	11.0				
Health-Dental		0.8	6.1		9.7	1.2					5.0	0.7					
Health-Medical		1.8	22.0		38.1	3.4	12.7[3]				42.7	2.7	9.6[3]		13.1[3]		
Library, Media Center		1.4			3.4	0.2	30.4		49.6	6.1	66.1	7.6	2.9				
Psychological Services		0.3	9.7		35.4	0.5	7.5		23.1	3.6	5.3	1.0	3.3		36.7		
Social Work		0.4	11.3		38.1	3.2	12.9[4]		0.5		10.6	1.4	6.8				
Speech Therapy		0.2	3.1		2.7	1.5			2.0	0.2	7.4	1.7	4.9		5.1		
Transportation		2.0	9.6		3.8	0.7	10.2		19.1	1.5	9.4	0.8	11.9				
Spec. Svs. for Handicapped		0.0	0.5		0.0	0.1	2.9				1.2	1.1					
Other		2.1	2.8		32.5	3.5	8.7		239.4	29.4	9.6	1.4	2.0		20.4		

1. Percentages total to more than 100 because a number of children participated in more than one program. The unduplicated number ipants was used to derive each program percentage.

5. Includes Music, Dramatics, and Crafts
6. Includes Food
7. Includes all English
8. Includes ESL and Other

TABLE 25

icipants and Expenditures
tate for Fiscal Year 1972

Mississippi		N. Dakota		Oklahoma		Rhode Island		S. Carolina		S. Dakota		Tennessee		Virginia		Wisconsin		Wyoming	
Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par	Exp.
1.2		2.6	3.8	7.2			2.8	0.3	4.1	1.4		1.2	14.2	1.2	5.7		19.7		
0.1			0.6	2.5			0.1	0.0	0.3	0.1		0.2			0.1				
0.0			3.2	1.0	4.1	0.1	1.3	0.7	4.2	2.1		0.8	32.1	3.2	16.3		26.6		
47.4		49.3	49.6	17.9[7]	68.8	54.1	87.7	34.9	48.4	40.2		35.0	99.1	41.9	47.6		79.5		
0.7						0.3	2.8	2.9	2.5	1.7			2.9	6.2[8]	3.4				
5.2		10.9	5.9		6.6	1.7	17.4	8.9	8.2	6.2		15.9	16.1		8.9				
					7.0	9.6			0.0	0.0			4.2		1.1		2.5		
							0.0	0.0				0.0	0.3		0.7				
0.1						0.1	1.3	0.0	0.0	0.0		0.1	2.8	0.6	0.1				
0.9		0.6	0.9	4.2	2.0	1.7	19.0	0.2				0.4	2.6	0.8	0.2				
15.7		12.4	7.5	5.6	7.8	4.2	76.5	7.6	15.7	7.6		4.9	52.4	7.4	15.5		46.6		
2.3		4.4	7.6	10.6			1.9	0.4	0.7	0.1		2.0	13.6	1.0	6.0		20.9		
4.0		1.9	5.2	6.7		1.1	1.7	0.2	1.8	0.3		1.5	14.6	1.9	10.0		30.2		
1.7		1.0	0.3	1.1		0.2	9.2	0.8	0.6	0.4		0.9	9.0	1.1	8.5		25.0		
0.9		2.1	2.0			0.7	5.5	0.7	0.5	0.2		0.6	4.4	0.9	4.3		28.4		
0.9			1.6		0.7		5.1	2.6	0.0	0.0		1.1	1.1	0.4	0.3		3.1		
3.6		5.3	8.9		3.7	7.8	5.1	4.1	0.9	0.6		1.5	3.7	7.2	2.2		1.4		
0.7		7.1			3.9	3.6	4.2	7.2	12.2	12.8		16.0	10.5	9.8	32.1				
			135.9		7.9	3.4	29.7	12.2	27.2	17.7		3.0			7.8		71.2		
1.3																			
0.2			4.3	3.0		1.1	18.7	0.7	3.3	0.2		0.7	33.3	2.0	4.4		6.5		
0.6						1.5	4.4	0.4	0.2	0.0		0.5	3.3	0.1	2.4				
2.8		0.3	0.8	0.7		0.1	7.9	0.2	2.5	0.0		1.5	44.1	3.8	14.7		22.0		
1.5			29.5	27.8		2.3	21.8	1.4	10.0	0.2		2.6	8.5	1.4	10.7		23.5		
4.1			0.2	0.0		0.1	36.7	1.3	0.1	0.0		0.8	10.4	2.7[9]	5.1				
2.7			19.0	9.1		0.7	73.4	3.3	6.3	0.4		1.2	40.3		4.7		34.5[3]		
0.4		0.3	1.4	1.6	0.7	0.3	24.3	1.7	7.8	0.4		1.3		1.5	4.4				
0.1			0.5	0.8		0.8	8.6	0.6	0.8	0.2		1.8	10.3	1.2	10.4		3.3		
0.9						3.3	13.4	1.5	1.8	0.8		1.5	4.3	0.6	7.7		1.8		
0.1		1.8			0.5		3.6	0.5	2.7	1.1		0.1	8.9	0.9	5.6		0.1		
0.0						0.7	13.3	1.1	8.9	2.7		1.3	43.8	2.4	45.5		2.8		
							2.7	0.2	0.0	0.1		8.9			0.7				
					7.0	0.8	42.5	3.4	1.6	0.4		1.6	16.6		9.2		12.4		

er of Title I partic-

2. Includes Math

3. Includes Dental

4. Includes Attendance

9. Includes Health-Medical

TABLE

Percentage of Participa
for Programs by State

Instructional	Arkansas Par.	Arkansas Exp.	Colorado Par.	Colorado Exp.	Georgia Par.	Georgia Exp.	Louisiana Par.	Louisiana Exp.	Mass. Par.	Mass. Exp.	Mississippi Par.	Mississippi Exp.	P
Art					4.2	1.2					15.5	1.7	
Business Education		0.1			0.9	0.4			0.9		0.2	0.1	
Cultural Enrichment		0.1[2]	19.9		0.2	0.1		0.1	67.9[6]		0.4	0.0	
English-Reading		48.7	43.2		86.0	56.5	76.8	45.5	65.9		73.8	43.1	5
English-Speech					0.2	0.1	0.5						
English-Other LA		3.2	22.4		0.5	1.3	1.3	0.7	19.3		26.2	8.7	
ESL									2.4				
Foreign Language													
Home Economics		0.2			0.4	0.2			1.4		33.5	0.1	
Industrial Arts		1.0			2.2	1.2	0.3	0.2	1.3		2.9	0.9	2
Mathematics		3.5	18.2		28.9	13.2	47.7	16.0	29.3		51.1	15.4	
Music					6.2	2.0					26.7	2.6	
PE, Health, Rec.		0.0			14.8	1.7			15.7		33.7	3.9	
Natural Science		0.5			3.2	1.4			13.0		15.5	1.5	
Social Science		0.6	7.8		2.5	1.0	1.4	0.4	10.9		4.8	0.4	
Other Voc. Ed.		0.3	8.0		0.9	0.7	1.1	1.4			1.0	0.5	
Special Activities for Handicapped		8.4	11.1		2.0	2.2	6.0	7.7			2.9	4.9	
K & PreK		1.3			9.1	12.8	3.9	1.6			0.3	0.6	2
Other		19.6	18.1		1.8	1.2	10.6	6.1	13.9		6.4	0.7	
Supportive													
Attendance		0.1			9.5	0.6	19.6	1.2			28.4	1.4	
Clothing			0.4				0.0	0.0			1.2	0.1	
Food		0.1[3]	3.6		7.1		1.4	0.0	17.9[7]		8.7	0.2	
Guidance Counseling		3.3	25.4		2.3	0.2	31.0	4.5			45.5	3.1	2
Health-Dental		0.6					11.9	1.4			27.0	1.5	
Health-Medical		2.2	12.7[4]				41.5[4]	2.2	28.0[4]		49.6	3.6	
Library, Media Center		0.0	46.8		6.4	0.6	67.8	3.7			42.5	3.1	
Psychological Services		0.4	10.0				12.2	0.4			22.5	0.5	
Social Work		2.4	3.2		0.8	0.2	12.4	2.1			2.2	0.1	
Speech Therapy		1.1					5.5	1.5	4.4		2.5	0.9	
Transportation		0.3	11.8			0.7[5]	7.6	0.3			1.6	0.6	
Special Services for Handicapped		0.1	2.9				5.0	1.1			1.1	0.0	
Other		2.0	14.8		7.0	0.7	16.4	1.9	68.6		16.9	0.4	10

1. Percentages total to more than 100 because a number of children participated in more than one program.
2. Includes Art and Music 3. Includes Clothing and Transportation 4. May include Dental 5. Includes

E 26

ants and Expenditures
for Fiscal Year 1973

Montana		N. Carolina		Penn.		Rhode Island		S. Carolina		S. Dakota		Wisconsin		Wyoming	
ar.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.
		3.0		1.8				2.6	0.6	0.4		6.0	0.3	28.0	
				0.2				0.1	0.0			0.0	0.0		
		5.0		1.6		3.7	0.1	3.7	0.5	1.0		18.1	3.4	37.9	
5.5		68.2		37.6		52.1	53.5	63.7	38.2	49.6		61.1	35.7	74.9	
				0.3			0.1	2.7	1.1	2.1		5.0	1.2		
		17.6		5.8		9.8	1.2	14.5	7.5	6.5		10.4	3.7		
				3.4		4.3	9.3					1.6	1.0		
				0.1								0.1	0.1	0.1	
				0.1			0.2	0.5	0.2			0.1	0.0		
5.5				0.3		1.7	1.4	1.7	0.2			0.1	0.0		
		9.1		4.6		16.3	6.7	37.8	9.9	22.4		19.9	5.3	53.0	
		5.7		0.1				2.9	0.7			4.6	0.2	27.8	
6.0		0.1		1.4		0.6		0.9	0.6			10.9	1.2	42.3	
8.3		0.8		1.8			0.1	5.7	0.7	0.3		5.0	0.5	33.3	
		0.1		1.9			0.1	3.0	0.4			1.0	0.3	30.0	
		1.5		0.3				3.0	2.3			0.1	0.1	5.9	
		2.5		0.9		2.2	2.5	1.6	4.5	3.9		2.5	1.6	1.0	
6.8		9.5		7.3		3.0	3.3	5.1	7.3	10.7		19.9	14.3		
		1.3		10.6		27.6	8.6	42.6	10.4	25.3		8.2	5.2	11.4	
		19.0		0.5			0.5	13.1	1.3	6.2		3.1	0.7	21.0	
		8.9		0.0			2.0	3.9	0.4	0.3		3.4	0.8		
		7.7		0.3			0.2	0.4	0.7	0.3		14.0	0.2	18.8	
2.8		12.2		5.8		7.6	3.7	26.4	2.4	8.1		9.3	3.4	22.9	
				0.5				16.4	1.0	1.4		3.1	0.1		
		39.7[4]		0.7		0.6	0.2	54.4	3.5	3.9		7.8	1.2	37.2	
		17.2		3.7			0.1	10.6	1.3	2.4		4.6	0.3		
		8.1		0.9			1.4	12.2	0.9	1.2		13.3	3.4	5.4	
		29.7		3.1			3.3	15.0	1.3	0.7		8.4	2.9	5.6	
				0.5		0.2		3.4	0.5	3.0		7.4	2.0		
		20.5		2.1			0.8	3.9		4.1		14.1	1.3	3.4	
		0.7		0.4			0.0	7.1	0.6	0.5		1.4	3.6		
3.4		8.0		0.3			0.5	31.2	1.8	6.0		10.2	6.3	63.1	

The unduplicated number of Title I participants was used to derive each program percentage.
Food and Clothing 6. Includes Crafts, Art, and Music 7. Includes Clothing

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Percentage of Part
for Programs by S

Instructional	Alabama Par.	Alabama Exp.	Arizona Par.	Arizona Exp.	Arkansas Par.	Arkansas Exp.	Colorado Par.	Colorado Exp.	Florida Par.	Florida Exp.
Art					0.0				0.2	
Business Education	0.0									
Cultural Enrichment			13.1		0.4	0.2	12.9			
English-Reading	45.1		76.8		50.2	38.1	56.5		79.1	
English-Speech	0.1		8.8						6.2	
English-Other LA	0.4		18.5			23.3	27.4		12.7	
ESL			13.7						0.5	
Foreign Language										
Home Economics	0.0								0.3	
Industrial Arts					0.1				0.3	
Mathematics	16.3		12.3		9.2	5.6	22.1		14.9	
Music			1.3							
PE, Health, Rec.			1.5							
Natural Science	0.6		1.7				3.0		0.6	
Social Science	0.7		13.8				9.2			
Other Voc. Ed.					2.0	1.7	37.8			
Special Activities for Handicapped	1.5		0.2			12.7	8.4		3.9	
K & Pre-K	9.6				0.6	1.0			4.7	
Other	4.7		5.9			0.7	13.9		5.5	
Supportive										
Attendance	0.6		4.2				8.0		5.2	
Clothing	0.0		0.4				2.0		0.9	
Food	0.1		3.9			0.1	3.2		1.8	
Guidance Counseling	2.1		4.7		16.0	4.6	6.6		7.9	
Health-Dental			3.3		8.0				3.4	
Health-Medical	1.7[2]		5.2		19.9	3.5[2]	11.6[2]		4.0	
Library Media Center	0.3				1.1	0.8	3.4		0.1	
Psychological Services	0.0		2.6		1.7		3.1		0.5	
Social Work	0.4		3.8		21.7	3.2	14.4		9.0	
Speech Therapy	0.1		6.2		3.2	2.1			0.6	
Transportation	2.6		9.9		0.3	0.4	0.4		0.1	
Special Services for Handicapped			0.4		0.1	0.2			0.4	
Other	12.8		0.7			1.7	4.3		12.6	

1. Percentages total to more than 100 because a number of children participated in more than one pro
2. Includes Dental 3. Includes Clothing

TABLE 27

rticipants and Expenditures
State for Fiscal Year 1973

Georgia		Maine		Mississippi		Missouri		Nebraska		South Carolina		Texas	
Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.
				2.1	0.1			0.0		0.4	0.0		
				0.1	0.1								
												11.4	
87.4	62.8			99.9	41.3	63.3		63.2		59.8	32.3	64.0	
												9.9	
0.1	0.1	87.7		20.7	7.7	10.2		0.5		10.8	8.5	10.0	
												3.0	
										0.1	0.0		
				2.7	0.5					0.2	0.1		
34.5	16 5	38.8		52.4	33.1	12.2		16.4		45.8	16.8	16.0	
				1.3	0.1								
				1.8	0.2			1.6				4.0	
				0.4	0.1	2.0		0.1		3.3	1.0	4.7	
				0.1	0.0	1.4				1.7	0.7		
0.1	0.1			0.3	0.2					1.6	1.2		
0.3	0.3	10.2			5.8			1.6		10.2	6.3		
10.3	15.5				0.2	2.9		1.5		5.0	6.7	5.5	
1.1	0.9	10.2				0.9		27.6		3.6	11.9	0.2	
				22.8	1.1					12.2	1.1		
32.7				1.9	0.0					3.5	0.7	7.9	
				0.3	0.0			0.4		1.7	0.1	28.9	
				29.1	1.6			26.1		12.0	0.1	36.7	
				29.0	1.3			0.1		13.6	1.3	37.1	
24.9[2]	1.2[2]			75.8	3.0	2.9[2]		1.1		38.9	4.2	66.0	
2.2	0.1			6.0	0.3			7.8		13.4	0.5		
		8.0		52.2	0.9					7.7	1.2	7.5	
0.4	0.1	8.7		1.0	0.1					18.0	1.6		
0.3	0.1	8.0		4.1	1.3			0.2		3.0	0.5		
	2.3[3]	8.6		2.0	0.1			0.1		5.4	1.0	20.0	
				0.0	0.0					0.5	0.2		
		12.4			0.5			31.8		27.4	1.7	32.2	

rogram. The unduplicated number of Title I participants was used to derive each program percentage.

Table 28, in fact, shows a consistent increase in the percentage of participants served by reading and language arts programs ranging from 69 percent in 1971 to 86 percent in 1974. These figures, however, must be interpreted cautiously since they are based on small and different samples of states. The "Other" category in Tables 24, 25, 26, and 27 occasionally shows high percentages of both participation, and expenditures. This is due to the inclusion of state program breakdowns that did not fit into any of the other categories used for this report. Table 28 presents a summary of these data by each of the four fiscal years.

Table 29 shows the percentages of participants and costs in instructional activities by state for fiscal years 1969 through 1974. There is wide variation among states in both participation and expenditures; however, it seems clear that in most states instructional activities are receiving attention equal to or exceeding that of supportive services.

In summary, participation data show that there is considerable variation among states in number served, proportion of nonpublic participation, percentages of students per school session and grade level, and the percentage of participants in each program. The total public and nonpublic participation figures reflect data from a sufficient number of states to provide a national picture of Title I participation over the last four fiscal years. Data are less complete for the various participation breakdowns; however, the number of State Reports providing this information indicates that these breakdowns are feasible. Hopefully, more states will include these breakdowns in future reports.

TABLE 28

Percentage of Participants and Expenditures
Presented by Programs Across States by Fiscal Year

Program	FY 71		FY 72		FY 73		FY 74	
	Par.	Exp.	Par.	Exp.	Par.	Exp.	Par.	Exp.
Instructional								
Art	10.6	1.1	5.9	0.9	4.7	0.9	0.3	0.0
Business Education	1.0	0.3	0.2	0.2	0.2	0.1	0.0	0.0
Cultural Enrichment	9.5	2.8	10.9	1.5	7.6	0.8	4.6	0.0
English-Reading	56.8	37.6	67.5	40.5	69.5	45.3	69.3	47.4
English-Speech	3.7	0.9	1.9	1.2	0.8	0.3	3.9	0.0
English-Other Lang.	8.6	4.0	12.3	5.4	13.5	4.4	12.5	5.7
ESL	0.3	0.7	2.2	0.1	0.3	0.9	1.5	
Foreign Language	0.5	0.1	0.7	0.0	0.0	0.0		
Home Economics	0.6	0.2	0.7	0.1	0.3	0.2	0.0	0.0
Industrial Arts	1.2	0.6	4.0	0.7	1.2	0.6	0.4	0.1
Mathematics	19.5	5.6	33.4	10.0	31.3	9.6	15.6	19.6
Music	15.9	2.1	4.3	1.4	7.4	1.1	0.2	0.0
PE, Health, Rec.	15.1	2.3	7.7	1.5	10.2	1.3	1.6	0.0
Natural Science	14.4	1.4	6.4	1.0	5.6	1.0	2.3	0.3
Social Science	7.9	1.1	4.2	0.9	3.2	0.8	0.7	0.2
Other Voc. Ed.	1.2	1.0	1.7	0.9	1.5	0.6	1.8	0.4
Special Activities for Handicapped	2.9	4.7	4.2	4.9	2.9	4.3	2.0	4.1
K and PreK	3.7	5.0	5.2	7.7	5.4	7.5	4.0	8.0
Other	19.1	5.2	27.5	6.4	13.0	7.2	3.0	3.0
Supportive								
Attendance	13.1	1.1	12.1	0.8	16.9	0.6	5.1	0.5
Clothing	1.6	0.2	4.5	0.2	2.7	0.1	6.7	0.1
Food	23.4	2.7	10.0	0.8	6.6	0.1	10.3	0.1
Guidance	25.1	3.9	21.0	2.7	21.0	3.0	20.0	1.4
Health-Dental	6.7	0.6	10.0	1.0	8.8	0.6	18.2	0.5
Health-Medical	33.3	2.2	33.9	2.0	32.4	1.4	40.6	2.3
Library, Media Ctr	44.2	6.0	17.8	2.0	23.3	1.7	2.9	0.3
Psychological Srvs	14.0	0.6	13.2	0.7	9.9	0.7	10.6	0.4
Social Work	11.2	1.1	10.9	1.0	9.9	1.5	5.1	0.7
Speech Therapy	3.0	0.9	4.4	0.7	2.5	0.7	1.6	0.6
Transportation	11.8	1.6	13.9	1.1	6.6	0.8	7.9	1.5
Spec. Srvs Handicap.	1.3	0.4	0.8	0.2	2.2	0.4	0.1	0.1
Other	16.0	2.0	25.7	1.6	19.0	1.2	16.0	3.3
Number of States Reporting Data	11	11	14	12	12	8	11	5

1. Percentages total to more than 100 because a number of children participated in more than one program. The unduplicated total number of Title I participants was used to derive program percentages.

TABLE 29

Title I Expenditures for Instructional and Supportiv
Participants in Instructional Activities Present

State or Territory	Fiscal Year 1969 Program Costs Instructional Activities	Program Costs Supportive Activities	% Instructional Costs	% Instructional Participation	Fiscal Ye Program Costs Instructional Activities	Program Costs Support Activit
Alabama					23,010,441	7,207,
Arizona						
Arkansas	10,094,682	7,769,087	56.5	32.8	10,683,453	7,342,
California					46,275,954	4,783,
Colorado	4,471,924	268,630	94.3	80.1		
Florida						
Georgia						
Hawaii	1,488,940	474,509	75.8	52.1		
Idaho	483,770				1,035,891	732,
Kansas						
Kentucky						
Louisiana	10,563,318	5,260,974	66.8	53.3	14,534,832	14,168,
Maine						
Massachusetts						
Mississippi						
Missouri						
Montana						
Nebraska	3,944,361	1,118,892	77.9	55.8	2,955,689	794,
New Hampshire						
New Jersey	15,652,210	4,469,702	77.8	56.2		
North Carolina						
North Dakota	2,669,779	494,766	84.4	56.7	2,809,366	
Ohio	9,516,279	2,412,212	79.8	39.5	35,694,314	
Oklahoma	7,418,000	5,060,399	59.4	41.9		
Oregon	4,467,685	1,050,365	81.0	64.6	4,806,205	798,
Pennsylvania	17,696,567	11,170,891	61.3	45.8	20,619,701	9,398,
Rhode Island					1,050,000	
South Carolina	15,203,995	10,019,576	60.3	45.3		2,996,
South Dakota	3,587,223	358,680	90.9	63.4	3,139,364	908,
Tennessee						
Texas						
Utah					710,678	278,
Virginia	15,966,349	4,356,770	78.6	55.4	15,884,760	4,671,
Washington					6,762,546	799,
Wisconsin						
Wyoming						25,
Range	483,770 - 17,696,567	268,630 - 11,170,891	56.5 - 94.3	32.8 - 80.1	710,678 - 46,275,954	25,2 - 14,168,
Number of States Reporting Data	15	14	14	14	15	

TABLE 29

Instructional and Supportive Programs and Percentage of Costs and
ructional Activities Presented by State and Fiscal Year

nal ci- on	Fiscal Year 1970				Fiscal Year 1971			
	Program Costs		% Instructional		Program Costs		% Instructional	
	Instructional Activities	Supportive Activities	Costs	Partici-pation	Instructional Activities	Supportive Activities	Costs	Partici-pation
	23,010,441	7,207,760	76.1	61.5	26,830,266	6,363,195	80.8	52.1
					6,231,168	2,177,288	74.1	60.4
3	10,683,453	7,342,882	59.3	27.5	11,646,845	6,357,852	64.7	21.4
	46,275,954	4,783,264	90.6	51.7	65,276,686	7,675,977	89.5	
	1,035,891	732,614	58.6	60.9	1,657,426	1,007,608	62.2	43.0
								61.7
								37.6
3	14,534,832	14,168,439	50.6	51.9	13,756,988	8,469,883	61.9	51.3
								74.4
					23,315,393	5,409,133	81.2	
					3,056,639	231,689	93.0	
3	2,955,689	794,033	78.8	47.7				
	2,809,366				3,202,617	227,588	93.4	85.9
	35,694,314				35,003,001	3,760,012	90.3	
								47.5
	4,806,205	798,493	85.8	70.5	5,317,729	845,529	86.3	75.3
	20,619,701	9,398,087	68.7	56.2				
	1,050,000				2,431,218	570,021	81.0	
		2,996,700			19,205,923	7,881,279	70.9	50.2
	3,139,364	908,565	77.6	62.8	4,310,531	535,803	88.9	72.4
	710,678	278,636	71.8	76.5				
	15,884,760	4,671,142	77.3	52.5	20,701,109	4,728,976	81.4	53.5
	6,762,546	799,766	89.4	80.5				
					10,436,036			
		25,265						71.3
-	710,678 -	25,265 -	50.6 -	27.5 -	3,056,639 -	227,588 -	61.9 -	21.4 -
	46,275,954	14,168,439	90.6	80.5	65,276,686	8,469,883	93.4	85.9
	15	14	12	12	16	15	15	15

State or Territory	Fiscal Year 1972 Program Costs: Instructional Activities	Program Costs: Supportive Activities	% Instructional Costs	% Instructional Participation	Fiscal Year 1973 Program Costs: Instructional Activities	Program Costs: Supportive Activities
Alabama	27,861,983	4,039,103	87.3	80.8		
Arizona				62.5		
Arkansas	14,900,296	3,672,266	80.2	27.1	22,241,768	3,195,573
California						
Colorado				51.9		
Florida						
Georgia					38,367,652	1,171,999
Hawaii						
Idaho	1,413,086	1,015,774	58.2	40.1		
Kansas						
Kentucky						
Louisiana	18,184,249	6,096,303	74.9	44.4	17,799,257	4,520,159
Maine				68.2		
Massachusetts				68.5		
Mississippi	27,430,355	4,685,802	85.4	50.2	22,647,278	4,008,518
Missouri						
Montana						
Nebraska						
New Hampshire						
New Jersey						
North Carolina						
North Dakota	4,123,104	98,605	97.7			
Ohio	38,000,349	4,128,641	90.2			
Oklahoma	1,227,137	926,697	57.0	80.7		
Oregon	7,355,459	1,013,609	87.9			
Pennsylvania					39,586,606	9,134,394
Rhode Island	2,762,864	361,014	88.4	93.2	3,238,853	476,567
South Carolina	22,988,792	4,497,834	83.6	50.0	18,945,333	3,293,282
South Dakota	5,142,189	477,894	91.4	73.5		
Tennessee	28,752,385	5,044,754	85.1	40.9		
Texas						
Utah						
Virginia	21,236,526	4,178,039	83.6	55.9	20,136,565	
Washington						
Wisconsin				57.6	11,228,458	3,969,777
Wyoming				76.9		
Range	1,227,137 - 38,000,349	98,605 - 6,096,303	58.2 - 97.7	27.1 - 93.2	3,238,853 - 39,586,606	476,567 - 9,134,394
Number of States Reporting Data	14	14	14	17	9	8

TABLE 29 (cont.)

