

REVENUE TRACKING PROCEDURES
AN APPENDIX TO A RESEARCH REPORT ENTITLED:
FINAL REPORT:
SPECIAL EDUCATION REVENUE TRACKING PROJECT;
PROGRAM COST DIFFERENTIALS; AND
CONCENTRATIONS OF HANDICAPPED STUDENTS

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I. Revenue Tracking Procedures and Their Results

Part I of this report describes the results of the project team's efforts to develop a system to track special education reimbursements and federal special education expenditures from their respective sources to the district of residence of the handicapped students who received the benefits of the funds. This is one of the major assigned tasks of the project. Parts II and III build on the findings of Part I, but also relate the findings to the other assigned tasks of the project. The other tasks are: to determine the parameters for a data processing system to monitor LEA expenditures for special education; and to determine the parameters for a system to generate special reports concerning the operation and management of special education in Illinois.

A. The Revenue Tracking System Design

The design of the revenue tracking system consisted of two basic steps. These steps were:

1. The development of a set of tables which lists the numbers of each recognized type of handicapped student living in each school district.
2. The development of a set of tables for each LEA in Illinois which lists the dollar amount of special education reimbursement received by each LEA in each state reimbursed category. Separate tables are developed for federal special education expenditures.

The revenue tracking procedures are based on machine readable data tapes supplied by ISBE to the project team at ISU. As with any systems development activity, certain assumptions about the data files are necessary. With respect to the development of a revenue tracking system these assumptions are:

- o—All students who receive special education or related services and who generate special education revenues are listed on the FACTS tape. Students who receive such services, but who are not listed on FACTS, will generate no revenues.
- o—Students whose names appear on FACTS may be linked to their district of residence.
- o—Students whose names appear on FACTS are identifiable by their major disability category.
- o—Personnel reimbursement revenues received by their recipients (joint agreements, legal entity joint agreements, single district programs, or regional programs) may be linked through appropriate codes to the handicapped students who received the benefits of the programs and services.

- o—14-702, 14-702a, 14-703, 14-703a, and 14-703b revenues may be linked through appropriate codes to the handicapped students who received the benefits of the special education programs and services.
- o—94-142 revenues and 89-313 revenues may be linked through appropriate codes to the handicapped students who received the benefits of the special education programs and services.

The results to date of the developmental activities aimed toward the achievement of a workable revenue tracking system follow.

B. Results of the Revenue Tracking Activities

The project staff has been able to successfully develop the tables referred to in A-1 above. The tables listing the numbers of handicapped students living in each LEA are complete and may be used in the development of any needed special education report provided the codes used to generate the tables are the same codes used throughout the total ISBE system. Some problems emerged during the development of the tables which are elaborated below.

Problem 1 Relating to Tables A-1

Problem 1 is serious and has the potential for causing even greater difficulties is not corrected. The problem is that ISBE is currently using coding procedures which are causing their data files to be fragmented and unintegrated. That is, information contained in one file is not easily correlated with similar information in other data files because the codes used are not identical. An examination of the FACTS file and the Personnel Approval File (ISBE Form #50-44) offers an excellent example of this problem. The following table shows how the Personnel Approval File lacks integration with the FACTS file; and, also shows how this problem may be eliminated by providing a revised dictionary of codes.

The suggested changes in the ISBE coding procedures are tentative because it has not yet been possible to determine their consequences, some of which could be unacceptable. The appropriate strategy for the development of a dictionary of codes is to proceed cooperatively with the agency to analyze the data flow requirements. The purpose of the sample dictionary of codes is to demonstrate how the integration of data files may be improved through the use of common codes.

It may be observed that if this system of coding, or one like it, were adopted, it would be possible to recognize the code DB as referring to