Fiscal Year 1973				Fiscal Year 1974			
Program Costs		% Instructional		Program Costs		% Instructional	
tructional tivities	Supportive Activities	Costs	Partici-pation	Instructional Activities	Supportive Activities	Costs	Partici-pation
				20,689,802	5,459,385	79.1	34.5
							77.4
,241,768	3,195,573	87.4		12,187,091	2,419,385	83.4	46.5
			53.1				77.1
			99.2				73.5
,367,652	1,171,999	97.0	83.3	36,990,743	1,446,584	96.2	68.9
			70.6				
							36.5
,799,257	4,520,159	79.7	39.2				
							76.3
			67.0				
,647,278	4,008,518	85.0	51.2	23,468,222	2,748,294	89.5	44.8
			49.2				96.9
							62.4
			90.8				
			42.3				
							96.5
			81.7				81.7
,586,606	9,134,394	81.3	55.3				
,238,853	476,567	87.2	93.5				
,945,333	3,293,282	85.2	48.4	13,820,961	2,306,967	85.7	47.5
			76.2				
							35.2
,136,565							
,228,458	3,969,777	73.9	63.6				
			66.1				
,238,853 -	476,567 -	73.9 -	39.2 -	12,187,091 -	1,446,584 -	79.1 -	34.5-
,586,606	9,134,394	97.0	99.2	36,990,743	5,459,385	96.2	96.9
9	8	8	17	5	5	5	15

Resource Allocation

In almost all resource allocation data found in the State Title I Annual Evaluation Reports, confusion existed among actual expenditures, planned expenditures, estimated expenditures, and allocations. Where data on actual expenditures were available in the FY 71, 72, 73, and 74 reports, these figures were extracted in preference to other data. However, in many cases the figures were not labeled and it was impossible to determine whether or not they represented actual expenditures. This problem was compounded by the fact that, in some reports, carry-over funds from previous years were indicated separately, while in others, these funds may simply have been included without mention in reported expenditures or they may have been omitted altogether from the report. The same difficulty occurred with regard to funds for handicapped, delinquent, and migrant children; for SEA administration; and with Part B and Part C funds. Where it was possible to make appropriate determinations, the expenditure data summarized in this report excluded funds for handicapped, delinquent, and migrant children but included all other funds. However, in many cases the State Reports did not include enough information to permit these distinctions, and it was not always clear exactly what the data represented.

The resource allocation data presented here are only a part of the data that can be found in the State Title I Annual Evaluation Reports. Data presented in unique formats or breakdowns, data which did not clearly represent the entire state program over a 12-month period, and data from partially legible reports were omitted. Data aggregated here were those appearing in a format common to several states, and those which permitted some comparison with the FY 69 and 70 data contained in Wargo, et al. (1972).

Table 30 allows comparison of total Title I expenditures by states from FY 69 through FY 74. However, because these figures are subject to all the inconsistencies described above, and because they are not necessarily representative of all the states, caution must be exercised in drawing conclusions from the data. Of the states represented in both

TABLE 30

Title I Expenditures
Presented by State and Fiscal Year

State or Territory	FY 69	FY 70	FY 71	FY 72	FY 73	FY 74
Alabama		40,580,250	41,328,356	41,687,612	35,928,438	43,419,741
Arizona	6,760,821	7,195,996	8,422,776	8,648,415	8,134,242	8,221,631
Arkansas	22,505,629	21,522,592	21,948,297[1]	23,653,381[1]	22,596,805[1]	18,511,688[1]
California	70,093,000	63,818,240	97,986,622	120,909,695	109,854,528	141,100,000[2]
Colorado	7,111,714	8,773,735	7,941,262	10,420,000[2]	10,630,000[2]	11,080,000[2]
Connecticut			10,788,070	12,290,094	11,538,264	12,089,019
Wash. D. C.			4,052,833			
Florida				26,445,029		28,168,029
Georgia				34,171,715[1]	39,554,234	38,447,327[1]
Hawaii	2,048,479	2,606,146	3,117,097	3,451,013	2,966,295	
Idaho		1,882,422	2,665,034	2,428,860		
Illinois	32,173,079		51,135,060[1]	30,299,759[1]		
Indiana						23,105,591
Kansas	9,934,956	10,642,167	9,638,770	9,664,169[1]	8,739,646[1]	
Kentucky			35,098,405[1]			
Louisiana	28,236,296	32,598,848	34,502,932	33,727,092[1]	31,322,489	
Maine	3,350,914	3,606,950	5,454,119	5,607,754	5,633,673	5,641,673
Maryland		10,350,353	17,202,016[1]			
Michigan				47,000,000[2]	51,000,000[2]	
Minnesota				31,434,903[1]	18,466,864	
Mississippi	36,343,610		28,724,526[1]	32,116,157[1]	40,189,587[1]	37,710,393[1]
Missouri			22,339,410[1]	24,605,627[1]	22,069,192[1]	21,388,394[1]
Montana	2,996,462	2,704,158	2,993,356	3,297,707	2,976,757[1]	
Nebraska	5,063,253	5,836,200	5,364,623[1]	6,296,723	5,364,623[1]	
Nevada	803,100		863,874[1]	1,016,449[1]	789,155[1]	
New Hampshire				1,280,597	1,771,395[1]	
New Jersey	20,334,362			34,751,711	45,348,967[1]	
New Mexico	9,935,682	8,859,144	8,403,380[1]	8,035,737[1]	8,951,156[1]	
New York			193,239,909	103,234,139[1]		
North Dakota	3,711,136		4,188,788[1]		3,856,892[1]	4,251,267
Ohio	30,358,091	35,694,314	38,763,013[1]	42,128,991[1]	41,927,959[1]	46,499,783[1]
Oklahoma	13,834,872	17,639,029	17,834,272	18,199,914	14,898,493	17,267,832
Oregon	6,057,342	6,315,505	8,172,842	10,293,077[1]	10,948,596[1]	
Pennsylvania	42,053,472	48,500,000	60,724,183	58,216,747[1]	60,903,030[1]	
Rhode Island	3,100,856	3,464,714	3,677,557[1]	3,971,228[1]	4,669,684[1]	
South Carolina	29,075,524	33,148,316	31,267,771[1]	32,896,138[1]	26,861,392	16,336,546[1]
South Dakota	5,314,910	5,144,950	6,136,429[1]	6,341,874	5,620,841	6,628,420
Tennessee			32,269,717	31,230,697[1]		
Utah			3,308,165	3,593,198		
Vermont				1,938,262	2,141,872[1]	1,761,081[1]
Virginia	25,355,773	30,013,202	34,181,909[1]	33,366,919	31,702,334	32,894,541
Washington				12,272,000[2]		
West Virginia			20,350,000[1]	19,974,347[1]	17,300,000[1]	
Wisconsin	13,512,957	15,520,746	15,927,775	19,327,021	19,402,623	
Wyoming		1,129,222	1,189,100[1]	1,205,406[1]	1,170,817	
BIA			13,590,326	12,874,580	12,873,889	15,155,572
Guam					887,900[1]	
Puerto Rico					30,989,393	

1. Expenditure 2. Approximate figure

FY 69 and FY 73, fifteen show a substantial increase in expenditures, three show a decrease, and six show little change. Between FY 69 and FY 74, eight show an increase, two a decrease, and two show little change. For most of the states shown, there appears to be a trend toward increasing allocations and expenditures over the years for which data are available.

Table 31 shows estimated Title I per-person expenditures for states presenting these data or data from which these figures could be derived in their annual evaluation reports. Data from FY 69 and 70 (from Wargo, et al., 1972) are included in the table, but becuase of methodological differences in the two studies, these data are not always directly comparable with the data from later years. Per-pupil expenditures for FY 69 and 70 were calculated by the AIR reviewers, who divided total expenditures by total participation where these figures were reported. Per-pupil expenditures which were reported by the states were not used, and the total participation figures used in the calculations included unknown amounts of duplication. For FY 70 through 74, per-pupil expenditures were taken directly from the reports when this was possible. When no per-pupil figure was given, total expenditures or allocations were divided by total participation, but only when an unduplicated count of total participants was available. However, these figures, like those for FY 69 and 70, represent only estimates because of inconsistencies in the reporting of expenditures.

For the states for whom data were available, the mean per-pupil expenditure has increased each year by amounts ranging from $6 to $44. However, the range of per-pupil expenditures among states is very wide, as can be seen from the table. In fiscal year 1973, the highest per-pupil expenditure was over 11 times greater than the lowest, and in fiscal year 1969 the highest was 8 times greater than the lowest.

Table 32 shows percentages of expenditures by standard accounting categories for fiscal years 1966 through 1974. The table indicates an increase over the years in the percentage of expenditures for instruction and a corresponding decrease in expenditures for construction and equipment. Expenditures for fixed charges also appear to have increased compared to other expenditures. In other categories, expenditures appear to have changed very little over the years. As is the case with other

TABLE 31

Estimated Title I Per-pupil Expenditures Presented by State and Fiscal Year

State or Territory	FY 69	FY 70	FY 71	FY 72	FY 73	FY 74
Arizona	65	116	169	195	214	227
Arkansas	150	139	139	99	235	
California	279	285	379	385	320	
Colorado	133	227	210		227	
Connecticut			262	295	291	297
District of Columbia			220			
Florida				317		343
Georgia				215	302	332
Hawaii	230	331				
Idaho		49	59	75		
Illinois			211	204		
Indiana	160				RNA	
Kansas	154	154	153	187	211	
Louisiana	124	206	211		260	
Maine	88			179	RNA	203
Maryland	RNA	182				
Mississippi	137					255
Missouri				285	270	293
Montana	248	362	377			
Nebraska	131	75	78	147	139	
Nevada	410		599		378	
New Jersey	153			370		
New Mexico	198	173	155	260	391	
New York			205	237	RNA	
North Dakota	58		108		161	177
Ohio	184	224	428	472	340	379
Oklahoma	83	RNA	114	163		
Oregon	186	183	193		249	
Pennsylvania	141	183			182	
Rhode Island	186	206	231	310		
South Carolina	91	106	122	199	176	135
South Dakota	144	145	163		250	294
Tennessee			144	215		
Vermont				139	52	
Virginia	171	211	262	259	235	254
West Virginia			243	294	321	
Wisconsin	206	246	275	338	354	
Wyoming		69	206	130	142	
BIA				350	580	598
Guam			RNA	RNA	620	
Range	58 - 410	49 - 362	59- 428	75 - 472	52 - 620	135- 598
Mean	164	184	219	243	276	291
Number Reporting	25	21	27	26	25	13

RNA= Report Not Available

TABLE 32

Percentage of Local Educational Agency Title I Expenditures by Account and Fiscal Year

Account	1966[1]	1967[1]	1968[1]	1969[1]	1970[1]	1971[2]	1972[3]	1973[4]	1974[5]
Instruction	51.5	65.7	68.8	71.8	72.8	68.7	60.7	80.2	80.6
Services									
Health	2.3	2.7	2.6	2.6	2.3	3.3	2.1	2.5	1.9
Food	2.2	3.2	2.9	2.9	2.7	3.0	1.5	0.5	0.4
Attendance	0.5	1.1	1.1	1.5	2.0	2.7	5.9	1.1	1.3
Transportation	1.7	1.7	1.8	1.6	1.8	1.3	1.7	1.0	1.3
Student Body Activities	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.0
Community Services	0.6	0.9	1.2	1.4	1.1	0.5	2.5	1.4	0.0
Administration	3.3	5.1	4.8	5.3	5.2	5.8	10.3	5.2	4.8
Construction and Equipment	32.9	13.1	9.4	4.9	3.9	5.3	2.3	1.6	1.9
Plant Operation	0.8	1.1	1.2	1.2	1.1	1.5	1.4	0.9	0.6
Plant Maintenance	0.7	0.5	0.6	0.5	0.4	0.9	0.9	0.4	0.5
Fixed Charges	3.3	4.7	5.4	6.1	6.5	6.8	10.8	5.0	6.6

1. Based upon data provided by the USOE, Division of Compensatory Education.
2. Based upon data available in State Title I Annual Evaluation Reports (7 reports).
3. Based upon data available in State Title I Annual Evaluation Reports (12 reports).
4. Based upon data available in State Title I Annual Evaluation Reports (10 reports).
5. Based upon data available in State Title I Annual Evaluation Reports (3 reports).

data, these data were taken from a rather small number of states and are not necessarily representative of the nation. In particular, the FY 72 data are clearly different from those for other years because of the inclusion of New York in that year only. The large amounts expended in New York and the very deviant pattern of these expenditures (see Table 17) have clearly influenced the total percentages.

Tables 33, 34, 35, and 36 show percentages of expenditures by account for individual states for fiscal years 1971 through 1974. Except for New York, the states represented here appear to have spent their money in similar proportions each year, with most of the money being for instruction.

Tables 24, 25, 26, and 27 show the percentages of participants and expenditures for programs, by state and by fiscal year. Percentages for individual programs vary across states; however, reading and language arts receive consistently high percentages of expenditures and participation. The high percentages in the "Other" categories are the result of the breakdowns used here. Many states specified one or more programs which could not be appropriately classified into specific categories; these programs were therefore included in "Other". Table 28 provides a summary of these data across states for each of the four fiscal years. According to the needs assessment data which were available in the State Title I Annual Evaluation Reports, reading, language arts, and mathematics should be receiving nearly equal priority if students' critical needs are to be met. However, as was also pointed out in Wargo, et al. (1972), a surprisingly small proportion of Title I funds are devoted to mathematics, according to the available data.

Table 29 shows, for fiscal years 1969 through 1974, individual states' expenditures on instructional and supportive activities, and the percentages of costs and participants in instructional activities. The ranges of expenditures and percentages are very wide, as can be seen from the table. However, instructional activities are clearly receiving priority in terms of expenditures.

In summary, resource allocation data presented in the State Title I

TABLE 33

Percentage of Title I Expenditures
by Account, FY 71, Presented by State

Account	Arkansas	Louis-iana	Montana	Nevada	North Dakota	South Carolina	Virginia	TOTAL
Instruction	67.9	69.4	74.3	82.5	87.2	60.9	73.7	68.7
Services								
Health	3.8	3.1	3.6	2.4	0.2	4.6	2.4	3.3
Food	1.8	0.4	0.8	1.4	0.5	6.1	3.7	3.0
Attendance	1.3	1.7	1.6	0.0		5.5[1]	2.4	2.7
Transportation	0.9	0.8	1.0	2.8	1.6	1.3	2.0	1.3
Student Body Activities	0.3			0.5				0.1
Community Services	3.3		0.2					0.5
Administration	7.0	7.2	8.7	3.4	2.9	5.3	4.8	5.8
Construction and Equipment	2.5	6.9	1.0	1.1	2.0	7.2	4.1[2]	5.3
Plant Operation	1.7	2.9	0.8	0.2	0.4	1.9	0.7	1.5
Plant Maintenance	0.8	1.4	0.1	0.0	0.2		0.5	0.9
Fixed Charges	8.8	6.2	7.8	5.6	5.0	7.3	5.7	6.8
Total Expenditure (in millions of dollars)	21.0	32.7	2.2	.9	3.8	32.9	34.2	25.4

1. Includes Student Body Activities and Community Services 2. Includes Miscellaneous Activities

TABLE 34

Percentage of Title I Expenditures
by Account, FY 72, Presented by State

Account	Louisiana	Montana	Nevada	New Jersey	New York	North Dakota	Ohio	Oregon	South Carolina	South Dakota	Utah	Virginia	TOTAL
Instruction	70.2	80.0	84.7	81.9	24.1	86.8	88.6	69.2	68.5	84.5	79.2	74.6	60.7
Services													
Health	2.9	1.5	1.4	2.6	0.9	0.2	1.4	5.4	4.6	0.5	0.7	2.9	2.1
Food	5.2	0.2	1.2	1.4	1.2	0.4	0.6	0.6	0.2	0.0	0.4	2.0	1.5
Attendance	1.5	1.6		0.9	14.2			0.2	7.4[3]	0.3	2.4	2.3	5.9
Transportation	0.7	0.6	2.1	1.6	2.6	1.1	1.1	1.2	1.0	2.4	0.5	1.8	1.7
Student Body Activities		0.0	0.3	0.3	0.4					0.0	0.2		0.2
Community Services	0.0	0.1	0.0	4.3	5.7			2.1		0.0	0.6		2.5
Administration	6.2	7.0	3.3	3.7	21.6	2.5	4.6	2,9	6.0	4.0	5.6	5.8	10.3
Construction and Equipment	3.5	0.7	0.5	2.5	2.2	2.4	0.9	2.8	2.3	1.9	1.7	3.1	2.3
Plant Operation	2.6	0.2	0.3	0.6	0.9	0.4	2.8[1]	2.1	1.6[2]	0.5	0.0	0.8	1.4
Plant Maintenance	1.5	0.3	0.0	0.2	2.0	0.0		0.2		0.1	0.0	0.4	0.9
Fixed Charges	5.8	8.1	6.2		24.4	6.2		13.2	8.4	5.8	8.6	6.3	10.8
Total Expenditure (in millions of dollars)	33.7	2.9	1.0	44.0	103.2	4.3	42.1	10.3	33.0	12.7	3.3	33.4	323.2

1. Includes Maintenance of Plant Activities
2. Includes Student Body Activities and Community Services
3. Includes Miscellaneous

TABLE 35

Percentage of Title I Expenditures
by Account, FY 73, Presented by State

Account Category	Louisiana	Minnesota	Nevada	New Hampshire	New Jersey	North Dakota	Oregon	South Dakota	Vermont	Virginia	TOTAL
Instruction	75.5	85.1	91.7	85.2	84.3	88.3	79.8	84.8	70.1	75.8	78.8
Services											
Health	3.0	0.0	1.5	0.5	2.5	0.1	4.7	0.5	11.7	3.0	2.6
Food	0.1	0.0	1.5	0.2	1.4	0.2	0.3	0.0	0.2	0.4	0.2
Attendance	1.6		0.2		0.6		0.1	0.5	0.2	2.5	1.3
Transportation	0.4	0.3	1.4	1.2	1.4	0.7	0.8	1.7	1.4	1.5	0.9
Student Body Activities				0.2	0.2				0.1		0.0
Community Services	0.0	0.1	0.0	0.4	4.3		2.5	0.2			0.3
Administration	6.9	5.0	2.9	5.2	3.6	2.5	1.0	4.2	9.8	7.6	5.9
Construction and Equipment	2.0	0.3	0.5	1.6	2.4	1.4	0.6	0.6	2.1	1.5[2]	1.3
Plant Operation	2.6	0.1	0.3[1]	0.3	0.4	0.3	0.3	0.3	0.5	0.7	1.0
Plant Maintenance	1.2	0.0		0.2	0.2	0.1	0.1	0.1	0.1	0.5	0.5
Fixed Charges	6.4	9.1		4.9		6.4	9.9	7.1	3.8	6.5	7.2
Total Expenditure (in millions of dollars)	31.8	18.5	.8	1.8	45.3	3.9	11.0	5.8	2.1	32.4	107.7

1. Includes Maintenance of Plant 2. Includes miscellaneous expenditures

TABLE 36

Percentage of Title I Expenditures
by Account, FY 74, Presented by State

Account	North Dakota	South Dakota	Virginia	TOTAL
Instruction	87.9	89.9	78.4	80.6
Services				
Health	0.1	0.3	2.4	1.9
Food	0.4	0.0	0.4	0.4
Attendance		0.6	1.6	1.3
Transportation	0.5	1.5	1.4	1.3
Student Body Activities				
Community Services		0.1		0.0
Administration	1.9		5.9	4.8
Construction and Equipment	2.3	0.2	2.1	1.9
Plant Operation	0.2	0.2	0.7	0.6
Plant Maintenance	0.1	0.1	0.6	0.5
Fixed Charges	6.4	7.3	6.5	6.6
Total Expenditure (in millions of dollars)	4.2	4.7	32.9	41.8

Annual Evaluation Reports are neither sufficient nor consistent enough to form a nationally representative picture of Title I expenditures. However, data do appear in some reports in common formats, and in sufficient detail to indicate that the presentation of useful resource allocation data would be possible for most SEAs. Were other states to present data like those which were extracted for this report, a useful and representative national picture of Title I expenditures could be produced.

Impact

To select the states to be included in the national aggregation of impact information, the achievement data in each State Report were examined to ascertain the degree to which the samples of children tested were representative of their state. Using the results of the data adequacy ratings completed in Phase I, those states whose data samples were judged to be "possibly biased" or better were further examined as potential candidates for inclusion in the total aggregation. There were 17 states in this category in 1971, 19 states in 1972, 17 states in 1973, and 11 states in 1974.

The examination of reports with adequate data samples focused on the reporting procedures and formats they used. The great variety of reporting practices that had been adopted precluded the possibility of pooling the data from all such states. The data from six states in 1971, six states in 1972, six states in 1973, and nine states in 1974 were reported in sufficiently similar formats to make a meaningful aggregation possible. Grade-equivalent pretest, posttest, and gain scores for these states are presented in Tables 37, 38, 39, and 40. In some instances, the State Reports did not present all of these measures. Where possible the measures were computed using the information that the reports did provide.

Both the 1971 and 1972 aggregations that used this reporting format, reflected data from North Carolina, Rhode Island and Virginia. The 1972 and 1973 samples had California and Rhode Island in common, 1973 and 1974 had California, Missouri and Nebraska in common while 1971 and 1974 included data from Missouri and North Dakota. The 1972 and 1974 samples shared no states in common. Missouri and Rhode Island were represented in both 1971 and 1973. Rhode Island contributed data to the aggregations each year except in 1971.

While the data in Tables 37, 38, 39, and 40 are not representative of the nation as a whole or even of a consistent group of states, some observations can be made. The Total Sample pretest scores in Tables 37, 38, 39, and 40 show that by third grade the children were achieving scores below grade level. With each successive year the children fell farther behind

TABLE 37

1971 Reading Achievement Data Expressed in Grade-equivalent Terms and Summarized across States with both Adequate Evaluation Samples and the Same Reporting Format

State	Grade	N	Pre	Post	Gain	AMG
Missouri	1	277	.93	1.49	.56	
	2	2127	1.55	2.49	.94	
	3	2458	2.14	2.93	.79	
	4	6404	2.94	3.74	.80	
	5	5783	3.76	4.52	1.20	
	6	5024	4.48	5.29	.81	
	7	4739	5.44	6.40	.96	
	8	3998	6.29	7.24	.95	
	9	1068	6.34	7.31	.97	
	10	374	6.75	7.69	.94	
	11	137	7.74	9.23	1.49	
	12	56	8.67	9.83	1.16	
North Carolina	1	104	.72	1.30	.58	
	2	1856	1.44	2.32	.88	
	3	1879	2.05	3.12	1.07	
	4	1376	3.09	3.92	.83	
	5	820	3.88	4.37	.49	
	6	893	4.75	5.25	.50	
	7	662	4.94	5.46	.52	
	8	552	5.48	5.94	.46	
	9	338	6.07	7.00	.93	
	10	99	6.61	7.64	1.03	
	11	6	7.40	8.90	1.50	
	12	8	5.50	10.20	4.70	
North Dakota	1	109	1.46	1.97	.51	
	2	194	1.90	2.65	.75	
	3	243	2.50	3.30	1.32	
	4	241	3.16	3.90	.74	
	5	204	4.01	4.87	.86	
	6	157	4.86	5.58	.72	
	7	78	5.27	6.17	.90	
	8	46	6.21	7.03	.82	

TABLE 37 (cont.)

State	Grade	N	Pre	Post	Gain	AMG
Rhode Island	1	64	1.4	2.3	.9	1.7
	2	977	1.4	2.3	.9	1.1
	3	863	2.0	3.0	1.0	1.4
	4	473	2.6	3.6	1.0	1.3
	5	378	3.3	4.5	1.2	1.2
	6	308	4.1	5.0	.9	1.2
	7	277	4.5	6.2	1.7	2.6
	8	81	5.0	6.9	1.9	2.8
	9	150	6.6	7.8	1.2	2.6
Virginia	1	74				1.5
	2	799				1.2
	3	142				1.5
	4	289				1.2
	5	304				1.2
	6	694				1.0
	7	330				1.6
	8	591				1.2
	9	242				1.2
	10	608				1.5
Wisconsin	1	309				1.1
	2	765				1.0
	3	701				1.2
	4	497				1.1
	5	439				1.2
	6	264				1.0
	7	279				1.2
	8	96				.9
	9	32				1.7
	10	55				1.5
Total Sample[1]	1		1.1/(554)	1.6/(554)	.5/(554)	1.3/(447)
	2		1.5/(5154)	2.4/(5154)	.9/(5154)	1.1/(2521)
	3		2.1/(5443)	3.0/(5443)	.9/(5443)	1.3/(1706)
	4		3.0/(8494)	3.8/(8494)	.8/(8494)	1.2/(1259)
	5		3.8/(7185)	4.5/(7185)	.7/(7185)	1.2/(1121)
	6		4.5/(6382)	5.3/(6382)	.8/(6382)	1.1/(1266)
	7		5.3/(5756)	6.3/(5756)	1.0/(5756)	1.8/(886)
	8		6.2/(4677)	7.1/(4677)	.9/(4677)	1.3/(768)
	9		6.3/(1556)	7.3/(1556)	1.0/(1556)	1.7/(429)
	10		6.7/(473)	7.7/(473)	1.0/(473)	1.5/(663)
	11		7.7/(143)	9.2/(143)	1.5/(143)	
	12		8.3/(64)	9.9/(64)	1.6/(64)	

1. Sample includes Missouri, North Carolina, North Dakota, Rhode Island, Virginia, and Wisconsin.

Note. Numbers in parentheses indicate the number of scores that contributed to each average.

AMG= Average Monthly Gain

TABLE 38

1972 Reading Achievement Data Expressed in Grade-equivalent Terms and Summarized across States with both Adequate Evaluation Samples and the Same Reporting Format

State	Grade	N	Pre	Post	Gain	AMG
California	1	14466	1.0	1.7	.7	
	2	37453	1.5	2.3	.8	
	3	35967	2.1	3.0	.9	
	4	31902	2.8	3.6	.8	
	5	29443	3.4	4.2	.8	
	6	26959	4.0	4.8	.8	
	7	5663	4.5	5.3	.8	
	8	4581	5.0	5.9	.9	
	9	7308	5.6	6.8	1.2	
	10	3486	6.1	7.2	1.1	
	11	1622	6.6	7.9	1.3	
	12	622	6.6	7.9	1.3	
Kansas	2	1766	1.67	2.56	.89	1.11
	3	1658	2.40	3.20	.80	1.03
	4	1621	3.04	3.91	.87	1.09
	5	1618	3.68	4.58	.90	1.12
	6	1348	4.33	5.30	.97	1.21
	7	1407	5.29	6.28	.99	1.24
	8	723	5.66	6.67	1.01	1.26
North Carolina	1	556	.74	1.29	.55	
	2	4025	1.57	2.25	.68	
	3	4123	2.07	2.81	.74	
	4	2827	2.64	3.52	.88	
	5	2654	3.32	4.12	.80	
	6	2604	3.98	4.69	.71	
	7	2028	4.69	5.43	.74	
	8	1245	5.40	5.88	.48	
	9	1124	5.78	6.49	.71	
Rhode Island	1	67	1.39	1.98	.59	1.08
	2	1048	1.49	2.46	.97	1.27
	3	967	2.02	3.14	1.12	1.48
	4	500	2.67	3.53	.86	1.16
	5	246	3.25	3.97	.72	.92
	6	271	3.85	4.85	1.00	1.19
	7	394	4.33	5.62	1.29	1.47
	8	152	5.16	6.29	1.13	1.55
	9	236	6.04	7.41	1.37	2.41
	10	19	4.85	6.13	1.28	2.10
	11	12	5.45	6.68	1.23	2.14
	12	7	4.83	5.89	1.06	1.52

TABLE 38 (cont.)

State	Grade	N	Pre	Post	Gain	AMG
Utah	1	1616			.84/(1581)	1.0/(1616)
	2	891			1.10/(860)	1.3/(891)
	3	904			1.10/(861)	1.2/(904)
	4	683			.94/(627)	1.0/(683)
	5	684			.95/(632)	1.0/(684)
	6	689			.99/(633)	1.0/(689)
	7	729			1.15/(710)	1.4/(729)
	8	378			1.21/(367)	1.5/(378)
	9	201			.92/(201)	1.2/(201)
	10	341			1.10/(341)	1.5/(341)
	11	275			.65/(275)	.8/(275)
	12	207			.76/(207)	1.0/(207)
Virginia	1	1327				.9
	2	322				1.7
	3	839				.9
	4	352				1.0
	5	305				1.1
	6	371				1.1
	7	857				1.0
	8	683				1.4
	9	135				1.5
	10	180				1.2
Total Sample[1]	1		1.0/(15089)	1.7/(15089)	.7/(16675)	1.0/(3010)
	2		1.5/(44292)	2.3/(44292)	.8/(45152)	1.2/(4037)
	3		2.1/(42715)	3.0/(42715)	.9/(43576)	1.1/(4368)
	4		2.8/(36850)	3.6/(36850)	.8/(37477)	1.1/(3156)
	5		3.4/(33961)	4.2/(33961)	.8/(34593)	1.1/(2853)
	6		4.0/(31182)	4.8/(31182)	.8/(31815)	1.1/(2679)
	7		4.7/(9492)	5.5/(9492)	.8/(10202)	1.2/(3387)
	8		5.2/(6701)	6.0/(6701)	.8/(7068)	1.4/(1936)
	9		5.6/(8668)	6.8/(8668)	1.2/(8869)	1.8/(572)
	10		6.1/(3505)	7.2/(3505)	1.1/(3846)	1.4/(540)
	11		6.6/(1634)	7.9/(1634)	1.2/(1909)	.9/(287)
	12		6.6/(629)	7.9/(629)	1.2/(836)	1.0/(214)

1. Sample includes: California, Kansas, North Carolina, Rhode Island, Utah, and Virginia.

Note. Numbers in parentheses indicate the number of scores contributing to each average.

AMG= Average Monthly Gain

TABLE 39

1973 Reading Achievement Data Expressed in Grade-equivalent Terms and Summarized across States with both Adequate Evaluation Samples and the Same Reporting Format

State	Grade	N	Pre	Post	Gain	AMG
California	1	12448	1.0	1.7	.7	
	2	43213	1.5	2.3	.8	
	3	43614	2.1	2.9	.8	
	4	33569	2.8	3.6	.8	
	5	32716	3.5	4.2	.7	
	6	29500	4.1	4.9	.8	
	7	5498	4.5	5.3	.8	
	8	3012	5.0	6.0	1.0	
	9	8439	5.7	6.8	1.1	
	10	3739	6.2	7.1	.9	
	11	1393	6.4	7.4	1.0	
	12	589	6.9	7.8	.9	
Missouri	1	323	1.1	1.7	.6	
	2	4382	1.8	2.5	.7	
	3	4251	2.4	3.6	1.2	
	4	4237	3.0	4.3	1.3	
	5	4268	4.1	5.3	1.2	
	6	3367	4.5	5.8	1.3	
	7	2465	4.9	6.2	1.3	
	8	2254	5.4	6.5	1.1	
	9	525	5.6	6.9	1.3	
	10	163	5.7	7.2	1.5	
	11	112	6.4	7.5	1.1	
	12	43	7.4	8.5	1.1	
Nebraska[1]	1	278			.63	
	2	1617			1.07	
	3	2148			1.07	
	4	2584			1.01	
	5	2564			1.08	
	6	2281			1.15	
	7	1511			1.25	
	8	1145			1.11	
	9	515			.94	
	10	306			1.08	
	11	160			.93	
	12	164			1.02	

TABLE 39 (cont.)

State	Grade	N	Pre	Post	Gain	AMG
Rhode Island	1	48	1.2	1.7	.5	.6
	2	721	1.5	2.5	1.0	1.4
	3	792	1.9	3.1	1.2	1.5
	4	519	2.6	3.7	1.1	1.3
	5	287	3.4	4.6	1.2	1.4
	6	224	4.2	5.5	1.3	1.7
	7	543	4.6	6.0	1.4	1.7
	8	219	4.9	6.3	1.4	2.0
	9	139	5.9	7.2	1.3	1.9
	10	67	5.2	6.6	1.4	2.3
	11	17	5.6	6.2	.6	.9
	12	5	5.5	7.0	1.5	2.6
South Dakota[2]	K	352				1.04
	1	708				.88
	2	1233				.98
	3	1425				.91
	4	1459				.87
	5	1282				.87
	6	1142				.89
	7	633				.87
	8	481				.86
	9	48				.81
	10	10				.99
Vermont[3]	1	57	1.07	1.62	.55	.75
	2	411	1.65	2.47	.82	1.10
	3	443	2.09	3.08	.99	1.27
	4	352	2.69	3.28	.59	.84
	5	196	3.29	3.82	.53	.80
	6	203	4.05	5.05	1.00	1.37
	7	82	4.70	5.43	.73	1.03
	8	41	4.78	5.31	.53	.78

TABLE 39 (cont.)

State	Grade	N	Pre	Post	Gain	AMG
Total Sample[4]	1		1.0/(12596)	1.7/(12596)	.7/(12874)	.9/(813)
	2		1.5/(48727)	2.3/(48727)	.8/(50344)	1.1/(2365)
	3		2.1/(49100)	2.8/(49100)	.7/(51248)	1.1/(2668)
	4		2.8/(38677)	3.7/(38677)	.9/(41251)	1.0/(2330)
	5		3.6/(37467)	4.3/(37467)	.7/(40031)	.9/(1765)
	6		4.1/(33294)	5.0/(33294)	.9/(35575)	1.1/(1569)
	7		4.6/(8588)	5.6/(8588)	1.0/(10099)	1.5/(1060)
	8		5.2/(5526)	6.2/(5526)	1.0/(6671)	1.2/(741)
	9		5.7/(9103)	6.8/(9103)	1.1/(9618)	1.6/(187)
	10		6.2/(3969)	7.1/(3969)	.9/(4275)	2.1/(77)
	11		6.4/(1522)	7.4/(1522)	1.0/(1682)	
	12		6.9/(637)	7.8/(637)	.9/(801)	

1. The total number of children contributing gain scores is given. However, the grade level N's were calculated from percentage data listed in another table.

2. The AMG numbers were assumed to be average monthly gains although they were labeled gain scores.

3. The AMG numbers were calculated by RMC based on the testing dates cited in the report.

4. The sample includes California, Missouri, Nebraska, Rhode Island, South Dakota, and Vermont.

Note. Numbers in parentheses indicate the number of scores contributing to each average,

AMG= Average Monthly Gain

TABLE 40

1974 Reading Achievement Data Expressed in Grade-equivalent Terms and Summarized across States with both Adequate Evaluation Samples and the Same Reporting Format

State	Grade	N	Pre	Post	Gain	AMG
Alabama	1	10272		1.51		
	2	14455	1.14	2.16	1.02	
	3	13424	1.80	2.80	1.00	
	4	10623	2.40	3.29	.89	
	5	9406	3.00	4.04	1.04	
	6	8402	3.68	4.63	.95	
	7	3249	4.26	5.45	1.19	
	8	1875	4.73	5.80	1.07	
BIA	1	254			.8	
	2	487			1.0	
	3	623			1.0	
	4	575			.7	
	5	577			.9	
	6	452			.9	
	7	399			1.2	
	8	453			1.2	
	9	640			.9	
	10	256			1.1	
	11	201			1.2	
	12	133			.9	
California	1	19668	1.0	1.8	.8	1.1
	2	58539	1.7	2.4	.7	1.0
	3	57383	2.3	3.0	.7	1.0
	4	45203	2.8	3.7	.9	1.3
	5	42371	3.6	4.3	.7	1.0
	6	41489	4.2	5.0	.8	1.1
	7	13881	4.6	5.3	.7	1.0
	8	7156	5.1	6.0	.9	1.3
	9	12135	5.9	6.9	1.0	1.4
	10	4293	6.4	7.2	.8	1.1
	11	1462	6.3	7.2	.9	1.3
	12	605	6.5	7.4	.9	1.3
Guam[1]	1	61	2.1	3.1	1.0	1.3
	2	70	2.2	3.6	1.4	1.0

TABLE 40 (cont.)

State	Grade	N	Pre	Post	Gain	AMG
Kentucky[1]	1	369			.71	.91
	2	245			.81	.91
	3	167			1.04	1.13
	4	60			.85	.85
	5	20			.77	.77
	6	14			.49	.49
	7	4			.87	.99
	8	5			.84	1.40
	9	1			1.30	1.30
Missouri	1	560	.83	1.75	.92	
	2	4035	1.37	2.51	1.14	
	3	5043	2.04	3.29	1.25	
	4	5497	2.60	3.53	.93	
	5	5445	3.34	4.42	1.08	
	6	4540	4.14	5.19	1.05	
	7	3468	4.58	5.46	.88	
	8	2753	5.14	5.98	.84	
	9	721	5.55	6.87	1.32	
	10	352	5.88	7.22	1.34	
	11	102	7.10	8.87	1.77	
Nebraska[2]	1	396				.72
	2	2030				1.04
	3	2289				1.01
	4	2402				1.00
	5	2481				1.09
	6	2104				1.13
	7	1471				1.22
	8	924				.94
	9	419				.80
	10	183				.83
	11	151				.72
	12	77				.75
North Dakota	2	930	1.53	2.60	1.07	1.33
	3	1041	2.25	3.26	1.01	1.23
	4	1091	2.99	3.99	1.00	1.21
	5	956	3.68	4.70	1.02	1.26
	6	829	4.31	5.35	1.04	1.29
	7	434	4.77	5.74	.97	1.20
	8	387	5.37	6.48	1.11	1.45
	9	97	5.02	5.99	.97	1.23
	10	65	6.52	7.72	1.20	1.33
	11	2	4.55	4.50	.05	.00

TABLE 40 (cont.)

State	Grade	N	Pre	Post	Gain	AMG
Texas	2	7165				1.04
	3	8149				.96
	4	8164				1.02
	5	8128				.99
	6	5105				.85
	7	2815				.93
	8	1243				.75
	9	1004				1.05
	10	412				1.13
	11	193				.81
	12	145				1.01
Total Sample[3]	1		1:0/(20289)	1.8/(20289)	.8/(20912)	1.1/(20494)
	2		1.6/(78029)	2.4/(78029)	.8/(78761)	1.0/(68979)
	3		2.2/(76891)	3.0/(76891)	.8/(77681)	1.0/(69029)
	4		2.6/(64816)	3.5/(64816)	.9/(65451)	1.2/(56920)
	5		3.5/(58178)	4.3/(58178)	.8/(58775)	1.0/(53956)
	6		4.0/(57364)	4.8/(57364)	.8/(57830)	1.1/(49541)
	7		4.6/(21032)	5.4/(21032)	.8/(21435)	1.0/(18605)
	8		5.1/(12171)	6.0/(12171)	.9/(12629)	1.2/(9715)
	9		5.9/(12953)	6.9/(12953)	1.0/(13594)	1.4/(13656)
	10		6.4/(4710)	7.2/(4710)	.9/(4911)	1.1/(4953)
	11		6.4/(1566)	7.3/(1566)	1.0/(1767)	1.2/(1808)
	12		6.5/(605)	7.4/(605)	.9/(133)	1.2/(827)

1. AMGs were calculated by RMC.

2. The total number of children contributing gain scores is give. However, the grade level N's were calculated from percentage data listed in another table.

3. Sample includes Alabama, the Bureau of Indian Affairs, California, Guam, Kentucky, Missouri, Nebraska, North Dakota, and Texas.

Note. Numbers in parentheses indicate the number of scores that contributed to each average.

AMG= Average Monthly Gain

so that by seventh grade the 1971 sample tested two years below grade level and the 1972, 1973, and 1974 samples tested almost three years below grade level.

Clearly inconsistent with the pretest indications of achievement status are the data presented in the average monthly gain (AMG) columns which show that, with few exceptions, the children were making a month gain or more for each month of instruction. Theoretically, if disadvantaged children were able to maintain this rate of growth, they would no longer fall farther and farther behind their more advantaged counterparts. Unfortunately, arguments presented by Tallmadge and Horst (1974) and Horst, Tallmadge, and Wood (1975) indicate that average monthly gain data are highly suspect when computed for a pre- to posttest interval of less than twelve months. Thus it appears likely that actual gains were smaller than those reported, and that the inconsistency between status indications and gains resulted from systematic biases inherent in grade-equivalent scores and was really no more than an artifact of measurement.

By referring again to the Total Sample sections in Tables 37, 38, 39, and 40, pretest, posttest, and gain scores can be compared across the four years. The scores for grades one through four are roughly comparable in 1971, 1972, 1973, and 1974. After fourth grade the 1971 data begin to diverge increasingly from the data of the following years. One explanation for this is that the 1971 data were less stable because of the smaller sample size. This instability is reflected in the differences in pretest, posttest, and gain scores from the other years. A second explanation, and one which is easily verifiable, is that the similarity of the 1972, 1973, and 1974 data was a result of the fact that California contributed approximately 70%, 85%, and 95% of the total sample size respectively in these three years. The Total Sample data were thus heavily influenced by California, and the different picture reflected by the 1971 data was largely due to the absence of California from that aggregation.

The comparability problems which exist with respect to the FY 71, 72, 73, and 74 impact data aggregations would be still more severe if an attempt were made to include results from FY 69 and 70. While impact data

for those years were aggregated by Wargo, et al (1972), the aggregations were for grades two, four, and six only. More important, data were pooled across types of programs and subject matters rather than restricting the aggregations to reading programs and reading achievement tests as was done here. For these reasons, no attempt has been made to look for trends across the six-year period.

Three 1972, four 1973, and six 1974 State Reports shared a second reporting format making another aggregation possible. The number and percent of children who had average monthly gains within each of four specified ranges are shown in Tables 41, 42, and 43 for these states. Again, wherever possible, missing values were computed from the existing data. These aggregations contain many of the same deficiencies mentioned previously. In addition, the states using this format did not employ identical AMG ranges, Fortunately, the ranges chosen were sufficiently similar so that aggregation was still possible. Two further points should be noted. First, the size of the Total Samples of children tested differed each year ranging from 188,188 in 1974 to 261,382 in 1973. Second, the 1972 and 1973 aggregations have only the state of California in common; both the 1973 and 1974 aggregations have data from Florida, Missouri, and Nebraska; and both the 1972 and 1974 samples include data from North Dakota. No single state contributed data to each of the three yearly aggregations.

Clearly, the data presented in Tables 37 through 43 do not constitute an adequate basis for assessing the national impact of the Title I program. It is not even possible to draw meaningful inferences about national or regional trends from year to year since different samples of states are represented in each yearly aggregation.

While the type of aggregation presented in Table 44 shows a significant difference between years, the Average Monthly Gains computed for the 1972, 1973, and 1974 Total Samples (see Tables 38, 39, and 40), show essentially no differences between the three years. This apparent inconsistency between the two sets of data could be due to any one of a variety of possible causes such as differences in the composition of the two samples, skewness of the

TABLE 41

Number and Percent of Children who Tested within Specified Average Monthly Gain Score Ranges in Reading for 1972: States with Adequate Sampling Procedures and the Same Reporting Format.

California

Grade	N	>1.4 n[1]	%	1.4-1.0 n	%	.9-.7 n	%	<.7 n	%
1	14466	216	1	2189	15	5474	38	6547	45
2	37453	2611	7	9799	26	10372	28	14669	39
3	35967	2461	7	12205	34	11056	31	10247	28
4	31902	2758	9	8436	26	9134	29	11574	36
5	29443	1844	6	5589	19	9822	33	11588	39
6	26959	1790	7	7021	26	9806	36	8341	31
7	5663	961	17	977	17	1173	21	2552	45
8	4581	617	13	680	15	3090	67	193	4
9	7308	2124	29	2905	40	1320	18	958	13
10	3486	832	24	1018	29	610	17	1026	29
11	1622	385	24	516	32	272	17	448	28
12	622	224	36	170	27	82	13	146	23

New Jersey

Grade	N	>1.50 n	%	1.50-1.01 n	%	1.00-.71 n	%	<.71 n	%
1	1908	488	26	184	10	191	10	1045	55
2	5112	1247	24	983	19	785	15	2097	41
3	4947	1531	31	853	17	697	14	1186	24
4	3645	951	26	624	17	530	15	1534	42
5	2733	783	29	442	16	330	12	1178	43
6	1816	599	33	283	16	204	11	730	41
7	1098	399	36	143	13	106	8	450	55
8	819	286	35	103	13	64	8	366	45
9	1280	581	45	171	13	96	8	432	34
10	235	131	56	24	10	16	7	64	27
11	123	70	57	12	10	5	4	36	29
12	66	37	56	7	11	3	5	19	29

TABLE 41 (cont.)

North Dakota

Grade	N	>1.50 n	%	1.50-1.01 n	%	1.00-.71 n	%	<.71 n	%
1	436	66	15	59	14	95	22	216	50
2	956	206	22	216	23	167	17	367	38
3	1237	252	20	253	20	246	20	486	39
4	1158	184	16	205	18	245	21	523	45
5	1128	167	15	221	20	215	19	525	47
6	927	161	17	150	16	163	18	453	49
7	495	88	18	72	15	107	22	228	46
8	259	57	22	59	23	47	18	96	37
9	42	7	17	5	12	7	17	23	55

Total Sample[2]

Grade	N	>1.50[3] n	%	1.50-1.01 n	%	1.00-.71 n	%	<.71 n	%
1	16810	770	5	2432	14	5760	34	7808	46
2	43521	4064	9	10998	25	11324	26	17133	39
3	42151	4153	10	13311	32	11999	28	11919	28
4	36705	4867	13	9265	25	9910	27	13631	37
5	33304	3755	11	6252	19	10367	31	13291	40
6	29702	3316	11	7454	25	10173	34	9524	32
7	7256	1448	20	1192	16	1386	19	3230	45
8	5659	960	17	843	15	3201	57	655	12
9	8630	2712	31	3082	36	1432	16	1413	16
10	3721	963	26	1042	28	626	17	1090	29
11	1745	455	26	528	30	277	16	484	28
12	688	261	38	177	26	85	12	165	24

1. The n's may not sum to the reported N and the percentages may not sum to 100% due to rounding error.
2. Sample includes California, New Jersey, and North Dakota.
3. All the states did not separate scores into the same ranges of grade-equivalent scores. However, the ranges overlap sufficiently to permit their aggregation in the total sample.

TABLE 42

Number and Percent of Children who Tested within Specified Average Monthly Gain Score Ranges in Reading for 1973: States with Adequate Sampling Procedures and the Same Reporting Format.

California

Grade	N	>1.5 n	%	1.4-1.0 n	%	.9-.7 n	%	<.7 n	%
1	14519	396	3	1319	9	4294	30	8510	59
2	43434	1571	4	11534	27	13834	32	16496	38
3	43941	2673	6	10573	24	15339	35	15357	35
4	33841	2231	7	7700	23	9928	29	13982	41
5	33028	1595	5	6669	20	10143	31	14917	45
6	29755	1722	6	5738	19	10850	36	11444	38
7	5582	317	6	949	17	917	16	3399	61
8	3046	264	9	762	25	1389	46	632	21
9	8556	2343	27	1820	21	1857	22	2536	30
10	3859	409	11	1368	35	1369	35	712	18
11	1448	390	27	409	28	304	21	345	24
12	627	117	19	292	47	25	4	193	31

Florida

Grade	N	>1.50 n	%	1.50-1.01 n	%	1.00-.71 n	%	<.71 n	%
1	767	2	.2	139	18	452	59	174	23
2	9152	1147	13	1312	14	3578	39	3115	34
3	8041	1474	18	1726	21	1169	15	3672	46
4	5583	256	5	1548	28	1159	21	2620	47
5	4627	296	6	1195	26	981	21	2232	48
6	4149	614	15	792	19	390	9	2353	57
7	3271	313	10	683	21	1361	42	906	28
8	1997	179	9	218	11	787	39	813	41
9	1759	51	3	126	7	316	18	1266	72
10	1367	207	15	255	19	204	15	701	51
11	245	9	4	5	2	220	90	5	2
12	26	1	4	6	23	0	0	19	73

TABLE 42 (cont.)

Missouri

Grade	N	>1.50		1.50-1.01		1.00-.71		<.71	
		n	%	n	%	n	%	n	%
1	323	29	9	52	16	95	29	147	45
2	4382	750	17	1014	23	891	20	1727	39
3	4251	738	17	894	21	1262	30	1309	31
4	4237	1147	27	947	22	674	16	1447	34
5	4268	1261	30	992	23	815	19	1199	28
6	3367	1108	33	691	21	492	15	1234	37
7	2465	638	26	509	21	356	14	961	39
8	2254	700	31	455	20	390	17	708	31
9	525	211	40	73	14	70	13	171	33
10	163	76	47	20	12	14	9	52	32
11	112	34	31	18	16	19	17	41	37
12	43	13	31	10	22	7	17	13	30

Nebraska

Grade	N	>1.50		1.50-1.01		1.00-.71		<.71	
		n	%	n	%	n	%	n	%
1	313	19	6	38	12	56	18	200	64
2	1819	398	22	454	25	340	19	627	34
3	2416	578	24	512	21	430	18	896	37
4	2907	669	23	614	21	414	14	1210	42
5	2884	824	29	580	20	398	14	1082	38
6	2566	759	30	445	17	355	14	1007	39
7	1700	597	35	249	15	220	13	634	37
8	1288	406	32	196	15	139	11	547	42
9	579	168	29	106	18	96	17	209	36
10	344	92	27	57	17	32	9	163	47
11	180	50	28	27	15	21	12	82	46
12	184	50	27	27	15	14	8	93	51

TABLE 42 (cont.)

Total Sample[1]

Grade	N	>1.50[2] n	%	1.50-1.01 n	%	1.00-.71 n	%	<.71 n	%
1	15922	446	3	1548	10	4897	31	9031	57
2	58787	3866	7	14314	24	18643	32	21965	37
3	58649	5463	9	13705	23	18198	31	21234	36
4	46568	4303	9	10809	23	12175	26	19259	41
5	44807	3976	9	9436	21	12337	28	19430	43
6	39837	4203	11	7666	19	12087	30	16038	40
7	13018	1865	14	2390	18	2854	22	5900	45
8	8585	1549	18	1631	19	2705	32	2700	31
9	11419	2773	24	2125	19	2339	20	4182	37
10	5733	784	14	1700	30	1619	28	1628	28
11	1985	483	24	459	23	564	28	473	24
12	880	181	21	335	38	46	5	318	36

1 The total sample includes California, Florida, Missouri, and Nebraska.

2 The sample states did not use the same ranges of grade-equivalent scores but the ranges overlap sufficiently to permit aggregation.

TABLE 43

Number and Percent of Children who Tested within Specified Average Monthly Gain Score Ranges in Reading for 1974: States with Adequate Sampling Procedures and the Same Reporting Format.

Alabama

Grade	N	> 1.4		1.4-1.0		.9-.7		< .7	
		n	%	n	%	n	%	n	%
1	9331	2972	32	2653	28	1998	21	1708	18
2	14068	3366	24	4001	28	2758	20	3943	28
3	12936	3166	24	3316	26	2415	19	4039	31
4	10483	2445	23	2332	22	2111	20	3595	34
5	8895	2546	29	1968	22	1681	19	2700	30
6	8048	2129	26	1720	21	1481	18	2712	34
7	3435	884	26	693	20	754	22	1104	32
8	2014	565	28	479	24	441	22	529	26
9	962	288	30	183	19	184	19	307	32
10	115	56	49	24	21	12	10	23	20
11	101	44	44	9	9	13	13	35	35
12	99	33	33	20	20	16	16	30	30

Arizona

Grade	N	> 1.4		1.4-1.0		.9-.5		< .5	
		n	%	n	%	n	%	n	%
2	2704	771	29	551	20	733	27	649	24
3	2832	780	28	632	22	691	24	729	26
4	2299	634	28	481	21	487	21	697	30
5	2322	761	33	461	20	462	20	638	27
6	1982	699	35	387	20	363	18	533	27
7	1459	559	38	260	18	245	17	395	27
8	1250	553	44	164	13	181	14	352	28
9	2150	957	45	332	15	302	14	559	26
10	879	400	46	142	16	142	16	195	22
11	303	114	38	44	15	67	22	78	26
12	121	57	47	15	12	23	19	26	21

TABLE 43 (cont.)

Florida

Grade	N	> 1.49		1.49-1.00		.99-.50		< .50	
		n	%	n	%	n	%	n	%
1	2000	12	01	83	04	1527	76	378	19
2	10237	491	5	1643	16	6905	67	1198	12
3	9179	803	9	1356	15	6441	70	579	6
4	6458	636	10	1541	24	3712	57	569	9
5	7355	1036	14	3229	44	2436	33	654	9
6	5116	874	17	2354	46	1404	27	484	9
7	3619	1307	36	1255	35	821	23	236	7
8	1460	608	42	385	26	263	18	204	14
9	745	380	51	122	16	185	25	58	8
10	535			223	42	117	22	195	36
11	226			22	10	178	79	26	12
12	22					3	14	19	86

Missouri

Grade	N	> 1.50		1.50-1.01		1.00-.71		< .71	
		n	%	n	%	n	%	n	%
1	560	87	16	118	21	106	19	251	45
2	4035	714	18	942	23	867	21	1513	37
3	5043	1659	33	1030	20	885	18	1469	29
4	5497	1003	18	1244	23	1027	19	2223	40
5	5445	1177	22	1192	22	932	17	2145	39
6	4540	1105	24	945	21	686	15	1804	40
7	3468	1038	30	599	17	438	13	1393	40
8	2753	786	29	504	18	371	13	1091	40
9	721	213	30	131	18	93	13	282	39
10	352	127	36	70	20	42	12	113	32
11	102	38	37	24	23	12	12	29	28

TABLE 43 (cont.)

Nebraska

Grade	N	> 1.50		1.50-1.01		1.00-.71		< .71	
		n	%	n	%	n	%	n	%
1	371	31	8	73	20	67	18	200	54
2	1904	407	21	448	24	374	20	675	35
3	2147	440	20	482	22	360	17	865	40
4	2253	527	23	440	20	349	15	937	42
5	2327	663	28	463	20	311	13	890	38
6	1973	566	29	396	20	264	13	747	38
7	1380	488	35	223	16	153	11	516	37
8	867	257	30	133	15	91	10	386	45
9	393	88	22	57	15	33	8	215	55
10	172	33	19	25	15	26	15	88	51
11	142	31	22	13	9	15	11	83	58
12	72	12	17	8	11	12	17	40	56

North Dakota

Grade	N	> 1.5		1.5-1.1		1.0-.6		< .6	
		n	%	n	%	n	%	n	%
	930	208	22	259	28	256	28	207	22
	1041	215	21	264	25	320	31	242	23
	1091	235	22	258	24	299	27	299	27
	956	190	33	193	27	262	20	311	20
	829	190	23	171	21	217	36	251	30
	534	123	28	166	15	111	26	134	31
	387	131	34	60	16	94	24	102	26
	97	21	22	28	29	29	30	19	20
	65	23	35	6	9	10	15	26	40
	2							2	100

TABLE 43 (cont.)

Total Sample[1]

Grade	N	> 1.50[2] n	%	1.50-1.01 n	%	1.00-.71 n	%	< .71 n	%
1	12262	3102	25	2927	24	3698	30	2537	21
2	33878	5957	18	7844	23	11893	35	8185	24
3	33178	7063	21	7080	21	11112	33	7923	24
4	28081	5480	20	6296	22	7985	28	8320	30
5	27300	6373	23	7506	27	6084	22	7338	27
6	22488	5563	25	5973	27	4421	20	6531	29
7	13895	4399	32	3196	23	2522	18	3778	27
8	8731	2900	33	1725	20	1441	17	2664	31
9	5066	1947	38	853	17	826	16	1440	28
10	2118	639	30	490	23	349	16	640	30
11	877	227	26	112	13	285	32	253	29
12	314	102	32	43	14	54	17	115	37

1. Sample includes Alabama, Arizona, Florida, Missouri, Nebraska and North Dakota.

2. The sample states did not use the same ranges of grade-equivalent scores but the ranges overlap sufficiently to permit aggregation.

TABLE 44

Percent of Children Having Average Monthly Gains in Reading of 1.01 or More and 1.00 or Less Derived from the Total Sample Data for the Years 1972, 1973, and 1974

Grade	Total Sample 1972		Total Sample 1973		Total Sample 1974	
	≥1.01	≤1.00	≥1.01	≤1.00	≥1.01	≤1.00
1	19	81	13	87	49	51
2	34	66	31	69	41	59
3	42	58	32	68	43	57
4	38	62	32	68	42	58
5	30	70	30	70	50	50
6	36	64	30	70	52	48
7	36	64	32	68	55	45
8	32	68	37	63	53	47
9	67	33	43	57	55	45
10	54	46	44	56	53	47
11	56	44	47	53	39	61
12	64	36	59	41	46	54

gain score distribution, etc. Regardless of the cause, however, the difference serves to highlight the futility of attempting to draw any inferences about the effects of Title I in general from data currently available in State Annual Evaluation Reports.

As mentioned earlier, the data in Tables 37 through 44 present the only aggregations of adequately representative and valid achievement benefit data which could be made. Other reports, however, contained data which were judged to be adequate although presented in a format not compatible with that used by other states the same year. In order to give as complete a picture of Title I impact as possible, these data are presented, unaggregated, in Tables 45 through 48.

TABLE 45

1971 Reading Achievement Statistics: States with Adequate Data but Unique Reporting Formats

California 1971

Reading Achievement by Percent of Students in Each Range of Average Monthly Gain

Grade	N	>1.4	1.4-1.0	.9-.7	<.7
1	13000	5.6	18.9	23.7	51.7
2	17281	4.7	29.1	31.8	34.4
3	27136	2.9	15.4	41.8	46.2
4	23426	10.3	20.8	28.4	37.8
5	21114	7.6	14.2	36.9	41.3
6	19488	7.7	14.4	41.8	36.1
7	2605	15.2	32.7	34.9	17.3
8	2210	16.2	21.6	34.1	29.7
9	3578	20.6	27.9	33.5	17.9
10	1638	20.7	33.4	27.6	18.3
11	586	15.3	24.9	45.4	14.3
12	278	38.5	41.7	10.1	9.7

New Mexico 1971

Reading Achievement by Percent of Districts in Each Range of Average Monthly Gain

Number of Districts	>1.4	1.4-1.1	1.0-.6	<.6
71	8.5	35.2	39.4	16.9

TABLE 46

1972 Reading Achievement Statistics: States with Adequate Data but Unique Reporting Formats

Louisiana 1972

Reading Achievement by Percent of Pupils in Percentile Groups
for Pre- and Posttest

		Percentile Band									
		1-5		11-15		21-25		35-55		56-99	
Grade	N	Pre-Post	Change	Pre-Post	Change	Pre-Post	Change	Pre-Post	Change	Pre-Post	Change
1	679	25.9-16.5	-9.4	12.2- 9.4	-2.8	7.2-8.0	+0.8	11.5-16.8	+5.3	6.3-12.5	+6.2
2	4,026	33.3-30.3	-3.0	14.6-11.5	-3.1	8.8-8.7	-0.1	8.5-10.0	+1.5	2.4- 3.9	+1.5
3	4,084	28.4-23.5	-4.9	13.1-13.2	+0.1	8.8-7.3	-1.5	7.5-10.2	+2.7	1.9- 4.1	+2.2
4	3,555	31.4-18.4	-13.0	15.1-17.7	+2.6	6.2-8.3	+2.1	4.1- 8.1	+4.0	0.9- 2.8	+1.9
5	3,546	36.9-25.8	-11.1	14.3-15.7	+1.4	6.7-7.8	+1.1	3.0- 7.2	+4.2	0.5- 1.9	+1.4
6	3,408	29.9-33.4	+3.5	17.9-12.9	-5.0	8.5-7.0	-1.5	2.8- 6.0	+3.2	0.8- 1.8	+1.0
7	3,371	36.4-33.0	-3.4	12.6-15.4	+2.8	6.9-7.9	+1.0	3.1- 5.8	+2.7	0.7- 2.5	+1.8
8	2,610	36.5-40.5	+4.0	14.3-13.3	-1.0	5.5-5.9	+0.4	2.3- 3.4	+1.1	0.9- 1.4	+0.5
9	1,874	40.7-35.2	-5.5	14.8-15.6	+0.8	4.9-4.6	-0.3	2.3- 6.3	+4.0	0.9- 3.4	+2.5
10	1,139	41.0-32.7	-8.3	12.7-13.1	+0.4	3.4-4.0	+0.6	3.8- 4.7	+0.9	0.8- 2.6	+1.8
11	375	52.8-45.1	-7.7	9.3-12.3	+3.0	2.7-5.1	+1.4	1.6- 1.1	-0.5	0.0- 0.5	+0.5
12	327	67.6-44.3	-23.3	5.5-13.5	+7.0	0.3-4.0	+3.7	0.6- 1.2	+0.6	0.3- 0.3	0.0

TABLE 46 (cont.)

New Mexico 1972

Reading Achievement by Percent of Districts in Each Range of Average Monthly Gain

>1.4	1.4-1.1	1.0-.6	<.6
10	24.3	52.3	13.4

New York 1972

Amount of Gain and Average Monthly Gain for Students as a Function of the Number of Months Between Pre- and Posttest (Grades 1-6)

Months Between Tests	N	Gain	AMG
1	4848	3.60	3.60
2	346	6.00	3.00
3	1754	4.34	1.45
4	754	4.26	1.06
5	668	6.64	1.33
6	2248	6.94	1.16
7	6009	9.41	1.34
8	6538	9.13	1.14
9	10969	7.65	.85
10	11077	9.14	.91
11	38	13.00	1.18
12	25	9.58	.80

Wisconsin 1972

Reading Achievement by Percent of Students in Each Range of Average Monthly Gain

Grade Level	0-.4	.5-.7	.8-.9	1-1.5	1.6-2	2.1-2.9	3 or More
1	25.96	2.74	20.37	27.82	15.66	6.13	1.31
2	8.81	8.15	12.86	55.20	6.69	8.28	0
3	5.63	26.19	5.84	41.85	13.49	7.00	0
4	12.41	11.04	21.34	38.83	14.27	1.12	.99
5	1.50	12.17	15.92	54.49	9.93	5.62	.37
6	3.68	19.40	9.70	47.49	6.35	12.37	1.00
7	16.39	22.95	0	22.95	10.38	0	27.32
8	1.37	15.07	16.00	36.99	20.55	0	9.59
9	15.15	0	0	37.88	9.09	19.70	18.18
10	0	0	0	0	63.64	27.27	9.09
11	33.33	0	0	0	0	40.00	26.67
12	0	33.33	0	8.33	0	0	58.33

TABLE 47

1973 Reading Achievement Statistics: States with Adequate Data but Unique Reporting Formats

Arkansas 1973

Number of Students with AMG's in Reading in Specified Ranges

>.9	.9-.1	<.1
2696	1718	1871

Hawaii 1973

Percent of Title I Students Who Achieved More Than Six-month Growth in Reading Achievement Reported by Districts

District	Number Achieving More than 6 Months	% of Sample Achieving Goal
Honolulu	577	50
Central	144	73
Leeward	303	47
Windward [1]	201	58
Hawaii[2]	227	50
Maui	136	63
Kauai	79	80

1. 5th grade Pope and Waimanalo not included
2. Excluded elementary schools which only had 3-to-4 months pre-posttest span

Kentucky 1973

Reading Achievement as a Function of Gain and Average Monthly Gain

N	Time Between Pre and Post	Gain	AMG
61,047	.77	1.05	1.36

TABLE 47 (cont.)

Louisiana 1973

Reading Achievement as a Function of Changes in Percentile Rankings by Grades

PERCENTILE BAND 1 - 5

Grade	N	Pre No.	Pre %	Post No	Post %	Out No.	Out %
1	1,662	440	26.5	139	8.4	301	18.1
2	7,969	2,095	26.3	1,049	13.2	1,046	13.1
3	9,190	2,669	29.0	1,649	17.9	1,020	11.1
4	9,180	2,973	32.4	1,538	16.8	1,435	15.6
5	8,854	3,025	34.2	2,236	25.3	789	8.9
6	8,322	2,674	32.1	2,242	26.9	432	5.2
7	7,080	2,487	35.1	1,857	26.2	630	8.9
8	5,685	2,280	40.1	1,836	32.3	444	7.8
9	4,155	1,490	35.9	1,192	28.7	298	7.2
10	2,509	943	37.6	722	28.8	221	8.8
11	1,424	607	42.6	519	36.4	88	6.2
12	791	333	42.1	265	33.5	68	8.6

PERCENTILE BAND 1 - 25

1	1,662	1,460	87.8	791	47.6	669	40.2
2	7,969	6,393	80.2	4,258	53.4	2,135	26.8
3	9,190	7,851	85.4	5,996	65.2	1,855	20.2
4	9,180	8,147	88.7	6,648	72.4	1,499	16.3
5	8,854	7,923	89.5	7,011	79.2	912	10.3
6	8,322	7,458	89.6	6,500	78.1	958	11.5
7	7,080	6,461	91.2	5,461	77.1	1,000	14.1
8	5,685	5,143	90.5	4,597	80.9	546	9.6
9	4,155	3,786	91.1	3,315	79.8	471	11.3
10	2,509	2,113	84.2	1,958	78.0	155	6.2
11	1,424	1,290	90.6	1,166	81.9	124	8.7
12	791	693	88.2	656	82.9	42	5.3

PERCENTILE BAND 56 - 99

1	1,662	50	3.0	296	17.8	246	14.8+
2	7,969	380	4.8	999	12.5	619	7.7+
3	9,190	239	2.6	687	7.5	448	4.9
4	9,180	101	1.1	387	4.2	286	3.1
5	8,854	71	0.8	294	3.3	223	2.5
6	8,322	137	1.6	306	3.7	169	2.0+
7	7,080	46	0.6	313	4.4	267	3.8
8	5,685	47	0.8	164	2.9	117	2.1
9	4,155	25	0.6	98	2.4	73	1.8
10	2,509	32	1.3	94	3.7+	62	2.5
11	1,424	8	0.6	28	2.0	20	1.4
12	791	10	1.3	18	2.3	8	1.0

TABLE 47

1973 Reading Achievement Statistics: States with Adequate Data but Unique Reporting Formats

Arkansas 1973

Number of Students with AMG's in Reading in Specified Ranges

>.9	.9-.1	<.1
2696	1718	1871

Hawaii 1973

Percent of Title I Students Who Achieved More Than Six-month Growth in Reading Achievement Reported by Districts

District	Number Achieving More than 6 Months	% of Sample Achieving Goal
Honolulu	577	50
Central	144	73
Leeward	303	47
Windward [1]	201	58
Hawaii [2]	227	50
Maui	136	63
Kauai	79	80

1. 5th grade Pope and Waimanalo not included
2. Excluded elementary schools which only had 3-to-4 months pre-posttest span

Kentucky 1973

Reading Achievement as a Function of Gain and Average Monthly Gain

N	Time Between Pre and Post	Gain	AMG
61,047	.77	1.05	1.36

TABLE 47 (cont.)

Louisiana 1973

Reading Achievement as a Function of Changes in Percentile Rankings by Grades

PERCENTILE BAND 1 - 5

Grade	N	Pre No.	Pre %	Post No	Post %	Out No.	Out %
1	1,662	440	26.5	139	8.4	301	18.1
2	7,969	2,095	26.3	1,049	13.2	1,046	13.1
3	9,190	2,669	29.0	1,649	17.9	1,020	11.1
4	9,180	2,973	32.4	1,538	16.8	1,435	15.6
5	8,854	3,025	34.2	2,236	25.3	789	8.9
6	8,322	2,674	32.1	2,242	26.9	432	5.2
7	7,080	2,487	35.1	1,857	26.2	630	8.9
8	5,685	2,280	40.1	1,836	32.3	444	7.8
9	4,155	1,490	35.9	1,192	28.7	298	7.2
10	2,509	943	37.6	722	28.8	221	8.8
11	1,424	607	42.6	519	36.4	88	6.2
12	791	333	42.1	265	33.5	68	8.6

PERCENTILE BAND 1 - 25

1	1,662	1,460	87.8	791	47.6	669	40.2
2	7,969	6,393	80.2	4,258	53.4	2,135	26.8
3	9,190	7,851	85.4	5,996	65.2	1,855	20.2
4	9,180	8,147	88.7	6,648	72.4	1,499	16.3
5	8,854	7,923	89.5	7,011	79.2	912	10.3
6	8,322	7,458	89.6	6,500	78.1	958	11.5
7	7,080	6,461	91.2	5,461	77.1	1,000	14.1
8	5,685	5,143	90.5	4,597	80.9	546	9.6
9	4,155	3,786	91.1	3,315	79.8	471	11.3
10	2,509	2,113	84.2	1,958	78.0	155	6.2
11	1,424	1,290	90.6	1,166	81.9	124	8.7
12	791	693	88.2	656	82.9	42	5.3

PERCENTILE BAND 56 - 99

1	1,662	50	3.0	296	17.8	246	14.8+
2	7,969	380	4.8	999	12.5	619	7.7+
3	9,190	239	2.6	687	7.5	448	4.9
4	9,180	101	1.1	387	4.2	286	3.1
5	8,854	71	0.8	294	3.3	223	2.5
6	8,322	137	1.6	306	3.7	169	2.0+
7	7,080	46	0.6	313	4.4	267	3.8
8	5,685	47	0.8	164	2.9	117	2.1
9	4,155	25	0.6	98	2.4	73	1.8
10	2,509	32	1.3	94	3.7+	62	2.5
11	1,424	8	0.6	28	2.0	20	1.4
12	791	10	1.3	18	2.3	8	1.0

TABLE 47 (cont.)

New Mexico 1973

Reading Achievement by Percent of Districts in Each Range of Average Monthly Gain

>1.4	1.4-1.1	1.0-.6	<.6
10	22	36	32

TABLE 48

1974 Reading Achievement Statistics:
States with Adequate Data but Unique Reporting Formats

California 1974

Reading Achievement by Percent of Students Scoring in Each Quarter of the Distribution by Grade Level at Pretest and Posttest

Grade Bands	N	Test	Percent of Students by Quarter			
			1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
K-3	155,065	Pre	45.0	28.7	16.1	10.0
	234,152	Post	34.2	28.5	20.3	17.0
4-6	124,371	Pre	59.6	26.6	10.0	3.8
	151,583	Post	50.1	29.5	13.9	6.5
7-9	21,378	Pre	71.4	18.8	6.7	3.1
	32,622	Post	64.6	22.9	8.8	3.7
10-12	3,433	Pre	75.4	18.0	4.6	3.5
	5,183	Post	68.4	20.7	7.4	3.5
Total or Weighted Average	304,247	Pre	53.2	27.1	12.8	6.9
	423,540	Post	42.6	28.3	17.0	12.1

TABLE 48 (cont.)

Indiana 1974

Reading Achievement Pretest, Posttest, and Gain Scores Expressed in Terms of Standard Scores and Percentiles

Grade	N	Pre		Post		Gain	
		%	S.S.	%	S.S.	%	S.S.
4	1394	10	53	18	58	8	5
5	1267	20	68	23	69	3	1
6	1283	16	71	20	73	4	2

Maine 1974

Reading Achievement Pretest, Posttest and Gain Scores Expressed in Terms of Standard Scores

Grade	N	Pre	Post	Gain
2	47	137.83	144.74	6.91
3	113	146.21	152.13	5.92
5	127	425.40	430.07	4.67
6	162	428.93	433.75	4.82

Ohio 1974

Number and Percent of Students Scoring Within Specified Average Monthly Gain Ranges in Reading

Grade Band	N	1.5		1.1-1.4		.6-1.0		.5	
		n	%	n	%	n	%	n	%
PreK-K	2381	740	31	575	24	635	27	431	18
1-3	52821	19179	36	10768	20	12611	24	10263	20
4-6	25943	11074	43	3830	15	5078	20	5761	22
7-9	2264	862	38	345	15	453	20	604	27

TABLE 48 (cont.)

South Dakota 1974

Reading Achievement as a Function of Gain in Grade-Equivalent Scores

Grade Band	N	Gain
1-3	1452	1.03
4-6	2424	1.00
7-8	792	1.00

Virginia 1974

Reading Achievement as a Function of Average Monthly Gain Reported by Type of Standardized Achievement Test

Grade[1]	AMG Test 1[2]	AMG Test 2
2	1.2	.9
3	1.3	.9
4	1.2	1.2
5	1.2	1.0
6	1.2	1.2
7	1.3	1.3
8	1.0	.9

1. Total N = 27,957

2. Tests 1 and 2 are the CAT and MAT. It was not clear from the report which column represented data from which test.

Needs Assessment and Parent Advisory Councils

The following chapter deals with two more important issues that were addressed in the State Reports: needs assessment and Parent Advisory Councils.

Needs Assessment

An average of 32% of the 1971, 1972, 1973, and 1974 State Reports mentioned needs assessment. By referring to Table 49, it can be seen that the needs assessment pattern is similar for each of the four years. The smaller number of states reporting on needs assessment in 1974 reflects the fact that only 30 State Reports were available at the time of aggregation.

Information in the State Reports related to the needs assessment process was grouped under three main topics: the people involved, the instruments used, and the results of the process. Within each of these general categories, the number of states that listed specific people, instruments, or areas of need was then tabulated.

The State Reports indicated that teachers, counselors, psychologists, social workers, parents, and Parent Advisory Councils were involved in ascertaining needs with teachers clearly playing the most important role. A variety of instruments were mentioned in the reports as tools for evaluating areas of need. The instruments included most prominently standardized tests, with teacher-made tests, grades, measures of classroom performance, cumulative records, attitude inventories, health and attendance records, and home visit data also used although with significantly less frequency. The areas of need indentified in the State Reports included reading, language arts, math, social studies, and science as well as nonacademic areas such as social and emotional development and health. The basic skill areas of reading and math were the most frequently reported upon - as might be expected from the relatively common use of standardized tests for needs determination.

Parent Advisory Councils

Table 50 presents a breakdown of the number of states reporting

TABLE 49

The Number of States Reporting
Information Related to Needs Assessment
Presented by Fiscal Year

	1971	1972	1973	1974
People involved in needs assessment:				
Teachers	8	9	10	3
Counselors	2	5	5	2
Psychologists	1	4	3	0
Social Workers	0	3	2	1
Parents	2	6	6	2
Advisory Councils	3	5	3	2
Instruments used to assess needs:				
Standardized tests	14	14	11	6
Teacher-made tests	6	4	5	2
Grades	4	2	3	1
Classroom Performance	6	7	3	2
Cumulative Record	2	4	4	0
Attitude Inventories	5	1	3	0
Health Records	6	2	1	1
Attendance Records	6	2	3	0
Home Visit Data	0	1	0	0
Areas of need determined by assessment process:				
Reading	11	9	6	5
Language Arts	8	5	6	4
Math	10	6	6	4
Social Studies	2	2	1	1
Science	1	2	1	1
Social and Emotional Need	7	4	2	3
Health	6	4	3	3

Note. In 1971, 17 of 53 state reports included information regarding needs assessment. Sixteen of 52 reports in 1972, 15 of 42 reports in 1973, and 8 of 30 reports in 1974 had needs assessment information.

TABLE 50

The Number of States Reporting Information Related to Parent Advisory Councils Presented by Fiscal Year

	1971	1972	1973	1974
Number of PACs	10	6	5	1
Number of Parents	3	8	14	7
Number of People on PACs	2	4	5	4
Number of Meetings for each PAC	4	11	13	8
Membership Breakdown	8	7	8	4
Title I Parents	8	7	8	5
School Personnel	6	7	8	3
Others	6	7	7	4
How PAC Membership was Selected	2	2	3	4
Activities	9	12	15	8
Determine Needs	3	7	8	6
Plan Projects	8	12	15	8
Visit Projects	2	3	4	5
Volunteers as Aides	3	3	2	3
Evaluation	5	11	11	7
Disseminate Information	6	5	4	7
Funding PAC's	1	2	3	2

Note. In 1971, 19 of 53 state reports included information regarding Parent Advisory Councils. Nineteen of 52 reports in 1972, 22 of 42 reports in 1973, and 15 of 30 reports in 1974 had information on PACs.

various types of information pertaining to Parent Advisory Councils. Some State Reports described parental involvement in general, but did not refer to PACs specifically. Other reports mentioned the fact that PACs existed in their state, but provided no further relevant information. The State Reports containing these brief references to parents or PACs were not included in the data tabulation.

Table 50 shows how many states reported the number of PACs operating in their state, the numbers of meetings held by the PACs, the number of parents on the councils, and the number of people in general on the councils. The number of states that indicated the composition of their PACs is also tabulated. To be included in this count a state need not have given a numerical breakdown of membership, but need only have listed the various types of people serving on the councils. The states that described how their PAC members were selected are also tallied.

The number of states that identified the activities engaged in by the PACs is also indicated in Table 50 with a breakdown by type of activity. The way in which the PACs were funded was mentioned by some states and their number is reported.

There appears to be some trend toward increased reporting of PAC-related information and toward providing more detailed descriptions of PACs although the majority of the State Reports made no mention of this important ingredient of Title I projects.

Conclusions and Recommendations

Each of the preceding sections of this chapter presented some conclusions and recommendations derived from analyses of past reports. All of this information is summarized here as clearly and concisely as possible.

Participation

In order to form an accurate picture of the extent and nature of Title I participation, uniform and reliable data are required. It is necessary to know at least how many children are being served, and whether they are being served in the regular term, summer term, or yearlong. For these categories of participation, unduplicated counts are required. Most states are currently providing some of this information in their State Reports. The breakdowns they use, however, and the categories on which they report are sufficiently inconsistent from state to state so that it is not possible to derive a nationally representative picture of Title I participation.

Information concerning the number of participants being served in certain instructional and supportive programs is also desirable. Since the legislation suggests that Title I funds be spent primarily in the basic skill areas, it is important to determine whether a large proportion of Title I participants are being served by these programs. This information should be provided by a duplicated count, in which participants are counted once for each program in which they participate. The program participation data should be presented by standard program categories so that aggregation over all states is possible. Several State Reports present program data in terms of standard categories but the practice has by no means been universally adopted.

If basic information can be provided in all State Title I Evaluation Reports, it will be possible to form a national picture of Title I participation. In Section 512 of the Education Amendments of 1974 (P.L. 93-380),

Congress mandated a study to recommend the format for a consolidated state report on participants and expenditures in all federally funded programs. The results of that study will, of course, influence which types of participation and expenditure data are requested in State Title I Annual Evaluation Reports.

Resource Allocation

Unquestionably, the greatest difficulty encountered in assembling a national picture of Title I resource allocation from State Title I Annual Evaluation Reports is that many reports contain no data at all on allocations or expenditures. Resource allocation is an important policy-relevant issue, so it seems appropriate to recommend that these State Reports provide at least minimal information on the expenditure of Title I funds.

Since confusion now exists in the reports between expenditures and allocations, and since it is not always clear what funds have been included in or excluded from the reported amounts, complete labeling is particularly important. It would be most useful for reports to show total state allocations and total expenditures, in each case including administrative funds, carry-over funds, and funds under Parts B and C of Title I. If this information were reported consistently, comparable figures could be extracted from the reports for aggregation across states. Again, results of the mandated study concerning the format for reporting participation and funds relevant to federally funded programs will affect the future content of State Reports.

Several State Reports currently present expenditures in breakdowns by type of service for summer and regular sessions, and by standard accounting categories. These data are particularly useful in identifying program emphasis and major expenses. A breakdown of per-pupil expenditures by standard program area is also very useful since these figures make it possible to judge how expensive it is to offer various Title I programs or services. However, too few states report expenditures by program areas or by accounting categories to suggest that it would be feasible for most states to produce this type of information. Although

per-pupil expenditures by program also are infrequently reported now, these figures are easily produced if information is available on both expenditures and participation by program area. Assuming that these data could be produced by the states, a reliable national picture could be formed of how Title I funds are spent by the states.

Impact

The current State Reports do not achieve their potential as sources of program evaluation data. A small number of states reported data that were adequately reliable and valid. Within this group, an even smaller number of states shared a common format. Of the 17 states that did have representative data in FY 71, 72, 73, and 74 but could not be included in the across-state aggregations, seven did not include any grade-level breakdowns and three included grade band breakdowns. For these states, the difficulty in interpreting achievement data pooled across grade levels was compounded by the use of grade-equivalent scores which precluded any assessment of the pre- or posttest status of program participants. For data in future reports to be more useful, it is necessary that they be presented by grade level.

During the policy interviews with federal-level officials conducted in Phase I, many of those interviewed expressed the desire to see impact data reported at the project level. To do so would require that data be presented for each unit of one or more instructional or service areas under a single administration. Officials hoped that by having evaluation information at the project level, successful and unsuccessful projects could be identified. Successful ones would then be disseminated and unsuccessful ones which had received a fair test would be changed so that the Title I program would be continually improved. Especially at the state level, the desirability of project-level impact reporting seems clear, with appropriate summary tabulations being forwarded to the federal level.

Many of the present evaluation efforts demonstrate an inadequate awareness concerning the methodology and design required to collect meaningful impact data. If norm-referenced evaluation models continue

to be used by the majority of states, evaluators must be made cognizant of the restrictions inherent in these designs. For normative data to provide valid baseline indications, testing can only be conducted at times corresponding to those at which the actual normative data were collected. Further, if a fall pretest and spring posttest are desired (as is most often the case) then the choice of tests is restricted since only a few instruments have appropriate normative data points. Closely related to these issues are the difficulties in measuring program impact using grade-equivalent scores which arise from scaling irregularities and curve-fitting interpolation procedures (see Tallmadge & Horst, 1974.)

Needs Assessment

The area of needs assessment was not addressed thoroughly, if at all, in most of the State Reports. Policy makers have indicated that the three primary factors to be included in a description of needs assessment are: the people involved, the instruments and procedures used, and the results. State Reports which contained some information on needs assessment seldom included discussions of all three of these factors.

Data concerning the outcome of the needs assessment process can be compared with figures on resource allocation and program participation in order to judge whether the children being served are those with the greatest needs and whether their identified needs are those being served by the programs in which they participate.

Parent Advisory Councils

Title I legislation is particularly clear in regard to the number, composition, and functions of Parent Advisory Councils (PACs). Each LEA must establish an advisory council for the entire school district and each school served by Title I must have a PAC. The majority of the Council members must be parents of children served by Title I. Each PAC is to advise in the planning, implementation, and evaluation of programs and projects.

Since these requirements are clearly spelled out, it seems important to know whether there are the legally required number of PACs, whether

the required number of parents of Title I children are represented on the Councils, and in what activities the PACs have participated. The minimal information to be requested from the SEAs would be a report of (a) the percentage of schools that have PACs, (b) the percentage of PACs that are legally constituted, (c) the numbers and types of people serving the Councils, and (d) the activities engaged in by the Councils.

IV. PHASE III

Summary of Phase III Tasks

The first task of Phase III involved interviewing the State Title I Coordinators by telephone in order to determine the feasibility of implementing recommended evaluation and reporting practices in their states. During these discussions, interviewers also attempted to find out how much authority or influence the SEA exercised over its LEAs, and to clarify the reasons behind state practices which differed significantly from the recommended practices.

The State Coordinators were notified in advance of the telephone calls by a letter (see Appendix E) which described the purposes of the telephone calls and the topics which the interviews would cover. A brief summary of the project and copies of the critical summaries of that state's Annual Reports were sent with the letter.

The telephone interviews were conducted by two-person teams with one member interviewing the Coordinator while the other member took notes. Questions were asked in the areas of participation, expenditures, impact, needs assessment, and Parent Advisory Councils. However, no two states were asked the same questions, since the topics covered in the interviews were determined both by practices already existing in the state, as evidenced in the State Report, and by the Coordinator's responses to initial questions about Title I participation. Because the content of the interviews varied widely, no attempt was made to quantify the states' responses.

After all states had responded to the interview questions, three preliminary evaluation and reporting models were developed. These models were identical with the exception of their impact assessment strategies, which were labeled Norm-referenced (Model A), Control Group (Model B), and Special Regression (Model C). The latter two had variations to allow for the use of either standardized achievement tests or criterion- or objectives-referenced tests. The Control Group Model was appropriate for use with a posttest-only comparison, with or without matching, and with or without covariance adjustment procedures.

For each model, reporting forms and instructions were developed for project reports to LEAs, LEA reports to SEAs, and SEA reports to the U. S. Office of Education. Summary information about individual projects was reported at all levels. The three models were designed so that all data, including impact data, could be aggregated across as well as within models. The reporting system thus provided project-level information about the children served by Title I projects, the types of services provided, the costs of the services, and their impact. In addition, the system provided a state summary of information about Title I personnel, preservice and inservice training, and school and district Parent Advisory Councils. During Phase IV, nine SEAs examined the reporting system to determine the feasibility of implementing such a system in their states.

Telephone Interviews

The first major task of Phase III was the interviewing of State Title I Coordinators by telephone to explore the feasibility of implementing various evaluation and reporting practices in their states. To alert the Coordinators to the purposes of the study and the telephone interview, letters were sent to each of them approximately two weeks before the initial attempt was made to contact them. A copy of the letter is included in Appendix E.

The telephone calls were made between February 6th and March 5th to all fifty states and to the Bureau of Indian Affairs, the District of Columbia, Puerto Rico, and the Virgin Islands. Most frequently, the Coordinator participated in the telephone conversation, but often he was joined by the Title I Evaluator. Occasionally the Coordinator did not participate, designating the Evaluator as the person most appropriate to respond to the interview questions.

Only one state refused to answer questions by telephone and that state did send a written response to the nine questions contained in the pre-interview letter. While all other State Departments cooperated in the interviews, some were clearly hostile to the objectives of the study, to the federal intervention they felt the interviews represented, and even to evaluation in general. Several interviewees were quick to point out

that a number of federal evaluation efforts, which they felt were ill-conceived, had been tried out in the past and had failed. They did not want to be involved in similar endeavors.

Because of the wide variety of responses received from the various states, it is not possible to describe any kind of general reaction toward the interviews or the study itself. In most instances where hostility was encountered, however, there appeared to be a substantial increase in interest as it became clear to the state representatives that there would be extensive involvement of SEA and LEA personnel in developing the new system, that it would not involve a massive data collection instrument such as that employed by ESS and CPIR, and that there would be no immediate mandate to adopt a new and untried system. At least a few of the initially hostile state representatives expressed a positive attitude toward the study and participation in it by the time the interview was completed.

In preparing for the interviews, three separate sources of information were considered: (a) past State Title I Annual Evaluation Reports, (b) suggestions made by the study's Advisory Panel (see Acknowledgments) with respect to future evaluation and reporting systems, and (c) experimental design and statistical considerations relevant to data reliability, validity, and potential for aggregation. The manner in which each of these sources was used is described in the following paragraphs.

From past State Reports it was possible to determine the entire gamut of evaluation and reporting practices. Of particular interest for the telephone interviews were those practices which were most complete and easily interpretable. While no decision was made that the new reporting system would call for such complete information on all relevant topics, it seemed appropriate to assess the feasibility of collecting this type of data in all states.

The Advisory Panel was particularly helpful in pointing out several specific problem areas which were subsequently investigated during the telephone interviews. Perhaps most useful were the suggestions pertaining to financial matters and the questions raised with respect to reporting on needs assessment and parent involvement issues. All of the panel's thoughts on these issues were reflected in the interviews.

The experimental design and statistical considerations relevant to valid evaluations at the project level had been well thought through prior to the present study (see Horst, Tallmadge, & Wood, 1975). Problems associated with the aggregation of impact data, however, had barely been considered and required a substantial amount of effort to resolve. All of the design and statistical issues, whether related to the validity of inferences drawn at the project level or to state aggregation problems, had implications for the still-to-be-developed model evaluation and reporting systems. These implications often took the form of procedures which evaluators at the project, LEA, and SEA levels would have to adopt if the systems were to be effectively implemented. The feasibility of the procedures and the willingness of evaluators to adopt them thus became issues which had to be explored during the telephone interview.

All of the interviews were conducted by two-person RMC teams with one member asking the questions while the other took notes. Team members were rotated, and each member of the staff spent approximately equal amounts of time in interviewing and note-taking roles. Initial attempts to talk to each Title I Coordinator were made exactly two weeks after the date of the letter which was sent. Only about half of the calls were successfully completed on the first attempt, however, and in a few instances it required as much as two weeks of almost daily telephoning before an interview could be completed.

Questions were asked in the five areas of participation, expenditures, impact, needs assessment, and Parent Advisory Councils. No two states were asked the same questions, however. Rather, the procedure was generally to open up the discussion by explaining briefly the purpose of the study and asking an initial question or two in the participation area. Any responses of a non-routine nature would then be pursued until the interviewer felt that he or she had a reasonably clear picture of the state's attitude toward the issue and of what could and could not be accomplished in the way of a revised evaluation and reporting system. Then the interviewer would move on to the next topic.

Occasionally, the interviewee had misinterpreted the purpose of the questions contained in the pre-interview letter and attempted to provide clear and concise answers to those questions. When it was pointed out that those questions had been included only as examples of the kinds of issues which would be discussed it became clear that some interviewees were not prepared for such open-ended discussions. In several instances the interviewer was requested to call back at a later date.

Because the interviews were largely unstructured, it was neither meaningful nor feasible to tally the responses of the states according to their position on various issues. While, except in the cases of the most uncooperative states, the interviewer came away from each telephone call feeling that a good understanding of the state's position on each issue had been obtained, a substantial amount of judgment, interpretation, and "reading between the lines" was frequently required. For this reason the following discussions of the five content areas are largely subjective and are cast in terms of the conclusions reached from the interviews more than in terms of specific responses to specific questions.

SEA responses to questions about reporting participation information indicated that it would be feasible to include in the model reporting system unduplicated counts of students in various grade levels for public and nonpublic schools, and to report duplicated counts of children who receive reading, mathematics, other instruction, and supportive services.

Although many Coordinators indicated that they could and would be willing to report these data in a more detailed program breakdown (such as that used in the CPIR), members of the Advisory Panel and several Coordinators indicated that a very specific breakdown would often be inaccurate. The more general breakdown into four categories appeared to be acceptable to almost all SEAs and to satisfy the needs of policy makers for participation data.

These breakdowns (by grade level and by program area) indicate the areas and levels in which most Title I children are being served. The information is also important in determining the reliability of impact data presented for reading and mathematics programs.

Although the content of the telephone interviews cannot be rigorously categorized and analyzed, a study of all the responses indicates that the states will accept and use a model reporting system which is based upon the separate presentation of impact and expenditure data from each Title I project in a state. Since decision makers have stressed the importance of receiving project level information, the models developed by RMC require the reporting of expenditure and impact data separately for each Title I project as well as in a statewide aggregation. Discussions with the Advisory Panel and with State Coordinators about the reporting of expenditure data resulted in a decision to include minimal expenditure data in the reporting models. There appeared to be widespread feeling that Title I Annual Evaluation Reports must be submitted too early to include complete and accurate financial information, and that policy makers could always obtain this information from the Annual Financial Reports. In addition, many Coordinators agreed that it was extremely difficult, if not impossible, to accurately report expenditures for each program area or separately for nonpublic schools. Based on these discussions, the decision was made to restrict expenditure data in the reporting models to a minimum of readily available information, i.e., total and per-pupil costs at each level (project, LEA, and State).

Discussions with the State Title I Coordinators about reporting impact data focused on the issue of standardizing project evaluation practices, and Coordinators' responses to this issue were quite varied. It appears that many Coordinators would consider requiring or recommending standard evaluation procedures to their LEAs and Title I projects. However, a substantial number of State Title I Coordinators were clearly opposed to the adoption of standard evaluation practices in their states. It is hoped that these Coordinators may be persuaded to view the prospect more favorably after further discussion. Since adherence to one of the models is essential for each project and LEA if data are to be valid, reliable, and aggregatable across the nation, RMC will continue efforts to persuade SEA and LEA personnel of the benefits to be gained from the use of standard evaluation practices.

Other questions related to program impact were concerned with the

frequency of use of criterion- or objectives-referenced tests, and the Coordinators' responses to these questions indicated that in only a few states are these tests used extensively. However, it was clearly necessary to develop reporting models for projects using criterion- or objectives-referenced tests, so that the results of these tests could be combined with data based upon the more widely used standardized achievement tests.

Coordinators' responses to questions about needs assessment procedures indicated that almost all of the State Title I programs concentrate upon eliminating reading and math deficiencies, but that the procedures for identifying these deficiencies vary widely across and within the states. For example, certain states use an elaborate sequence of activities to conduct their needs assessments, while other assessments consist of only one or two steps. Because of the variety of needs assessment practices and because Coordinators appeared to have little interest in adopting standard practices across their states, it appeared impossible to develop a standard format for reporting needs assessment procedures and results. Since the purpose of including this information in the evaluation reports is to determine whether or not programs are serving the children who need services, the decision was made to rely on pretest scores to provide this information rather than attempt to develop acceptable standard needs assessment procedures. Our discussions about needs assessments did indicate that most assessments include the use of standardized tests, and that this information could be included in the reports.

The last area of discussion with the Coordinators usually concerned the composition, selection procedures, and activities of Parent Advisory Councils. Although the State Coordinators indicated that they could include this type of information in their reports, they seriously questioned its validity. Also, a few Coordinators questioned whether an evaluation report was the appropriate vehicle for documenting compliance with the legislation.

Although it is not possible to measure objectively the results of these interviews, it appears that they accomplished two major goals which are closely related to the successful development of the model evaluation and reporting system. First, the State Title I Coordinators were informed

about the purpose of our project and many of them were persuaded of its potential for improving evaluations and reporting of Title I programs. Rapport was established between the interviewers and many State Coordinators which should aid in the acceptance and application of the reporting models by the states.

Second, useful information was obtained about the feasibility of including in the reporting models certain types of data on student participation, expenditures, program impact, needs assessments, and Parent Advisory Councils. Our conclusion, based upon this information, is that sufficient data can be obtained from all Title I projects to permit the identification of successful Title I projects. In addition, it appears that most states will support the application of the new evaluation and reporting models if an intensive effort is made to persuade Title I Coordinators of the models' validity and usefulness.

The Models

Three evaluation and reporting models were developed, all of which are identical except for their impact assessment strategy. Tentatively named for these strategies, the models are: Model A, the Norm-referenced Model; Model B, the Control Group Model; and Model C, the Special Regression Model. The Control Group Model and the Special Regression Model have variations depending on whether standardized achievement tests or criterion- or objectives-referenced tests are used. The Control Group Model has additional variations in that it may be used with posttest-only comparisons, with or without matching, and with analysis of covariance procedures.

For each model, reporting forms were developed for reports (a) from projects to LEAs, (b) from LEAs to SEAs, and (c) from SEAs to the U. S. Office of Education. In addition to the reporting forms, implementation procedures were developed for each of the models. These procedures were designed to provide step-by-step guidance to evaluators at the project, LEA, and SEA levels and were written in such a way as to minimize the amount of technical expertise required for their execution. Perhaps the most significant feature of these reporting forms was that summary information about individual projects was reported at all levels. While this represented a radical departure from previous reporting practices, it fulfilled the expressed information needs of the educational policy makers interviewed during Phase I of this study and appeared feasible, based on the analyses undertaken during Phase III.

Another significant feature of the overall evaluation and reporting system was that the three models were worked out so that data (including impact data) can be aggregated across, as well as within models, thereby enabling the compilation of meaningful statewide and nationwide summaries.

Before discussing the details of each model, it is appropriate to describe exactly what the proposed evaluation and reporting system is intended to do and what it is not intended to do. Perhaps the most important distinction to be made here is that the system is outcome, rather than

process, oriented. It provides some project-level descriptive information relating to the children served by Title I projects, the types of services provided, and the costs associated with their delivery. It also encompasses information about Parent Advisory Councils and in-service training. It does not, however, attempt to deal with compliance with existing legislation, regulations, program criteria, or guidelines at the project or even the LEA level. These issues, it has been concluded, cannot be adequately assessed through self-reporting procedures.

State-level data are, for the most part, generated through aggregating information from project and LEA reports, and only information which is useful at those levels is collected. Data requirements are kept to the absolute minimum which is consistent with the objective of obtaining a meaningful, interpretable picture of Title I impact. Every attempt, furthermore, was made to avoid duplication with other data collection and reporting requirements. Thus, financial information was restricted to total-project and per-pupil costs, and information about participants was limited to their numbers, grade levels, and test scores.

The data called for by the proposed system does more than provide evidence regarding overall effectiveness of the Title I program. The system permits analyses of project-level relationships among costs, achievement gains, hours of intervention, grade levels, instructor-pupil ratios, and initial degree of educational need. It will, then, enable investigation of most of the major and minor concerns expressed by the educational policy makers interviewed during Phase I of the study.

Model A, the Norm-referenced Model, is expected to be the most widely adoptable of the models since it closely resembles commonly employed, current evaluation strategies. The evaluation design itself deviates from current practice in just two respects: (a) it makes use of standard scores and percentiles rather than grade-equivalent scores, and (b) it requires that testing be done on dates corresponding to real normative data points rather than whenever testing is convenient. One

additional requirement of this model is that the pretest be administered to the project participants after they have been selected. Pupils cannot be selected for participation based on their pretest scores.

The reporting part of Model A requires the use of standard formats at the project, LEA, and SEA levels to facilitate the aggregation of data at each higher level. The forms were kept quite simple to minimize the burden imposed on evaluation personnel at each level.

Model B, the Control Group Model, is substantially more difficult to implement than Model A because of the difficulty in assembling a suitable control group. As pointed out in Horst, Tallmadge, and Wood (1975), the assignment of children to treatment and control groups must be random or "random-in-effect" (it must be possible to consider the two groups as random samples from a single population). It is not possible to construct suitable control groups by post hoc matching procedures although this is a very common error.

If a suitable control group exists, the problems of implementing Model B are substantially reduced. Furthermore the Model has several advantages over Model A including, most notably, the greater degree of confidence which can be placed in inferences drawn from it, and the fact that it is adaptable to use with either standardized achievement tests or criterion- or objectives-referenced measures. While use of the latter type of instrument does complicate the data aggregation problem somewhat, where a decision has been made to use criterion- or objectives-referenced tests, Model B is clearly to be preferred over Model C, the only other available alternative.

The reporting forms for Model B are somewhat more complex than for Model A. The increased complexity, however, stems largely from the incorporation of provisions for analysis of covariance adjustments. Presumably, these adjustments will be uncommon so that the actual reporting requirements will be less complex than they appear.

An additional complication appears on the forms for Model B2, the variation which employs criterion- or objectives-referenced tests. The same complication exists in Model C2 and relates to the problem of

expressing the results of all evaluation models in a common metric--namely, the national norms. The use of this metric presents no problem when standardized achievement tests are used, but does add complications when evaluations employ tests without normative data. This issue is addressed separately at the end of this section.

Model C, the Special Regression Model, should be regarded as the least desirable of the three models primarily because of the potential it has for misinterpretation. While it is fundamentally sound statistically and in terms of experimental design considerations, it is not always clear whether a significant difference found with the model should be attributed to a treatment effect or to some other influence such as a naturally occuring curvilinear regression of post- on pretest scores.

As included in the reporting system, the Model incorporates two different evaluation designs, the Regression-discontinuity design and the Regression Projection design. If the results from the two analytic approaches are in agreement, the attribution of a significant finding to a treatment effect appears to be clearly justified. The main problem seems to arise where the Regression Projection design produces a significant finding while the Regression-discontinuity design does not. While this pattern of relationships would be predicted under certain circumstances including, most notably, a project in which the amount of special help given to individual pupils was proportional to their educational need, even under these circumstances the plausibility of possible alternate explanations could not be ignored.

Where this kind of ambiguity exists, judgments will have to be made as to whether or not observed effects should be attributed to project impact. This is a complex technical judgment for which some guidelines can be provided but for which it will not be possible to establish non-controversial decision criteria. Unfortunately, it is not clear that those individuals who will be called upon to make the judgments will have the technical expertise required to interpret the available evidence correctly or a sufficient degree of scientific detachment to choose an alternative explanation if attributing observed effects to project influences would place their district or state in a more favorable light.

Despite these deficiencies, Model C represents the only viable technique for conducting evaluations with criterion- or objectives-referenced tests when a control group is not available.. Details regarding the Model and associated implementation procedures are contained in Horst, Tallmadge, and Wood (1975). It should be pointed out here, however, that the design serves as its own needs assessment procedure in that all pupils scoring below some selected level on a pretest are assigned to the treatment group while pupils above that level are not assigned to the treatment and serve, in effect, as a comparison group.

As pointed out earlier, one major objective for the overall evaluation and reporting system was that of enabling the aggregation of data across schools within districts, across school districts within states, and across states within the nation. At the same time, there was a strong desire to provide as much flexibility as possible by allowing local agencies to make their own choices as to which evaluation models and which test instruments they felt were most appropriate for their particular contexts. During Phase III, then, efforts were made to develop strategies for enabling both of these objectives to be met.

The problem of aggregating data across models existed only in the area of impact data since it was planned from the beginning that standard formats would be used for reporting participation, resource allocation, and other input and process information. Even in the impact area, the problem was not difficult except for the issue of combining data across test instruments. Aggregation across models was straightforward since all three were based on the single underlying construct that the impact of a Title I program is determined by subtracting an estimate of how well the students would have performed had they not participated in the program from a measure of how well they performed after participation. In other words, the "treatment effect" measured by all models is equal to the observed post-treatment performance minus the estimated no-treatment performance.

The three evaluation models differ from one another only in terms of the manner in which they generate the estimate of no-treatment performance

levels. This methodological difference enables the generation of meaningful estimates under a wider variety of conditions than would be possible with any single model or any combination of two models. It does not, however, produce different kinds of estimates and, if it were possible to find a single set of circumstances in which all three models could be employed simultaneously, they would all be expected to yield the same estimate of the no-treatment performance level. It is this equivalence of outcomes which enables the simple aggregation of data across models without any need to consider the specific methodological steps each model entails.

Data can be aggregated across models through simple addition if the same test instrument has been used in all cases. The aggregation of data from different tests requires additional assumptions and, usually, some statistical adjustment.

The assumptions which underlie the aggregation of data from different tests relate to the content coverage of the tests. Clearly, if test data are to be aggregated, the tests must measure at least approximately the same variable or set of variables. There is ample evidence from the Anchor Test Study (Loret, Seder, Bianchini, and Vale, 1974) that the most widely used standardized reading achievement tests meet this requirement--at least for grades four, five, and six. It is probably safe to assume that other standardized reading tests also "qualify" since visual inspection of their content reveals a high degree of similarity.

There are also data to suggest that at least one criterion-referenced reading test, the Prescriptive Reading Inventory, also correlates sufficiently highly with standardized reading achievement tests so that aggregation presents no problem. This test, in fact, was found to correlate as highly with the California Achievement Test (one of the instruments included in the Anchor Test Study) as alternate forms of the CAT correlated with one another (Roudabush, 1975).

It certainly cannot be expected that all reading tests will intercorrelate as highly as those mentioned above. The correlation between a standardized reading achievement test and a criterion-referenced instrument covering a restricted number of objectives or that between two criterion-referenced tests encompassing different objectives will most probably be

significantly lower. Even under these circumstances, however, it does not appear unreasonable to aggregate achievement data.

Basically, the assessment of instructional impact is a question of measuring gains rather than status. It follows, then, that gains in any subset of the skills which comprise reading ability will represent an increase in overall ability to read. To use an analogy, it is likely that changes in the circumference of subjects' waists may provide nearly as sensitive an index of weight gain or loss as actual weighings. To the extent that this sort of phenomenon holds true with respect to reading ability, it is not necessary to worry excessively about whether one is measuring the universe of skills involved or a small sample which varies in nearly direct proportionality. Assuming that this argument is sound, the only problem which remains is that of converting whatever measures are involved to a common metric before the aggregation is made. A procedure for accomplishing such a conversion is discussed below.

The procedure which was developed to express the results from the three evaluation models and all test instruments in terms of a common metric was simply to express all gains in terms of standard deviation units referenced to national population statistics. To accomplish this conversion, it is only necessary to subtract from the observed and/or predicted posttest score the mean score for the national population of the project group's grade-level peers and to divide the difference by the population standard deviation. The outcome(s) of these operations will always be a score or scores reflecting distance above or below the "national norm" quantified in units of the national standard deviation.

The metric developed in this way does provide a satisfactory means for aggregating data which, before transformation, were non-compatible by virtue of reflecting different score distributions. While the metric is suitable, however, it is somewhat unesthetic in that the majority of obtained scores will be fractional and, in dealing with Title I pupils, nearly all will be negative. To solve the first of these esthetic deficiencies, it is only necessary to multiply the converted score by some constant value. Solving the second requires adding to the product a

constant of sufficient size to assure that no negative scores can be obtained.

The choice of specific values for the two constants is entirely a matter of convenience. The values chosen were 21 and 50, respectively, because these values produced a scale with the same range (1 to 99) and midpoint (50) as the percentile scale. This feature was considered desirable from the viewpoint of interpretability.

Values on the developed scale were given the name Normal Curve Equivalents and quickly became known as NCEs. Similarly, differences between observed and expected posttest performance, when expressed in terms of this metric, came to be called NCE gains.

When using standardized test instruments, the conversion of raw or scale scores to NCEs does not typically require subtracting the national mean from them and dividing the difference by the standard deviation. Test publishers' norms tables may be used to translate scores into percentiles and the percentiles can easily be translated into NCEs using specially prepared conversion tables (see Appendix F).

When objectives- or criterion-referenced tests are used, percentile conversion tables are most probably not available. This implies that it is necessary to know both the mean and the standard deviation of a nationally representative sample of the treatment group's grade level peers. If these figures are not available as a result of some normative data collection effort, they must be estimated.

Unfortunately, while it appears that good estimates can be made of the national standard deviation (see below), there is no good way to obtain a reliable estimate of the national mean. This situation precludes the possibility of expressing pre- and posttest status in terms of NCE scores. Simple algebra, however, shows that the national mean "term" drops out of the NCE gain formula, and that NCE gains scores are computed simply by dividing the difference between observed and predicted posttest performance by the standard deviation of the national distribution. Use of unnormed objectives- or criterion-referenced tests thus

precludes the aggregation of pretest or posttest NCE status indicators but does not preclude the aggregation of NCE gains with data from norm-referenced tests.

The following paragraphs describe the specific procedures required to obtain NCE scores and/or NCE gains for each of the proposed evaluation models.

In Model A, we are dealing with pretest and posttest scores on standardized achievement tests. The mean standard pretest and posttest scores for any group can be converted to their precentiles using data in the test publisher's manual. The percentiles can then be converted to NCEs through reference to the conversion table. By subtracting the pretest NCE from the posttest NCE, an NCE gain is obtained. This gain score is expressed in standard deviation units reflecting nationally representative normative data and thus is directly interpretable in terms of whatever criterion of educational significance has been established (e.g., one-third of a standard deviation or 7 NCEs.)

In Model B1, the procedure is similar to that described for Model A. In this case, however, the control group posttest mean standard score is converted to a percentile and then to an NCE. It is then subtracted from the treatment group NCE determined in the same way to yield an NCE gain.

In Model B2, the gain is determined from criterion- or objectives-referenced tests. Scores on these tests, of course, cannot be converted to percentiles with respect to a nationally representative sample. It is possible, however, to obtain an estimated NCE gain if scores are available for the treatment group pupils on some standardized achievement test. (In our presentation of the model we have assumed that a standardized test would be administered for needs assessment purposes.)

The procedure for computing the estimated NCE gain is as follows. The first step is to subtract the mean posttest score of the control group from the mean posttest score of the treatment group. The difference is then divided by the standard deviation of the combined treatment and

control groups. At this point, the result of the computations is a gain score expressed in standard deviation units, but the standard deviation is based on the restricted range of abilities of pupils in the treatment group rather than on a nationally representative sample. To adjust the score so that it estimates gain based on national norms, the procedure is to multiply the obtained gain score by the ratio of the treatment group's standard deviation on a standardized achievement test to the national norm standard deviation on the same test. The score is then multiplied by 21 to convert it to an NCE gain comparable to those derived form Models A and B1.

As mentioned earlier, Model C involves the computation of two separate gain scores. One of these gain scores represents the difference between the observed posttest scores of the treatment group and posttest scores estimated from the Regression Projection evaluation design. The other represents the difference between the intercepts of the treatment group and comparison group regression lines with the cutoff score as determined from the Regression-discontinuity design. The procedures for calculating these values are presented in Horst, Tallmadge, and Wood (1975).

If Model C1 is employed, the calculated values can be converted to percentiles using the test publisher's norms tables. The percentiles can then be converted to NCEs using the table included in Appendix F and NCE gains can be calculated.

Model C2, like Model B2, requires obtaining scores of treatment group pupils on a standardized achievement test as well as on the criterion- or objectives-referenced instrument used for pre- and posttesting. The two sets of gain scores described in conjunction with Model C1 are calculated using raw scores. The gains are then divided by the observed, treatment-group posttest standard deviation. This figure is then multiplied by the ratio of the treatment group standard deviation to the national norm standard deviation on the standardized achievement test as a Model B2. Finally, the result of the previous calculations is multiplied by 21 to produce an NCE gain score comparable to those re-

sulting from the other models.

This report does not contain a detailed description of any of the three models. The evaluation designs around which the models are built are described in Horst, Tallmadge, and Wood (1975) and that document is being used as an interim measure until a specially prepared adaptation of it can be developed. Data collection, analysis, and reporting forms have been developed, however, along with instructions for their use. To illustrate these materials, Model A forms through the LEA level are included as Appendix G while Appendix H presents the corresponding instructions. The SEA forms, encompassing all models are contained in Appendix I and the associated instructions in Appendix J.

V. PHASE IV

Summary of Phase IV Tasks

The fourth phase of the study involved the revision and further development of the prototype reporting system. In this phase, the models developed in Phase III were taken to nine State Education Agencies so that SEA personnel could contribute their thoughts regarding additional revisions to the system and could advise RMC staff of difficulties they might face in implementing such a system.

The nine SEAs selected jointly by RMC and the U. S. Office of Education were Alabama, Arkansas, Delaware, Hawaii, Michigan, New York, North Dakota, Oregon, and Vermont. These states were chosen on the basis of geographic and demographic representation, state testing practices, strength of SEA leadership, quality of past State Reports, and the perceived receptiveness of the SEA toward the objectives of the study. Each SEA was visited by two RMC staff members in late April or early May. During these visits, which lasted approximately three days, RMC staff members discussed the proposed models in detail with SEA personnel. SEA staff members were asked to comment on the feasibility and expense of implementing one or more of the models in their states, and notes were made of changes in the models suggested by SEA staff. The evaluation and reporting system was positively received in most of the nine states.

After visits had been made to all nine SEAs, a summary was prepared of all the criticisms and suggested changes which had come from the SEAs. This summary was presented to the Advisory Panel in a fourth meeting of that group. Each criticism or suggested revision was discussed by the Panel and by representatives from RMC and OE until a concensus was reached on how best to deal with it. The most significant change which resulted from the meeting was that of switching the lowest level of analysis and reporting from project to school building. By "project", the RMC developers had meant a single, identifiable, instructional treatment. It was clear, however, in talking to SEA personnel that this term had several other connotations and would be quite confusing. Furthermore, several advisors

felt that even where a district-wide Title I effort was labeled a single instructional treatment, implementation differences from school to school might be so large that aggregating data across schools would obscure educationally significant relationships.

Other significant changes related to the content of the data reporting forms for Parent Advisory Councils and Personnel and Training. Many minor changes were made in the layout of forms and the wording of instructions to reduce confusion in analysis and reporting processes.

After all changes had been made, the revised forms and instructions were mailed to the nine SEAs which had been visited for further review. Any recommendations received from these SEAs will be taken into account when the next revision of the models is made.

Selection of State Departments of Education to be Visited

In selecting the nine State Departments of Education which were to receive visits from RMC staff members, several criteria were employed. First, geographic and demographic characteristics were considered so that the selected SEAs would represent nine of the ten U. S. Office of Education Regions and so that they would represent both urban and rural states as well as a range of SEA sizes. Other factors which entered into the selection are described in the following paragraphs. During this process, records of the telephone interviews with State Title I Coordinators and Evaluators were consulted, as were the critical summaries of the State Title I Annual Evaluation Reports and the ratings given those reports.

It seemed reasonable to expect that current testing practices in the states would be related to the reception that the evaluation and reporting models would receive. In the telephone interviews, most interviewees were asked several questions about tests used for Title I evaluation in their states. The responses indicated that while standardized achievement tests are heavily or exclusively used in most states, several states are making extensive use of objectives- or criterion-referenced tests, and it was desirable to ensure that at least one state of the nine be committed to objectives- or criterion-referenced testing. The states also were selected to cover the range of situations with regard to state testing

programs, and with regard to the SEAs' expressed willingness to move toward standardizing LEA evaluation practices.

The strength of SEA leadership also appeared to be an important factor in implementation of the reporting system, and an effort was made to include a variety of SEA-LEA relationships in the nine-state sample. Specific considerations related to this issue were whether state evaluations were done internally or by an outside agency, whether the SEA included a large planning and evaluation group, whether the SEA provided guidance to LEAs on issues such as needs assessment procedures, whether the SEA used a standard format for LEA applications and reports, and whether the SEA had computer facilities available for analyzing data.

The quality of past reports was also a consideration, and this was primarily judged using the ratings given to the reports on the Cognitive Benefit, Data Adequacy, and Policy Relevance Scales. The nine states selected represented a reasonably wide range of scores on these scales.

The attitudes of the SEAs toward the objectives of the study, as they were perceived by RMC staff during the telephone interviews, were also taken into account. While it was important to present the reporting system to a number of different types of SEAs, it did not appear fruitful to include in this first sample SEAs who were openly hostile toward objective evaluation or toward the purposes of the study. Therefore, all nine SEAs selected for visits were judged to be at least sufficiently open and receptive so that their comments and suggestions would be constructive.

After consultation with Office of Education staff, the following nine states were selected: Alabama, Arkansas, Delaware, Hawaii, Michigan, New York, North Dakota, Oregon, and Vermont.

Site Visits to the Selected Nine SEAs

Visits to the nine SEAs took place in late April and early May. Each SEA was visited for approximately three days by one of three two-person teams. At least one person at each SEA was familiar with the objectives of the project before the site visits were made since, during Phase III of the project, SEAs had received a written summary of the project and the critical summaries of their states' reports. A representative of each SEA had also participated in a telephone interview with an RMC staff member. However, no SEA staff member had been exposed to the proposed reporting system prior to the visit.

The three teams conducted the site visits in similar fashions, although the positions and numbers of persons with whom they met varied from site to site. The teams usually began the discussion by summarizing the work and objectives of the project and then discussing future work planned by OE for further development of the reporting system. The teams then gave an overview of the reporting system, similar to that presented in the preceding chapter under "The Models." This overview usually led to a detailed explanation of NCEs as well as to a discussion of the systematic biases which are introduced into project evaluations by the use of grade-equivalent scores. After these issues had been discussed, the reporting forms and instructions were introduced and explained in detail.

The project- (now building) and LEA-level forms and instructions for Model A were generally introduced first, each individual form being presented and discussed item by item. After the first set of forms had been discussed, other models were presented in detail only where they differed from the first model. The SEA forms for all the models were presented last. After SEA personnel had an opportunity to critique the reporting system and raise questions, they then filled out some of the impact data forms to simulate the reporting process involved in using three of the models.

The data sets included reading achievement scores for Models A, B2, and C1. The data were organized so that SEA staff could proceed through the reporting system, beginning at the project level, and ultimately com-

plete portions of a sample State Report. Working through the data sets required close attention to the reporting instructions, and this experience enabled SEA staff to identify portions of the instructions which were confusing or misleading. The process also helped to clarify what would be required of persons at each level who would be implementing the models and filling out the forms.

The function of the persons at the SEA to whom these presentations were made varied from site to site but usually included the State Title I Coordinator and either the Title I Evaluator or a member of the state's evaluation group. Other persons with whom the models were discussed at one or more sites included members of the state's compensatory education department, federal program directors, members of the state's evaluation committee, outside consultants, and test publishers' local representatives. In one state, the RMC team did not meet with any evaluators. In most cases, a team would meet with one or two SEA staff members and present the models to them. Additional staff members would then be introduced later and the presentation would be repeated as many times and in as much detail as necessary.

Discussions of the impact that implementation of the reporting system would have on a site arose spontaneously as the models were presented, and teams never found it necessary to ask directed questions of SEA personnel. At most sites, the models were positively received, although all sites had a number of suggestions to make toward improving the models. Several sites expressed strong interest in using the reporting system and/or evaluation models for state compensatory education programs or Title III programs. Several sites also indicated a desire to participate in the field test of the reporting system.

As had been anticipated, the majority of the SEAs were exclusively interested in Model A, the Norm-referenced Model. The evaluation methods used in this model are more similar to current practices than those used in any of the other models, since Model A involves the use of norm-referenced tests and does not require testing a control or comparison group. Model A also requires only minimal calculations at all levels (means and weighted

means.) A few SEAs also expressed an interest in Model C2 (the Special Regression Model using criterion- or objectives-referenced tests.)

Although the SEA personnel appeared to be favorably impressed with the proposed reporting system, the site visits revealed several problems with the system as it was originally designed. These problems and their solutions are described in the following section. The visits also made apparent two difficulties with the reporting system which could not be properly solved by revision of the models. The first of these difficulties arose from the requirement that a norm-referenced test be administered only at times corresponding to real normative data points. This requirement has a major impact on the implementation of Model A, a lesser impact on Models B1 and C1, and only a slight impact on Models B2 and C2.

Some of the inconveniences created by this limitation of testing times had been expected. It was anticipated, for example, that most projects traditionally administered tests at times which were convenient for practical rather than technical reasons and would be reluctant to make major changes in either testing schedules or in their choice of tests. One problem which had not been foreseen, however, was related to test scoring services. SEA personnel in states where one or two tests were very heavily used were certain that if all projects using one test were to administer the test at the same time, the scoring service would be overloaded and many projects would not receive their test scores for several months or longer. Discussions with test publishers reinforced this view.

Although this problem is a serious one, removing the stipulation that testing times must correspond to norming times would compromise the validity of evaluation findings based on normative data (Horst, Tallmadge, & Wood, 1975). One acceptable solution to the problem might be to make linear extrapolations from the data points for each test extending several weeks in each direction as suggested by Tallmadge and Horst (1974, p. 25) so that the test can be used at any point within that time interval. This approach, however, requires further investigation before it can be advocated.

The second major problem related to the rejection of grade-equivalent scores as a suitable metric for assessing educational treatment effects. SEA personnel in several states expressed a willingness to move away from

the use of grade-equivalent scores and indicated that they anticipated no great difficulties in doing so, however, others felt that grade-equivalent scores were necessary to communicate with parents and the public. They were skeptical about public acceptance and understanding of percentiles or NCEs. This issue also requires further investigation.

Most sites were willing to make estimates of any additional resources they would need to implement the system. Although there was a wide range with respect to the numbers of new personnel SEAs felt they would require in order to implement the system, in general the necessary personnel fell into two categories. First, some SEAs saw a need for additional clerical help in order to maintain records at the project (now building) level. Second, some felt that implementation would initially greatly increase the workload of SEA staff responsible for orienting and training local Title I personnel, and that additional professional staff might be required. Other SEAs felt that this second requirement would be reduced by participation in the field test (which would presumably mean that SEAs would receive some contractor assistance), or by a carefully phased implementation. In the case of one SEA, the model reporting system was much simpler than the system currently in use; thus implementation of the system would not require any increase in staffing in that state. Several SEAs expressed strong interest in seeing computer programs developed which would organize and analyze data in accordance with the models, believing that such software would substantially reduce the difficulties of implementing the system.

Revision of the Phase III Models

Since the visits to nine SEAs had resulted in a number of suggestions for revision of the models and had revealed difficulties with the system which might be eliminated by revisions, a decision was made to meet with OE representatives and with the project's Advisory Panel to discuss possible changes in the models. Each criticism or suggestion made by an SEA was brought before this group for discussion, and decisions were reached on whether or not to change the models and what form the change should take.

Most of the changes made in the reporting system involved the clarification of ambiguous phrases, the addition of more detailed explanations and worksheets to the instructions, and the rewriting of some portions of the instructions to make them more explicit. Also several new questions were added to the reporting forms in order to collect additional information the Panel thought would be of interest. However, a few larger issues arose on the site visits and the Advisory Panel devoted most of the meeting to a consideration of these issues.

One difficulty with the reporting system which became apparent during the site visits was related to the use of the term "project." This term, which was used to describe the first level of the reporting system, was defined in different ways by the different states which were visited. Since one primary objective of the reporting system was to provide for the reporting of project-level information by the state, it was clear that the definition of a "project" should be the same for all states, at least as far as Title I reporting was concerned. For the reporting system, a project was described as a single, identifiable instructional treatment. However, discussions with SEA personnel indicated that some states had no clearly delineated entities that corresponded to "projects." For this reason, the problem could not be solved by the addition of a definition of project, nor by the use of some other term such as "activity," "component," or "program."

The problem seemed to be that in some states, "project" and "LEA" are considered identical in terms of applications for funding and evaluation reports. At the same time, LEAs frequently provide more than one kind of

instructional treatment for Title I. The Advisory Panel decided that a specific instructional treatment was most likely to be found within a single school building, and that the aggregation of impact data across buildings would tend to obscure the effects of the treatment. The Panel felt this was true even where several buildings were supposedly using the same instructional treatment. Therefore, a decision was made to change the lowest level of the reporting system from the project level to the building level.

The second major problem which was considered by the Advisory Panel was the objection several states raised to the inclusion of information on Parent Advisory Councils and Personnel and Training in the reporting system. Although some states felt that neither type of information was appropriate in an evaluation report, objections seemed to focus on the reporting forms related to Parent Advisory Councils. Several states felt that the information they collected in their monitoring activities would be more accurate than the information that would be reported by schools and districts. These states felt that each SEA should report on the results of its monitoring rather than simply aggregate possibly inaccurate reports from LEAs. On the other hand, the parent representatives on the Advisory Panel felt that the PAC reporting forms at each level served an important function and should be retained. The Panel eventually agreed that no final decision should be made on these forms until all SEAs had had an opportunity to give their opinions on the issue.

When all the necessary changes had been made in the forms and instructions, copies were sent to each of the nine SEAs which had been visited so that SEA staff could make any additional comments on, or criticisms of, the reporting forms and instructions. The suggestions they make will be taken into account when the reporting system undergoes its next revision.

VI. CONCLUSIONS AND RECOMMENDATIONS

The analyses of State Title I Annual Evaluation Reports conducted in the first two phases of the study revealed that the variety of current state reporting practices made aggregation of any data across all states impossible. Although there were some reporting formats, notably in the area of participation, which were quite commonly used and which presented policy-relevant information, it seemed clear that only the standardization of state reporting practices would make it possible to obtain an accurate national picture of Title I. The model reporting system designed in the last two phases of this study was intended to make minimal demands on state and local personnel while providing policy-relevant information to decision makers in Washington. Based on reactions to the reporting system thus far, it is not unreasonable to expect that the system will be adopted by a majority of states, even in the absence of a legislative mandate.

Information obtained during the study indicates that the portion of the system related to the collection and reporting of impact data may cause problems in many states. The difficulties stem from the fact that it is possible to collect reliable and valid impact data only through strict adherence to sound educational measurement and evaluation design practices. In the past, local Title I evaluators have unwittingly engaged in practices which have compromised the results of their evaluations. Thus, the model reporting system has necessarily included guidelines and requirements for conducting valid assessments of program impact. Among these requirements are (a) norm-referenced tests must be administered at times for which the publishers have real normative data points; (b) when objectives- or criterion-referenced tests are employed, the evaluation design must make use of a control or comparison group; and (c) grade-equivalent scores cannot be used to measure project impact. Most local Title I evaluators will have to change their evaluation procedures to meet these requirements, and making these changes will cause them some inconvenience.

There are several ways in which difficulties related to the collection of valid impact data can be mitigated, and there are also a number of questions related to this area of the system design which should be answered

before the system can be considered complete. This study was the first part of a larger effort devoted to the design, field testing, and eventual implementation of a Title I reporting system. Thus, while a number of issues related to the reporting and evaluation system remain unresolved, and several steps could be taken to make the system easier to adopt, work has begun under a new contract to address these problems. The areas in which further work or investigation are needed will be described briefly in this chapter.

The model reporting system currently consists of sets of forms and related instructions. Descriptions of the models and requirements for their implementation have thus far been communicated orally to state and local personnel, but there is a clear need for a written document related to model selection and implementation. This document will enable state and local personnel to choose the evaluation model most appropriate to their needs, and will then inform them of the steps necessary to implement the model at a time when they are able to make plans to meet all the model requirements. As it is now conceived, this document will be quite similar to A practical guide to measuring project impact on student achievement (Horst, Tallmadge, & Wood, 1975) but will be directly tied to the model reporting system.

The production of computer software for each of the models at all levels will remove much of the computational and clerical burden from the reporting system and will make the system easier to use and thus more attractive than data collection systems currently used by most states. Computerizing the system will reduce paperwork at the LEA and SEA levels and will probably result in decreased errors, as well as ensuring that all data in the reports will, in fact, be produced in a standard manner. Unfortunately, it appears that in the smaller or less-populated states, use of a computer to store and analyze Title I data would not be cost effective, particularly at the LEA level. Thus, although several larger states strongly recommend the development of computer programs, this step will probably not provide most rural states an incentive to adopt the system.

The requirement that norm-referenced tests be administered only at times for which real normative data are available makes the use of tests having only one data point inconvenient, and in some instances, impossible.

Such tests cannot be used for fall pretesting and spring posttesting except at grades 4, 5, and 6 for tests included in the Anchor Test Study (Loret, et at., 1974). Effort will be devoted to persuading test publishers to produce two or more empirical data points for their norm-referenced tests. There is reason to believe that some test publishers are now considering taking this step, and at least one publisher already intends to produce a second data point. Of course, publishers' interest in producing additional empirical data points will depend to some extent on how many states plan to adopt the model reporting system.

Appropriate use of any norm-referenced test could be made easier by the development of extrapolated norms tables where percentile values would be read out as a function of the test score and the testing date. These double-entry tables would make it possible for local evaluators to administer a test at any date over a several-month period without introducing systematic biases into the data. If such tables were made available for the commonly used tests, Title I evaluators could administer tests at times more convenient for them than the exact norming dates. Since these administration times presumably would vary among the projects, the problem of overloading the scoring services would be somewhat reduced, and test results would be returned to the projects more quickly. If the test used had more than one normative data point, and if projections were produced for each data point, the test could be administered at any f a number of times during the school year.

Model A permits the use of any test for which adequate norms are available. However, no criteria have been developed for judging the adequacy of norms, nor has sufficient information been collected concerning various standardized tests to permit a determination of which standardized tests have norms appropriate for use in Model A. Additional information must be collected from test publishers before this issue can be resolved.

Difficulties created by out-of-level testing cause serious problems for Title I evaluators, since most Title I students cannot appropriately be tested using measures designed for their grade level. It seems clear that below-level tests must be used to avoid floor effects, but the issue

of out-of-level testing needs further investigation. Information is needed on how to judge which level of a test to administer to a group of students and what tests have adequate between-level articulation so that they can be used out of level. There is also a need to work with test publishers to produce better norms tables so that it will be possible to convert raw scores on an out-of-level test directly to within-level percentiles.

Model A is expected to be the most widely adopted model since the other models require testing control or comparison groups and such testing cannot presently be paid for by Title I funds. However, a question has arisen about the effects of regression toward the mean on the posttest expectation used in Model A. In this model, the pretest percentile is used as the posttest expectation under the assumption that without special treatment a Title I student would maintain his position with respect to his peers. However, work needs to be done in order to determine whether this assumption should be tempered to take regression effects into account.

Although Model B is the most precise of the models, it is extremely difficult to implement, since control groups for Title I students are not normally available. The possibility remains that this model could be used with a non-comparable control group (e.g., low achieving students in a non-Title I school), but further investigation is needed to determine how different the control group can be from the Title I group before the additional precision of this model is lost.

Aside from these issues, further revision of the forms and instructions will be necessary as more state and local personnel have the opportunity to make inputs into the system. Also, the system must eventually include criteria for determining which individual building-level reports should be included in the State Report to the Office of Education. As states decide to implement the system, the documents will need to be tailored so as to correspond to the particular needs of the state while maintaining their usefulness at the national level. As revisions are made, they will incorporate any new information resulting from investigation of the issues discussed here.

APPENDIX A

State Reports which were Analyzed
for the Years 1969-74

State Reports Analyzed

State	'69	'70	'71	'72	'73	'74	State	'69	'70	'71	'72	'73	'74
Alabama	X	X	X	X	X	X	Nevada	X	X	X	X	X	
Alaska	X	X	X	X	X		New Hampshire			X	X	X	
Arizona	X	X	X	X	X	X	New Jersey	X	X	X	X	X	X
Arkansas	X	X	X	X	X	X	New Mexico	X	X	X	X	X	
California	X	X	X	X	X	X	New York			X	X		
Colorado	X	X	X	X	X	X	No. Carolina	X	X	X	X	X	
Connecticut	X	X	X	X	X	X	No. Dakota	X	X	X	X	X	X
Delaware	X		X	X	X	X	Ohio	X	X	X	X	X	X
D.C.		X	X	X	X	X	Oklahoma	X		X	X	X	X
Florida	X	X	X	X	X	X	Oregon	X	X	X	X	X	
Georgia	X		X	X	X	X	Pennsylvania	X	X	X	X	X	
Hawaii	X	X	X	X	X		Rhode Island	X	X	X	X	X	
Idaho	X	X	X	X	X	X	So. Carolina	X	X	X	X	X	X
Illinois	X		X	X	X	X	So. Dakota	X	X	X	X	X	X
Indiana	X	X	X	X	X	X	Tennessee	X	X	X	X	X	
Iowa	X	X	X	X	X		Texas		X	X	X	X	X
Kansas	X	X	X	X	X		Utah	X	X	X	X		
Kentucky			X		X	X	Vermont	X	X	X	X	X	X
Louisiana	X	X	X	X	X		Virginia	X	X	X	X	X	X
Maine	X	X	X	X		X	Washington	X	X	X	X	X	
Maryland		X	X	X	X		W. Virginia	X	X	X	X	X	
Massachusetts	X	X	X	X	X		Wisconsin	X	X	X	X	X	
Michigan	X	X	X	X	X		Wyoming	X	X	X	X	X	
Minnesota	X		X	X	X		Am. Samoa				X	X	X
Mississippi	X	X	X	X	X	X	B.I.A.			X	X	X	X
Missouri	X	X	X	X	X	X	Guam	X	X			X	X
Montana	X	X	X	X	X		Puerto Rico		X	X		X	X
Nebraska	X	X	X	X	X	X	Trust Territory						
							Virgin Islands						X

STATE_____ YEAR_____ SCORE_____

SCALE OF ADEQUACY AND VALIDITY OF REPORTED DATA Reviewer

COGNITIVE BENEFIT INFORMATION

2.0 Cognitive data are ideally* presented for all or a representative (or random) sample of students served.

1.5 Cognitive data are ideally* presented for a probably representative sample of students (description of sample or sampling procedure is not adequate for proof of representativeness).

1.0 Cognitive data are ideally* presented for a possibly biased sample of students (description of sample or sampling procedure does not suggest that biases exist; neither, however, is there any evidence to suggest that it is representative).

0.5 Cognitive data are ideally* presented for a probably biased sample of students (description of sample or sampling procedure suggests that the subgroups in the population served are likely not to be represented proportionately to their size. There is no evidence, however, that the sample was selected so as to show the largest cognitive benefits).

0.0 No hard cognitive data are presented.

* Cognitive benefit data ideally presented means:

1. Pre and posttest data or gain scores for treatment group, or posttest data for treatment and control group. (Deduct 0.3 if absent)

2. Measures describe distribution of scores (standard deviations, percentiles, deciles) not just measures of central tendancy (mean, median, mode) -- Deduct 0.2 for use of non-standard measures.

4. Tests administered and scored by independent evaluator. (Deduct 0.1 if done by classroom teachers or other "involved" personnel)

5. Presentation is based directly and solely on achievement test data. (Deduct 0.3 for contaminated data)

TARGET GROUP INFORMATION

Add to Cognitive Benefit score:

0.2 for total number served
0.2 for breakdown of target group by grade level
0.2 for breakdown of target group by race
0.2 for breakdown of target group by urban-rural (or community size)
0.2 for breakdown of target group by socioeconomic status
0.2 for any multidimensional breakdown

IF COGNITIVE BENEFIT SCORE IS ≥ 0.7

AND

IF TARGET GROUP DATA ARE INTEGRATED WITH COGNITIVE DATA

THEN

DOUBLE TARGET GROUP SCORE

PROGRAM INFORMATION

Add to composite score:

0.2 for list of programs offered
0.2 for breakdown of number served by program
0.2 for breakdown of programs by grade level
0.2 for any multidimensional breakdown

IF COGNITIVE BENEFIT SCORE IS ≥ 0.7

AND

IF PROGRAM DATA ARE INTEGRATED WITH COGNITIVE DATA

THEN

DOUBLE PROGRAM SCORE

COST INFORMATION

Add to composite score

0.2 for total or per-pupil costs
0.2 for breakdown of costs by program
0.2 for breakdown of costs by grade level
0.2 for any multidimensional breakdown

IF COGNITIVE BENEFIT SCORE IS ≥ 0.7

AND

IF COST DATA ARE INTEGRATED WITH COGNITIVE DATA

THEN

DOUBLE COST SCORE

READABILITY SCALE

Total Possible		
1	1.	Abstract or Synopsis of Report: Report includes abstract or synopsis at the beginning. (1 point = Most of the major findings are briefly discussed; .5 points = Some of the major findings are briefly discussed, or the types of information included in the report are described; 0 points = No abstract is given.)
1	2.	Organization: There is a table of contents, and the report is organized into sections which actually cover the materials listed in the table of contents.
1	3.	Integration: Report includes either the general data across the entire state or summarizes information about smaller units such as LEAs, projects, or programs.
2	4.	Writing Style: Report is written in a clear and unambiguous manner. "As a result, it tells exactly what you mean and reduces the chance that readers will misunderstand [Shaffer, 1967]." The writing is not excessively repetitious or convoluted. (2 points = Most of the report meets the above criteria; 1 point = Only some parts of the report meet these criteria; 0 points = Most of the report does not meet the above criteria.)
2	5.	Technical Presentation: Descriptions of methods and results are complete and explicit. (2 points = Most of the descriptions have complete and explicit explanations; 1 point = Most sections of the report present minimal explanations; 0 points = Most sections of the report do not have complete and explicit explanations.)
2	6.	Tables and Figures: Text refers to specific tables and figures which are close to the point where they are discussed. The tables are clearly labeled and easily readable. The figures, including the coordinates, are clearly labeled and easily readable. (2 points = Most of the tables and figures fulfill the above criteria; 1 point = Some of the tables and figures meet the above criteria; 0 points = Most of the tables and figures do not meet these criteria.)
1	7.	Summary or Conclusion: Statements about the major points described in the report are presented. (1 point = The results are summarized. They are discussed or recommendations are made; .5 points = The results are only summarized; 0 points = No results or discussion is presented.)
1	8.	Copying: Materials are clear and easy to read.

State_____ Year _____ Score _____ Reviewer _____

SCALE OF POLICY RELEVANCE

Achievement Benefit Information

4 = Achievement test data; pre, post, and gain by project and aggregated across state

3 = Data across state plus achievement data for exemplary projects or no state data, but adequate project information

2 = Data across state, no project level information

1 = Inadequate statewide aggregation (anectodal information)

0 = No achievement data

Resource Allocation

3 = Project level breakdown of expenditure by service area and statewide aggregation

2 = Statewide breakdown of expenditure by service area, or sufficient project level breakdown

1 = Inadequate statewide aggregation (anecdotal)

0 = No data on expenditures

°°Add 1 point for information on numbers eligible and numbers served.

Needs Assessment

4 = Project level descriptions of needs assessment procedures and results plus statewide summary

3 = Project level descriptions of needs assessment procedures and results; no statewide summary

2 = Statewide summary without project level description

1 = Inadequate statewide aggregation

0 = No needs assessment data

Public/Non-public

2 = Breakdown of expenditures and number of participants by county plus statewide aggregation

1 = Statewide breakdown

0 = No breakdown

Parent Advisory Councils

2 = School or district level descriptions of PAC membership composition, activities and achievements plus statewide summary

1 = Statewide summary

0 = No information

Other Policy Issues

Add one-half point for each policy issue addressed beyond those mentioned up to a maximum of four. Specify the issues addressed:

Comparability

Instructional time

Time of intervention

Integration with other federal and/or compensatory programs

Role of SEA

Late funding

Other_____

Other_____

Other_____

Other_____

Appendix E

Letter Sent to State Title I Coordinators

February 29, 1975

Title I Coordinator
State Office Building
1 Main Street
Harrisford, Calissippi 00001

Dear Coordinator:

Since 1 July 1974, RMC Research Corporation has been working under contract with U.S.O.E.'s Office of Planning, Budgeting, and Evaluation on a project concerned with improving the State ESEA Title I evaluation and reporting system. In conjunction with this project, a member of our staff will be contacting you shortly to solicit your ideas on some of the more important issues.

If you attended one of the Regional Title I Coordinator meetings held at Atlanta and Dallas at the end of September and San Francisco at the beginning of October, you may have heard my brief presentation describing our study. In case you did not hear the presentation, or to refresh your memory if you did, I have appended a brief project summary. The project, as I am sure you recognize, is intended to fulfill some of the legislative mandates contained in the recently enacted Educational Amendments of 1974 (Public Law 93-380).

During Phases I and II of our study we examined past Title I reports from 1971, 72, and 73 in terms of their content, the adequacy of the data they presented, their readability, and the extent to which they addressed policy issues which are currently thought to be relevant to federal-level decision making. We then wrote brief critical summaries of each report. Copies of the summaries of reports from your state are also appended.

The ratings and critical summaries which we made of past reports are not to be interpreted as evaluations of any state's performance since no guidelines were provided prior to report preparation indicating the content and format desires of U.S.O.E. Instead of providing an index of performance, our ratings and comments are useful only in indicating how far past reports have deviated from some probably unattainable and not yet completely defined ideal.

During Phase III of our study we will be trying to identify realistic objectives with respect to evaluation practices and reporting content and format which will improve the comparability of reports across states and enable the aggregation of data to provide a nation-wide picture of Title I operation and impact. In addition to working closely with our Advisory Panel whose members represent state and local education agencies,

the Council of Chief State School Officers, the National Advisory Council on the Education of Disadvantaged Children, and parents of Title I children, our plans call for telephone conversations with the Title I Coordinators and/or their designates from each state. Our objectives in these telephone discussions will be to solicit specific comments and suggestions relevant to the design of an improved Title I evaluation and reporting system.

A member of our project staff will call you approximately two weeks from the date of this letter. In addition to any general comments you may wish to volunteer, we will want to explore the following issues with you:

1. Is it feasible, and if so how large a burden would it place on SEA's, to report Title I participation
   a) in terms of unduplicated counts of children served by grade level in public and nonpublic schools separately for summer and regular school sessions, and
   b) in terms of the number of children receiving each type of program service by grade level in public and nonpublic schools separately for summer and regular school sessions?

2. Is it feasible, and if so how large a burden would it place on SEA's, to report total state dollar allocations and expenditures, including administrative funds with separate accounting for carry-over funds; funds for handicapped, delinquent, and migrant children; and parts B and C of ESEA Title I?

3. Is there any reasonable way of separating expenditures according to public vs. nonpublic school participants?

4. Can total and per-pupil expenditures be broken down by type of program service separately for summer and regular school sessions?

5. Can expenditures be broken down according to standard accounting categories?

6. Would it be feasible to impose standardized evaluation practices on LEA's for the assessment of achievement benefits including the specification of acceptable standardized test instruments and testing times?

7. Would it be feasible to report test score data by grade level by project--assuming only a minimum of information was desired at the project level (such as mean pretest score, mean posttest score, and the number of children tested)?

8. Would it be feasible to adopt standard needs assessment practices state-wide and subsequently report on compliance with these procedures at the project level?

9. Would it be feasible to adopt standard practices with respect to the composition, terms of office, and activities of parent advisory panels and subsequently report on compliance with these practices at the project level?

Another concern of ours relates to the use of grade-equivalent scores and norm-referenced evaluation models for assessing cognitive achievement benefits. These issues are complex and cannot be adequately discussed here or by telephone. You should recently have received, however, a report entitled Measuring Achievement Gains in Educational Projects authored by Horst, Tallmadge, and Wood. This report deals extensively with the problems associated with grade-equivalent scores and norm-referenced evaluation models (see especially Hazards 1 and 3, pages 9 and 13). If you have time to read some of this material, we would very much like to obtain your reactions.

I apologize for the fact that we are asking for so much of your time. Without your help, however, we can have no hope of designing a reporting system which both is workable and meets the information needs of educational policy makers at the federal level. We will be very grateful for whatever time you can devote to thinking about the issues I have described and communicating your thoughts to us.

Sincerely yours,

G. Kasten Tallmadge, Director
Learning Systems Group

GKT:lc
Enclosures

%ile to Normal Curve Equivalent Conversion Table

%ile	NCE	%ile	NCE	%ile	NCE
1	1	36	42	71	62
2	7	37	43	72	62
3	10	38	44	73	63
4	13	39	44	74	64
5	15	40	45	75	64
6	17	41	45	76	65
7	19	42	46	77	66
8	20	43	46	78	66
9	22	44	47	79	67
10	23	45	47	80	68
11	24	46	48	81	68
12	25	47	48	82	69
13	26	48	49	83	70
14	27	49	49	84	71
15	28	50	50	85	72
16	29	51	51	86	73
17	30	52	51	87	74
18	31	53	52	88	75
19	32	54	52	89	76
20	32	55	53	90	77
21	33	56	53	91	78
22	34	57	54	92	80
23	34	58	54	93	81
24	35	59	55	94	83
25	36	60	55	95	85
26	36	61	56	96	87
27	37	62	56	97	90
28	38	63	57	98	93
29	38	64	58	99	99
30	39	65	58		
31	40	66	59		
32	40	67	59		
33	41	68	60		
34	41	69	60		
35	42	70	61		

Appendix G

Model A Reporting Forms

GENERAL INFORMATION

LEA Name or Number _____

Building Name or Number _____

☐ Regular school year
☐ Summer
☐ Yearlong

Hours of student project exposure per week _____

Total weeks of project duration _____

Instructor:pupil ratio _____ : _____

Total project cost _____

Title I funds _____ Other supplementary funds _____

PARTICIPATION

Grade Levels Served	Number of Children (Unduplicated Count) Public	Nonpublic	Total
Pre K			
K			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
Total			

Program Components	Number of Children Served (Duplicated Count)
Reading/Lang. Arts/Communication	
Math	
Other Academic	
Affective	
Support Services	

Building Name or Number _____

Number and Type of Personnel Employed in the Project

Type of Personnel	Number (Full Time Equivalent)
Instructional	
Teachers	_____
Instructional Aides or Assistants	_____
Reading Specialists	_____
Mathematics Specialists	_____
Directors or Coordinators	_____
Resource Personnel	_____
Other Instructional Personnel (specify) _____	_____
Supportive	
Counselors or Psychologists	_____
Other Supportive Personnel (specify) _____	_____

Does the Title I project have preservice and/or inservice training sessions for either teachers or aides? Yes No

Check the Topics Covered during Training

Topic	Teachers	Aides
Orientation to Title I project	☐	☐
Project Planning and Design	☐	☐
Subject Matter Areas (Reading, Math, Language Development, etc.)	☐	☐
Use and Duties of Teacher Aides	☐	☐
Use of Supportive Services (Counseling, Medical, etc.)	☐	☐
Dissemination of Research Results	☐	☐
Evaluation Design	☐	☐
Other	☐	☐

Check the Range of Days of Training Received by Teachers and by Aides

Days	Teacher Training	Aide Training
Fewer than 1	☐	☐
1- 2	☐	☐
3- 5	☐	☐
6-10	☐	☐
More than 10	☐	☐

BUILDING LEVEL PARENT ADVISORY COUNCILS

LEA Name or Number _____

☐ Building Level PAC

Building Name or Number _____

☐ District Level PAC

District Name or Number _____

How many members are there on the PAC? _____

How many members are parents of children who are enrolled in Title I programs? _____

Check each activity in which the PAC participated.

☐ Used needs assessment information to make recommendations about the most pressing needs which should be concentrated upon by Title I programs.

☐ Reviewed periodic progress reports.

☐ Reviewed evaluations of current and previous Title I projects.

☐ Informed and consulted parents about Title I services.

☐ Advised the LEA about the Title I application.

Building Name or Number _____

Grade _____

ACHIEVEMENT DATA

☐ Reading
☐ Mathematics

Name of Pretest _____
Level _____ Form _____ Date _____ (mo/day/yr) Make-up Date _____ (mo/day/yr)
Norms used _____
Name of Posttest _____
Level _____ Form _____ Date _____ (mo/day/yr) Make-up Date _____ (mo/day/yr)
Norms used _____

Name or ID Number	Raw Score		Standard Score	
	Pre	Post	Pre	Post
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				

IMPACT DATA

Building Name or Number _____

READING

Grade _____

Name of Pretest _____
Level _____ Form _____ Date _____ (mo/day/yr) Make-up Date _____ (mo/day/yr)

Norms used _____

Name of Posttest _____
Level _____ Form _____ Date _____ (mo/day/yr) Make-up Date _____ (mo/day/yr)

Norms used _____

What percent of the project occurred between the pretest and the posttest? _____
Number of children served in this grade level in reading _____
Number with both pre- and posttest scores _____
Standard score means: Pretest _____ Posttest _____
Percentile equivalents: Pretest _____ Posttest _____

If number of children with pre- and posttest scores is different from number of children served, please explain.

MATHEMATICS

Grade _____

Name of Pretest _____
Level _____ Form _____ Date _____ (mo/day/yr) Make-up Date _____ (mo/day/yr)

Norms used _____

Name of Posttest _____
Level _____ Form _____ Date _____ (mo/day/yr) Make-up Date _____ (mo/day/yr)

Norms used _____

What percent of the project occurred between the pretest and the posttest? _____
Number of children served in this grade level in mathematics _____
Number with both pre- and posttest scores _____
Standard score means: Pretest _____ Posttest _____
Percentile equivalents: Pretest _____ Posttest _____

If number of children with pre- and posttest scores is different from number of children served, please explain.

GENERAL INFORMATION

LEA Name or Number _____

Number of buildings with Title I projects in LEA _____

COST

Total Cost (for all projects in LEA) _____

Title I Cost _____ Other _____

PARTICIPATION (for all projects in LEA)

Grade Levels Served	Number of Children (Unduplicated Count) Public	Nonpublic	Total
Pre K			
K			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
Total			

Program Components	Number of Children Served (Duplicated Count)
Reading/Lang. Arts/Communication	
Math	
Other Academic	
Affective	
Support Services	

EVALUATION

Number of buildings submitting achievement test data _____

If number of buildings reporting achievement test data is different from the total number of Title I buildings in LEA, please explain.

Number of buildings using each evaluation model:

Model A _____ Model B1 _____ Model B2 _____ Model C1 _____ Model C2 _____

DISTRICT LEVEL PARENT ADVISORY COUNCILS

LEA Name or Number _____

☐ Building Level PAC

Building Name or Number _____

☐ District Level PAC

District Name or Number _____

How many members are there on the PAC? _____

How many members are parents of children who are enrolled in Title I programs? _____

Check each activity in which the PAC participated.

☐ Used needs assessment information to make recommdations about the most pressing needs which should be concentrated upon by Title I programs.

☐ Reviewed periodic progress reports.

☐ Reviewed evaluations of current and previous Title I projects.

☐ Informed and consulted parents about Title I services.

☐ Advised the LEA about the Title I application.

LEA Name or Number _____

Number of Title I participating buildings in the LEA _____

Number of building-level PACs _____

If there is a difference between the number of buildings and the number of building-level PACs, please explain:

Does your LEA have a district-wide PAC?
Yes _____ No _____

If no, please explain:

Number of PACs (including district-level PACs) that have a majority of members who are parents of Title I children _____

Give the total number of PACs which engaged in the following activities:

Number

_____ Used needs assessment information to make recommendations about the most pressing needs which should be concentrated upon by Title I programs.

_____ Reviewed periodic progress reports.

_____ Reviewed evaluations of current and previous Title I projects.

_____ Informed and consulted parents about Title I services.

_____ Advised the LEA about the Title I application.

Place a check mark before each type of information and/or assistance furnished to the PACs by the LEA:

☐ Copies of the Title I Act, Federal and State regulations and guidelines.

☐ Copies of the LEA's current application.

☐ Progress reports of Title I projects.

☐ Orientation and training materials.

☐ Plans for future Title I projects.

☐ Needs assessment data from Title I projects.

☐ Evaluation results of prior Title I projects.

☐ Procedures for promptly responding to complaints and suggestions from parents.

☐ Funds provided to promote PAC activities.

PERSONNEL AND TRAINING page ____ of ____

LEA Name or Number _____

Number and Type of Personnel Employed in All Projects

Type of Personnel	Number (Full Time Equivalent)
Instructional	
Teachers	_____
Instructional Aides or Assistants	_____
Reading Specialists	_____
Mathematics Specialists	_____
Directors or Coordinators	_____
Resource Personnel	_____
Other Instructional Personnel (specify) _____	_____
Supportive	
Counselors or Psychologists	_____
Other Supportive Personnel (specify) _____	_____

Number of Buildings whose Personnel Received Training in Specified Topics

Topic	Teachers (Number of Buildings)	Aides (Number of Buildings)
Orientation to Title I Project	_____	_____
Project Planning and Design	_____	_____
Subject Matter Areas (Reading, Math, Language Development, etc.)	_____	_____
Use and Duties of Teacher Aides	_____	_____
Use of Supportive Services (Counseling, Medical, etc.)	_____	_____
Dissemination of Research Results	_____	_____
Evaluation Design	_____	_____
Other	_____	_____

Number of Buildings whose Personnel Received Training within Specified Ranges of Days

Days	Teacher Training (Number of Buildings)	Aide Training (Number of Buildings)
Fewer than 1	_____	_____
1- 2	_____	_____
3- 5	_____	_____
6-10	_____	_____
More than 10	_____	_____

LEA Name or Number _____

Building Name or Number _____

☐ Regular school year
☐ Summer
☐ Yearlong

Hours of student project exposure per week _____

Total hours per project _____

Instructor:pupil ratio _____ : _____

Number of children served (unduplicated) _____

Total project cost _____

Cost per pupil _____

ACHIEVEMENT DATA

☐ Reading

☐ Mathematics

Grade	N	Percentile Score		Normal Curve Equivalent		Normal Curve Equivalent Gain
		Pre	Post	Pre	Post	
Pre K						
K						
1						
2						
3						
4						
5						
6						
7						
8						
7-8						
9						
10						
11						
12						
9-12						

Appendix H

Instructions for Model A Reporting Forms

Instructions for
Building Level Evaluation Report

Orientation to the Reporting Forms

Each form to be filled out for the building has a form number centered at the bottom of the page. The form number will begin with an R (for report) or a W (for worksheet). Forms with R-numbers are to be sent on to the LEA as part of the building report. Forms with W-numbers are provided for the convenience of building staff and will not normally be sent to the LEA. Worksheets are shaded along the right margin so that they can be easily separated from report forms. Form numbers in a given model will not necessarily be consecutive.

At the upper right of some forms, under the spaces for page numbering, forms which are specific to one evaluation model are identified according to model (A, B1, B2, C1, or C2). Forms which do not show this identification are general to all models. These forms should be completed for the building even if none of the evaluation models apply to the Title I project. (These general forms are R-1 and R-2.)

General Information (Form R-1)

Form R-1 should be filled out regardless of the methods used to evaluate your project. The name or number of the LEA and the name and/or number of the building should appear on the first two lines. The time of year during which the project is conducted should be checked.

The average number of hours that a child spends each week in the project should be noted as well as the total number of weeks between the project's beginning and end.

If the project has teachers, aides, pupil's peers, or older children acting as instructors, they should be counted as instructors when calculating the instructor:pupil ratio. In general, anyone regardless of age or training, who functions in an instructional capacity should be counted as an instructor. In calculating the ratio, consider only the time during which the student is actually participating in the

project. For example, if a project consists of an aide tutoring each child individually for 30 minutes a day, the instructor:pupil ratio is 1:1 although the aide may tutor several children each day.

All money spent on project children which is above and beyond the per-pupil expenditure for the regular school program should be included in computing the total project cost for the building. Title I monies and funds from any other source such as State Compensatory Education programs which are used to support the project should be included. The total should include the salaries of all full time project personnel, the appropriate proportions of the salaries of part-time personnel, the fixed costs associated with these salaries, supplies and materials, and the pro rata share of capital equipment costs based on useful life expectancies. In the blanks provided on the form, enter the amount of project costs which is paid by Title I, and the amount which is paid for out of other supplementary funds.

Participation

An unduplicated count should be made of the number of public and nonpublic school children served at each grade level. Each child in the project is counted only once. If the project includes children in an ungraded classification, use the following table to assign the child a grade classification on the basis of his age for the purposes of this report.

Age-to-Grade Conversion Table

Age	<5.0	5-5.11	6-6.11	7-7.11	8-8.11	9-9.11	10-10.11
Grade	Pre K	K	1	2	3	4	5
Age	11-11.11	12-12.11	13-13.11	14-14.11	15-15.11	16-16.11	17-17.11
Grade	6	7	8	9	10	11	12

Provide a duplicated count of the number of children served in each program area. In this case a child may be counted once for each

program area in which he participates. For example, if a child receives instruction in both Reading and Mathematics he is counted twice, once under each program component.

Personnel and Training (Form R-2)

Form R-2 should be completed regardless of the methods used to evaluate the project. Enter the name or number of the building on the top line of the form. Then indicate the number of salaried persons of each type employed by the project in terms of full-time equivalents. For instance, two half-time aides would appear on this form as one aide.

Mark the appropriate answer to the first question in the middle section of the form. Then mark the topics covered during training for teachers and or aides, marking as many topics as apply. For days of training, a range should be checked for both teachers and aides if both received training as part of the Title I project.

Achievement Data (Forms W-1 and R-3)

A worksheet for recording achievement test scores (Form W-1) has been provided. A set of these worksheets should be filled out for project participants in each grade level for Reading and/or Mathematics. The reading test scores for a grade level will be recorded on one set of sheets and the mathematics test scores for that grade level on a second set of sheets.

Write the name or number of the building at the top of the worksheet. Because more than one page may be required to record the scores of all participants in a grade, the grade level group should be clearly identified at the top of each page. This will simplify identifying a particular subset of data when it becomes part of a larger set. Then check whether the scores represent reading or mathematics data. The complete name of the pretest and posttest must be listed as well as the level and form of the tests and the norms used in scoring the test. Testing dates and make-up dates are critical in norm-referenced evaluation and should be carefully recorded. Make-up tests should be administered within two weeks of the original test.

List all of the names of the students in the project or, if preferred, list the identity number of each student in the far left column.

Record the raw pretest scores in the appropriate column and look up the corresponding standard scores (scaled scores, converted scores, or expanded standard scores are other names for the same type of score) using the test publisher's tables. Enter these scores in the appropriate column. After the posttest is given, the same procedures should be followed.

After testing is completed for the project, draw a line through the name of any child who does not have both pre- and posttest scores. A brief explanation of the reason the score is missing should be noted in the blank. His data will not be included in further computations.

The worksheets normally will be kept at the building and will not be sent on to the LEA. Information on achievement test scores that will be sent to the LEA is recorded on Forms R-3. One of these sheets should be filled out for each grade level that the project serves. The building name or number, grade level, and test description information should be transferred from the worksheet to Form R-3. Then fill in the approximate percent of the project that occurred between the pre- and posttest. The total number of children given Title I reading or math instruction in each grade level (this is not necessarily the same as the number tested) should be recorded in the appropriate spaces on each form.

The number of children at each grade level having <u>both</u> pretest and posttest scores should be counted from the worksheets and recorded on the impact data form. Using the worksheet data, the average standard score on the pretest and posttest should be calculated for each grade level for reading and/or mathematics, but only for those children with both pre- and posttest scores. These means should be recorded on Form R-3 in the appropriate blanks. The percentile equivalents of these average standard scores should be found using the conversion tables in the test publisher's manual. Record the pretest and posttest percentile

scores on the form. Do not convert each project child's standard score to a percentile score and then average the percentile scores to obtain the project mean. Finally, any differences between the number of children having both pre- and posttest scores and the number of children given instruction in the project should be listed for each grade level and program area i.e., X(number) dropped out of the project, Y(number) were absent for the pretest, etc.

Finally, place all forms to be sent to the LEA in order and number them using the spaces provided in the top right corner.

Instructions for
LEA Evaluation Report

Orientation to the Reporting Forms

Each form to be filled out by the LEA has a form number centered at the bottom of the page. The form number will begin with an R (for report) or a W (for worksheet). Forms with W-numbers are provided for the convenience of LEA staff and will not normally be sent to the SEA. Sheets which are not to be sent on are shaded along the right margin so that they can be easily separated from report forms. Forms which are received by the LEA from projects, schools, or districts will also be identified by R-numbers. These forms will remain at the LEA. (Form numbers in a given model will not necessarily be consecutive.)

At the upper right of some forms, under the spaces for page numbering, forms which are specific to one evaluation model are identified according to model (A, B1, B2, C1, or C2). The forms are also color coded according to model to make sorting by model easier if this is necessary. Forms which do not show a model identification at the upper right are general for all models. These forms should be completed for all projects in the LEA even if none of the evaluation models apply to the projects. (These general forms are R-4, R-6, and R-7. Form R-5 is also general to all models and should be completed by each Title I participating school or district.)

If buildings in the LEA have used more than one reporting model, the building forms which are specific to one model should be sorted by model, and data from each building should be analyzed and reported by the LEA according to the instructions for that model.

General Information (Form R-4)

The name of the LEA or the LEA number should be entered on the first line of Form R-4. The number of buildings having Title I projects in the LEA should be listed on the second line.

Cost

The Title I costs, other costs, and total costs for each building should be summed and recorded in the appropriate spaces under cost information. These data can be summed from the building Forms R-1.

Participation

Using the Form R-1 sent in by each building, locate the number of public and nonpublic school children served and the total number of children served in each grade level for each building. These data should be summed across all buildings in the LEA, and the result should be recorded to produce a table showing an unduplicated count of public, nonpublic, and total participation by grade level for the entire LEA.

The numbers of children participating in each program component in each building in the LEA should be added together and recorded in the second table.

Evaluation

The number of buildings reporting achievement test data should be reported and compared with the total number of Title I buildings existing in the LEA. If these numbers are different, the reasons for the discrepancy should be listed, i.e., X(number) buildings conducted subjective evaluations, Y(number) buildings were concerned with affective areas only, etc. A breakdown of the number of buildings using each type of evaluation model should also be reported. Model A is the Norm-referenced Model which uses standardized achievement test data. Model B1 is the Control Group Model (with or without covariance) using standardized achievement test data and Model B2 is the Control Group Model (with or without covariance) using criterion- or objectives-referenced tests. Model C1 is the Special Regression Model using standardized achievement tests and Model C2 is the Special Regression Model using criterion- or objectives-referenced tests. Thus, the design used in each evaluation report can be classified according to the following table.

Type of Data	Type of Design		
	Norm-referenced	Control Group	Special Regression
Standardized Achievement Tests	Model A	Model B1	Model C1
Objectives- or Criterion-Referenced Tests		Model B2	Model C2

School or District Level Parent Advisory Councils (Form R-5)

This form should be filled out for each Title I building and each Title I district in the LEA. Fill in the LEA name or number at the top of the form, then check the appropriate box (building or district) and enter the identifying information in the corresponding blank. Then fill in the requested information about the PAC in the spaces provided on the form.

Parent Advisory Council Information (Form R-6)

This form is a summary of all information submitted to the LEA on Forms R-5. Separate the Forms R-5 into two groups, one for buildings and one for districts. Fill in the LEA name or number at the top of the form, then enter the total number of buildings in the LEA that participate in Title I. Then enter the number of building-level PACs in the LEA. (This information can be found on the Forms R-5.) Any discrepancies between these two numbers should be explained by building.

The second section of the form is filled out in the same way, using the Forms R-5 which were filled out by districts. If each district does not have a PAC, an explanation should be given for each district if there is more than one district in the LEA.

To fill out the last section of the form, combine the building and district Forms R-5. Examine each form to determine whether or not a majority of the PAC members in that building or district are parents of Title I children, and keep a tally to show for how many PACs these parents constitute a majority. Enter this total in the appropriate blank.

Then count the number of buildings or districts that checked each box on Form R-5 and enter each total number in the corresponding blank on Form R-6. Then indicate the types of assistance the LEA gives local PACs by checking the appropriate boxes at the bottom of the form.

Personnel and Training (Form R-7)

Fill in the name or number of the LEA at the top of the form. To fill out the rest of the page, refer to all the Personnel and Training forms submitted by buildings (Forms R-2).

To complete the first part of the form, add the numbers entered by projects in each blank and enter the sum in the corresponding blank on Form R-7. It may be desirable to check project entries under "Other Personnel" to determine whether these personnel should be included in one of the other categories present on the form.

For the next section of the form, count the number of checks made by projects in each box on Form R-2 and enter the total in the appropriate blank. Repeat this process for the last section of the form, which relates to days of training.

Building Information (Form R-8)

A Form R-8 should be filled out for every Title I building in the LEA. If a building's evaluation does not fit any of the reporting models, all information except achievement data should be provided. Fill in the name or number of the LEA at the top of each sheet. From the Building Report Form R-1, copy the building name or number, the session during which the project operates, and the hours of project exposure per week. To calculate the total hours per project, multiply the hours of exposure per week by the total weeks of project duration (also found on Form R-1). The instructor:pupil ratio should be copied from Form R-1. The unduplicated total number of children served is found on the total line of the last column under "Number of Children" on Form R-1. This should represent an unduplicated total of all the public and nonpublic school pupils at all grade levels served in the building. Copy the project cost information from Form R-1. To derive the project cost per pupil, divide the total project cost by the number of children served.

The following procedures should be carried out for each building reporting achievement data for reading and/or mathematics. If a building reports both reading and mathematics data, fill out two forms.

Step 1. Transfer the average pre- and posttest percentile scores for each grade from the Forms R-3 submitted by the building to the appropriate columns on Form R-8. (Do not compute average percentile scores for grade bands 7-8 and 9-12.)

Step 2. Using the Normal-curve Equivalent table included in Appendix C look up each percentile score and find its normal curve equivalent (NCE).

Step 3. Record these NCEs in the appropriate columns.

Step 4. Compute a weighted average pretest and posttest NCE for grades 7 and 8 and for grades 9-12. The weighted average is found by multiplying the number of children tested in a grade by the NCE for that grade, summing these products, and then dividing that sum by the total number tested in all grades involved. A worksheet for performing this computation can be found in Appendix E.

Step 5. Subtract the pretest NCE from the posttest NCE at each grade level to find the normal curve equivalent gain. Enter the gain in the last column on the form.

Each building's achievement data should be reported in this format using one or two forms for each building, depending on whether test scores are reported for one or two subject areas.

Check the testing dates and make-up dates to be sure that make-up tests were administered within two weeks of the original tests. Also check to be sure that at least 80% of the project occurred between the pretest and the posttest. If either of these conditions are not met, include a note on the form to instruct the SEA that the data should not be included in a statewide aggregation.

Buildings with sizeable discrepancies between the number of children tested and the number of children served should be examined carefully. The explanations for the discrepancies provided on Form R-3 should be analyzed. If the data sample appears not to be representative of the project or is

probably systematically biased, a note should be included on the form to instruct the SEA that that building data should not be included in the statewide aggregation. The factor to consider in determining whether the data sample is biased is not only the number or percentage of students missing from the data but also the extent to which the children in the data sample are representative of the group served. For instance, if some students failed to take the posttest because they graduated out of the project after reaching a certain level of achievement, the remaining sample is systematically biased. The same would be true if the students were removed from the project because they did not appear to be benefiting from it. If data are present for more than 85% of the project participants, the data can be considered representative. If data are present for between 70% and 85% of the students, check the explanation for the discrepancy to determine whether the sample is biased. If data are available for fewer than 70% of the students, the SEA should be instructed that the data are not suitable for aggregation.

When all the necessary forms have been completed, place all the forms in order and number them using the spaces provided in the top right hand corner of each page.

Appendix I

SEA Reporting Forms

GENERAL INFORMATION

State _____

Number of buildings with Title I projects operating in state _____

COST

Total Cost (for all projects in state) _____

Title I funds _____ Other _____

PARTICIPATION (for all projects in state)

Grade Levels Served	Number of Children (Unduplicated Count) Public	Nonpublic	Total
Pre K			
K			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
Total			

Program Components	Number of Children Served (Duplicated Count)
Reading/Lang. Arts/Communication	
Math	
Other Academic	
Affective	
Support Services	

EVALUATION

Number of Title I buildings reporting achievement test data _____

If number of buildings reporting achievement test data is different from the total number of Title I buildings operating in the state, please explain.

Number of buildings reporting achievement data by:

Model A _____ Model B1 _____ Model B2 _____ Model C1 _____ Model C2 _____

State _____

Number of Title I funded buildings _____

Number of building-level PACs _____

If the number of PACs is different from the number of buildings, please explain:

Does each Title I participating district have a district-level PAC?

Yes _____ No _____

If no, please explain:

Total number of PACs (including district-level PACs) that have a majority of members who are parents of Title I children _____

Total number of PACs that engaged in the following activities:

_____ Planned projects.

_____ Reviewed periodic progress reports.

_____ Reviewed evaluations of current and previous Title I projects.

_____ Informed and consulted parents about Title I services.

_____ Advised the LEA about the Title I application.

Total number of LEAs which provided each of the following types of information and/or assistance to their PACs:

_____ Copies of the Title I Act, Federal and State regulations and guidelines.

_____ Copies of the LEA's current application.

_____ Progress reports of Title I projects.

_____ Orientation and training materials.

_____ Plans for future Title I projects.

_____ Needs assessment data from Title I projects.

_____ Evaluation results of prior Title I projects.

_____ Procedures for responding to complaints and suggestions from parents.

_____ Funds provided to promote PAC activities.

Number and Type of Personnel Employed in Title I Projects Statewide

Type of Personnel	Number (Full Time Equivalent)
Instructional	
Teachers	_____
Instructional Aides or Assistants	_____
Reading Specialists	_____
Mathematics Specialists	_____
Directors or Coordinators	_____
Resource Personnel	_____
Other Instructional Personnel	_____
Supportive	
Counselors or Psychologists	_____
Other Supportive Personnel	_____

Number of Buildings whose Personnel Received Training in Specified Topics

Topic	Teachers (Number of Buildings)	Aides (Number of Buildings)
Orientation to Title I Project	_____	_____
Project Planning and Design	_____	_____
Subject Matter Areas (Reading, Math, Language Development, etc.)	_____	_____
Use and Duties of Teacher Aides	_____	_____
Use of Supportive Services (Counseling, Medical, etc.)	_____	_____
Dissemination of Research Results	_____	_____
Evaluation Design	_____	_____
Other	_____	_____

Number of Buildings whose Personnel Received Training within Specified Ranges of Days

Days	Teacher Training (Number of Buildings)	Aide Training (Number of Buildings)
Fewer than 1	_____	_____
1- 2	_____	_____
3- 5	_____	_____
6-10	_____	_____
More than 10	_____	_____

LEA Name or Number _____

Building Name or Number _____

- ☐ Regular school year
- ☐ Summer
- ☐ Yearlong

Hours of student project exposure per week _____

Total hours per project _____

Instructor:pupil ratio _____ : _____

Number of children served (unduplicated) _____

Cost per pupil _____

Reading

Grade	N	Percentile		Normal Curve Equivalent		Normal Curve Equivalent Gain
		Pre	Post	Pre	Post	
Pre K						
K						
1						
2						
3						
4						
5						
6						
7-8						
9-12						

Total N = _____ Weighted Average Gain _____

Mathematics

Grade	N	Percentile		Normal Curve Equivalent		Normal Curve Equivalent Gain
		Pre	Post	Pre	Post	
Pre K						
K						
1						
2						
3						
4						
5						
6						
7-8						
9-12						

Total N = _____ Weighted Average Gain _____

LEA Name or Number _____

Building Name or Number _____

- ☐ Regular school year
- ☐ Summer
- ☐ Yearlong

Hours of student project exposure per week _____

Total hours per project _____

Instructor:pupil ratio _____ : _____

Number of children served (unduplicated) _____

Cost per pupil _____

Reading

Grade	N_T	Pretest Percentile	Normal Curve Equivalent Gain
Pre K			
K			
1			
2			
3			
4			
5			
6			
7-8			
9-12			

Total N_T = _____

Weighted Average Gain _____

Mathematics

Grade	N_T	Pretest Percentile	Normal Curve Equivalent Gain
Pre K			
K			
1			
2			
3			
4			
5			
6			
7-8			
9-12			

Total N_T = _____

Weighted Average Gain _____

LEA Name or Number _____

Building Name or Number _____

- ☐ Regular school year
- ☐ Summer
- ☐ Yearlong

Hours of student project exposure per week _____

Total hours per project _____

Instructor:pupil ratio _____ : _____

Number of children served (unduplicated) _____

Cost per pupil _____

Reading

Grade	N_T	T and C Standardized Test Percentile	Normal Curve Equivalent Gain
Pre K			
K			
1			
2			
3			
4			
5			
6			
7-8			
9-12			

Total N_T = _____

Weighted Average Gain _____

Mathematics

Grade	N_T	T and C Standardized Test Percentile	Normal Curve Equivalent Gain
Pre K			
K			
1			
2			
3			
4			
5			
6			
7-8			
9-12			

Total N_T = _____

Weighted Average Gain _____

LEA Name or Number _____

Building Name or Number _____

- ☐ Regular school year
- ☐ Summer
- ☐ Yearlong

Hours of student project exposure per week _____

Total hours per project _____

Instructor:pupil ratio _____ : _____

Number of children served (unduplicated) _____

Cost per pupil _____

Reading

Grade	N_T	Pretest Treatment %ile	Normal Curve Equivalent Gains	
			Means	Intercepts
Pre K				
K				
1				
2				
3				
4				
5				
6				
7-8				
9-12				

Total N_T = _____

Weighted average gain (means) _____

Weighted average gain (intercepts) _____

Mathematics

Grade	N_T	Pretest Treatment %ile	Normal Curve Equivalent Gains	
			Means	Intercepts
Pre K				
K				
1				
2				
3				
4				
5				
6				
7-8				
9-12				

Total N_T = _____

Weighted average gain (means) _____

Weighted average gain (intercepts) _____

LEA Name or Number _____

Building Name or Number _____

- ☐ Regular school year
- ☐ Summer
- ☐ Yearlong

Hours of student project exposure per week _____

Total hours per project _____

Instructor:pupil ratio _____ : _____

Number of children served (unduplicated) _____

Cost per pupil _____

Reading

Grade	N_T	Standardized Test Treatment %ile	Normal Curve Equivalent Gains	
			Means	Intercepts
Pre K				
K				
1				
2				
3				
4				
5				
6				
7-8				
9-12				

Total N_T = _____

Weighted average gain (means) _____

Weighted average gain (intercepts) _____

Mathematics

Grade	N_T	Standardized Test Treatment %ile	Normal Curve Equivalent Gains	
			Means	Intercepts
Pre K				
K				
1				
2				
3				
4				
5				
6				
7-8				
9-12				

Total N_T = _____

Weighted average gain (means) _____

Weighted average gain (intercepts) _____

Statewide Reading Achievement Data for Regular School Year and Yearlong Projects as a Function of Grade Level

Grade	N	Normal Curve Equivalent Gain
Pre K		
K		
1		
2		
3		
4		
5		
6		
7-8		
9-12		

Statewide Mathematics Achievement Data for Regular School Year and Yearlong Projects as a Function of Grade Level

Grade	N	Normal Curve Equivalent Gain
Pre K		
K		
1		
2		
3		
4		
5		
6		
7-8		
9-12		

Number of Buildings Reporting Reading Gains Within Specified Ranges as a Function of Project Characteristics

Normal Curve Equivalent Gain Ranges

	<0	0-1.4	1.5-2.8	2.9-4.2	4.3-5.6	5.7-7.0	>7.0
Hours per week							
0-1.0							
1.1-2.5							
2.6-5.0							
5.1-7.5							
7.6-10.0							
over 10.0							
Total hours							
0- 30							
31- 60							
61- 90							
91-120							
121-150							
151-180							
181-210							
over 210							
Cost per pupil							
0- 99							
100-199							
200-299							
300-399							
400-499							
500-599							
over 600							
Instructor:pupil ratio							
1:>20							
1:10.1 - 1:20							
1:5.1 - 1:10							
1:4.1 - 1:5							
1:2.1 - 1:4							
1:1.1 - 1:2							
>1:1 - 1:1							

Number of Buildings Reporting Mathematics Gains within Specified Ranges as a Function of Project Characteristics

Normal Curve Equivalent Gain Ranges

	<0	0-1.4	1.5-2.8	2.9-4.2	4.3-5.6	5.7-7.0	>7.0
Hours per week							
0-1.0							
1.1-2.5							
2.6-5.0							
5.1-7.5							
7.6-10.0							
over 10.0							
Total hours							
0- 30							
31- 60							
61- 90							
91-120							
121-150							
151-180							
181-210							
over 210							
Cost per pupil							
0- 99							
100-199							
200-299							
300-399							
400-499							
500-599							
over 600							
Instructor:pupil ratio							
1:>20							
1:10.1 - 1:20							
1:5.1 - 1:10							
1:4.1 - 1:5							
1:2.1 - 1:4							
1:1.1 - 1:2							
>1:1 - 1:1							

Instructions for
SEA Evaluation Report

General Information (Form R-19)

Enter the name of the State on the first line of Form R-19. The number of Title I buildings operating in the State should be listed on the second line. This number is found by summing the number of Title I buildings operating in the LEAs from Form R-4 of the LEA reports.

Cost

The total cost, Title I funds, and other funds used for all the projects should each be summed across LEAs using the figures provided on Forms R-4 in the LEA reports. These sums should be recorded under cost information on Form R-19.

Participation

The number of public and nonpublic school children served and the total number of children served in each grade level should be located on Forms R-4 received from each LEA. Sum each of these data elements across all LEAs in the State. Record each sum on the SEA report Form R-19. The table provides an unduplicated count of public, nonpublic and total participation by grade level for the entire State.

The number of children participating in each program component in each LEA should be added across the LEAs and recorded in the second table. These numbers represent a duplicated count of the total number of children in the State receiving each type of program.

Evaluation

The total number of buildings reporting achievement test data should be determined from the information in the LEA reports on Forms R-4 and reported on Form R-19. This number should be compared with the total number of Title I buildings in the state (on line 2, Form R-19). If these figures are different, the reasons for the discrepancy should be listed,

i.e., X (number) buildings were late reporting data, Y (number) buildings focused on affective areas, etc. Primarily, this should be a summary of the reasons given by the LEAs for not reporting data for all of their buildings.

A breakdown of the number of buildings in the State using each type of evaluation model should be reported at the bottom of Form R-19. This information can be computed by summing the numbers provided in the LEA evaluation reports on Forms R-8 under each model type. Model A is the Norm-referenced Model which uses standardized achievement test data, Model B1 is the Control Group Model (with or without covariance) using standardized achievement test data, Model B2 is the Control Group Model (with or without covariance) using objectives- or criterion-referenced tests. Model C1 is the Special Regression Model using standardized achievement tests and Model C2 is the Special Regression Model using objectives- or criterion-referenced tests. The designs used in each evaluation report were classified by the LEA according to the following table.

Type of Data	Type of Design		
	Norm-referenced	Control Group	Regression
Standardized Achievement tests	Model A	Model B1	Model C1
Objectives- or Criterion-Referenced Tests		Model B2	Model C2

Parent Advisory Council Information (Form R-20)

Using the information in the LEA reports on Forms R-6, sum the number of Title I buildings operating in all the LEAs and sum the number of building-level PACs. Record these numbers on Form R-20. Any discrepancy between these numbers should be explained.

If every LEA indicated on Form R-6 that it had a district level PAC, then check "Yes" on Form R-20. If one or more LEAs indicated that they did not have a district level PAC, check "No" on Form R-20 and explain the reasons by district.

Compute the total number of PACs that have a majority of members who are parents of Title I children by summing the numbers provided on Forms R-6 in the LEA reports. Record this number in the appropriate place on Form R-20.

Sum the number of PACs that engaged in each of the listed activities using the figures reported on Forms R-5. Record these numbers on Form R-20.

To fill out the last section of Form R-20, keep a tally of the number of LEAs that indicated that they provided the types of information or assistance listed. Enter the totals in the appropriate blanks on Form R-20.

Personnel and Training (Form R-21)

To fill out Form R-21, refer to all the Personnel and Training forms submitted by LEAs (Forms R-7). Sum the numbers entered on Forms R-7 for numbers of each type of personnel, topics covered during training, and days of training received. Enter these sums in the appropriate places on Form R-21.

Building Information (Forms R-22, R-23, R-24, R-25, and R-26)

A building information sheet is filled out for each Title I building in the state. The information is recorded on one of five possible forms. The proper form is determined by the type of evaluation model used by the building. If a building submitted no achievement data, the summary information should still be reported. If a building conducted a Model A evaluation, fill out Form R-22; if Model B1, use Form R-23; if Model B2, use Form R-24; if Model C1, use Form R-25; and if Model C2, use Form R-26. To simplify the transfer of information, the building information forms have been color coded. Each of the five evaluation models uses a form of a different color. The same color form that was used to report on the building by the LEA should be used by the SEA. If a building reported no achievement data, transfer the summary building characteristics to an SEA level form of the same color.

Most of the necessary achievement data can be obtained from the LEA reports and only summary calculations will have to be computed at the state level. In general, the summary calculations will include: the averaging of data across grade bands 7-8 and 9-12, the calculation of the total number of children tested in Reading and/or Mathematics in a building, the weighted average gain for the building in Reading and/or Mathematics, and weighted average gains at each grade level across buildings in the state.

Model A Evaluation (Form R-22)

Begin with a building's Reading achievement data.

Step 1. Transfer the summary building characteristics from Form R-8 in the LEA report to Form R-22. This information should include the LEA and building identifiers, whether it is a yearlong, summer, or regular school year project, hours of project exposure per week, total hours per project, instructor:pupil ratio, number of children served and cost per pupil.

Step 2. Transfer the impact data to Form R-22 for all grades and grade bands. This includes the Ns (from Column 1, Form R-8), pre and post percentiles (from Columns 2 and 3, Form R-8), pre and post normal curve equivalents (from Columns 4 and 5, Form R-8), and normal curve equivalent gains (last column, Form R-8) for each grade level.

Step 3. Determine the total N by summing the numbers in the N column on Form R-22 and record this number in the appropriate blank.

Step 4. Calculate a weighted average gain for the project in Reading/ Mathematics, using the worksheet provided in Appendix E, and enter this figure in the appropriate blank on Form R-22.

Step 5. Repeat Steps 2 through 4 for the building's Mathematics data.

If the building has no Mathematics data, go to Step 6.

Step 6. Repeat Steps 2 through 5 for all buildings using a Model A evaluation.

Model B1 Evaluation (Form R-23)

Begin with a building's Reading data.

Step 1. Transfer the summary project characteristics from the top of Form R-10 in the LEA report to Form R-23.

Step 2. For Pre K through grade 6, transfer the following achievement information from Forms R-10 to R-23: N_Ts (from Column 1, Form R-10), the treatment groups pretest percentile score (from Column 9, Form R-10), and the normal curve equivalent gains (from the last column, Form R-10).

If no children were served in grades 7-12, skip to Step 6.

Step 3. For grade bands 7-8 and 9-12, calculate N_Ts by summing the number of children tested at each grade level for each grade within the band. Use the numbers found in Column 1 of Form R-10. Record the N_Ts on Form R-17.

Step 4. For grade bands 7-8 and 9-12, calculate a pretest percentile for each band.

a. Using the worksheet in Appendix E, compute a weighted average pretest NCE for each grade band (using pretest NCEs from Column 15, Form R-10).
b. Convert the weighted average pretest NCE to a percentile score using Appendix D and record the percentile on Form R-23.

Step 5. For grade bands 7-8 and 9-12, calculate a weighted average normal curve equivalent gain for each band, using the instructions and worksheet in Appendix E. The Ns and average NCEs are found in the first and last columns of Form R-10. Enter the weighted averages on Form R-23.

Step 6. Compute the Total N_T by summing the numbers in the N_T column on Form R-23. Record it in the appropriate space.

Step 7. Compute a weighted average normal curve equivalent gain for the project in Reading/Mathematics using the worksheet provided in Appendix E, and enter this figure in the appropriate space.

Step 8. Repeat Steps 2 through 7 for the Mathematics data of the building.

If the building has no Mathematics data, go to Step 9.

Step 9. Repeat Steps 2 through 8 for all buildings using a Model B1 evaluation.

Model B2 Evaluation (Form R-24)

Begin with a building's Reading data.

Step 1. Transfer the summary project characteristics from the top of Form R-12 of the LEA reports to Form R-24.

Step 2. Transfer the impact data from Form R-12 to Form R-24 for Pre K through grade 6. This includes the N_Ts (from Column 1, Form R-12), needs assessment percentiles (from Column 4, Form R-12) and the NCE gains (from the last column, Form R-13).

If no children were served in grades 7-12, skip to Step 6.

Step 3. For grade bands 7-8 and 9-12, calculate N_T by summing the number of children tested at each grade within the band (from Column 1, Form R-12) and record them on Form R-24.

Step 4. For grade bands 7-8 and 9-12, calculate a needs assessment percentile for each band.

a. Locate the treatment and control groups' needs assessment percentile for each grade level in the band (from Column 4, Form R-12).
b. Convert each percentile score to its normal curve equivalent using Appendix C.
c. Using the worksheet in Appendix E, compute a weighted average NCE for the grade band, using as N the sum of N_T and N_C at each grade level (from Columns 1 and 2, Form R-12).
d. Convert each NCE score to its percentile equivalent using Appendix D and record the numbers on Form R-24.

Step 5. For grade bands 7-8 and 9-12, calculate a weighted average normal curve equivalent gain for each grade band. Use the worksheet in Appendix E, and record the number in the appropriate space on Form R-24. (N's can be found in Column 1 on Form R-12 and NCE gains in Column 5 of Form R-13.)

Step 6. Determine the total N_T by summing the numbers in the N_T column on Form R-24 and record it.

Step 7. Compute a weighted average NCE gain for the building in Reading/Mathematics, using the worksheet in Appendix E. Enter this figure in the appropriate space.

Step 8. Repeat Steps 2 through 7 for the Mathematics data of the building. If the building has no Mathematics data, go to Step 9.

Step 9. Repeat Steps 2 through 8 for all buildings using a Model B2 evaluation.

Model C1 Evaluation (Form R-25)

Begin with a building's Reading data.

Step 1. Transfer the summary project characteristics from the top of Form R-15 of the LEA report to Form R-25.

Step 2. Transfer the impact data from Form R-15 to Form R-25 for Pre K through grade 6. This includes the N_Ts (from Column 1, Form R-15), the pretest treatment percentiles (from Column 3, Form R-15) and the means and intercepts (from the last two columns, Form R-15).

If no children were served in grades 7-12, skip to Step 6.

Step 3. For grade bands 7-8 and 9-12, calculate N_Ts by summing the number of children tested at each grade within the band (from Column 1, Form R-15) and record the numbers on Form R-25.

Step 4. For grade bands 7-8 and 9-12, calculate a pretest treatment percentile for each band.

a. Locate the pretest treatment percentile for each grade level in the band (from Column 3, Form R-15).
b. Convert each percentile score to its normal curve equivalent using Appendix C.
c. Using the worksheet in Appendix E, compute a weighted average pretest NCE for each grade band.
d. Convert each of these NCE scores to its percentile equivalent using Appendix D and record the numbers on Form R-25.

Step 5. For grade bands 7-8 and 9-12, calculate weighted average normal curve equivalent gains for the means and again for the intercepts for each band, using the worksheet in Appendix E. The N's are found in Column 1 of Form R-15, the Gains (means) in Column 8, and the Gains (intercepts) from the last column. Record the results in the appropriate spaces on Form R-25.

Step 6. Determine the total N_T by summing the numbers in the N_T column on Form R-25 and record this number on Form R-25.

Step 7. Compute two weighted average NCE gains for the building in Reading/Mathematics, using the worksheet in Appendix E. One NCE gain will be based on the means and the other will be based on the intercepts. Record the figures in the appropriate spaces on Form R-25.

Step 8. Repeat Steps 2 through 7 for the Mathematics data of the building. If the building has no Mathematics data, go to Step 9.

Step 9. Repeat Steps 2 through 8 for all buildings using a Model C1 evaluation.

Model C2 Evaluation (Form R-26)

Begin with a building's Reading data.

Step 1. Transfer the summary building characteristics from the top of Form R-18 of the LEA reports to Form R-26.

Step 2. Transfer the impact data from Form R-18 to Form R-26 for Pre K through grade 6. This includes the N_Ts (from Column 1, Form R-18), the standardized test treatment percentiles (from Column 2, Form R-18) and the NCE mean and intercept gains (from the last two columns on Form R-18).

If no children were served in grades 7-12, skip to Step 6.

Step 3. For grade bands 7-8 and 9-12, calculate N_T by summing the number of children tested at each grade within the band (from Column 1, Form R-18) and record the numbers on Form R-26.

Step 4. For grade bands 7-8 and 9-12, calculate a standardized test treatment percentile for each band.

a. Locate the standardized test treatment percentile for each grade level in the band (from Column 2, Form R-18).
b. Convert each percentile score to its normal curve equivalent using Appendix C.
c. Using Appendix E, compute a weighted average NCE for the grade band.
d. Convert each NCE score to its percentile equivalent using Appendix D and record the numbers on Form R-26.

Step 5. For grade bands 7-8 and 9-12, calculate weighted average normal curve equivalent gains for the means and again for the intercepts for each band, using the worksheet in Appendix E. The N's are found in Column 1 of Form R-18, the Gains (means) in Column 3, and the Gains (intercepts) in Column 4. Record the results in the appropriate spaces on Form R-26.

Step 6. Determine the total N_T by summing the numbers in the N_T column on Form R-26 and record the sum in the appropriate place.

Step 7. Compute two weighted average NCE gains for the project in Reading/Mathematics, using the worksheet in Appendix E. One NCE gain will be based

on the means and the other will be based on the intercepts. Record the numbers in the appropriate spaces on Form R-26.

Step 8. Repeat Steps 2 through 7 for the Mathematics data of the building. If the building has no Mathematics data, go to Step 9.

Step 9. Repeat Steps 2 through 8 for all buildings using a Model C2 evaluation.

Statewide Reading and Mathematics Achievement Data (Form R-27)

The tables on Form R-27 are to summarize the achievement data for regular school year and yearlong projects only. Data from summer projects are not to be included. The data that the LEAs have indicated as not suitable for aggregation should not be included.

Begin with all the building reports that included Reading data.

Step 1. Sum the number of children tested at each grade level or grade band across all buildings. Enter these numbers in the appropriate spaces on the upper table. These figures will represent the number of children tested at each grade level/band in the state.

Step 2. Calculate a weighted average NCE gain for each grade level or grade band, using the instructions and worksheet in Appendix E. Record the numbers in the upper table on Form R-27.

Step 3. Repeat Steps 1 and 2 for the buildings reporting Mathematics data. Record this information in the lower table on Form R-27.

Relation between project gains and other project characteristics (Forms R-28 and R-29)

Each of the tables relating project impact to other project characteristics, Forms R-28 and R-29, should be filled out using the procedure described below. The easiest method is to fill out all the information on each building at one time rather than completing one form or table at a time. A running tally should be kept on a worksheet and the final results recorded on the tables provided.

Begin with the buildings that used Model A for evaluation (Form R-22).

Step 1. Select one building's information sheet.

Step 2. Locate its average weighted NCE gain in Reading.

Step 3. On the table on Form R-28, find the range of NCE gains in which that project's gain fits. This determines the column in which all successive tallies will be marked.

Step 4. Locate the hours of exposure per week for the project and determine the range in which it belongs on Form R-28.

Step 5. Find the cell in which the row and column intersect and place a mark in that cell.

Steps 6 through 11. Repeat Steps 4 and 5 for the total hours, cost per pupil, and instructor:pupil ratio of that project.

Step 12. If the project had a Mathematics component, find the project's average weighted NCE gain for math.

Steps 13 through 20. Mark the appropriate cells for hours per week, total hours, cost per pupil, and instructor:pupil ratio on Form R-29.

Step 21. Repeat Steps 1 through 20 for all buildings using Forms R-22, R-23, R-24, R-25, and R-26.

Step 22. Count the tallies per cell and record these numbers in the appropriate places on the final version of the tables on Forms R-28 and R-29.

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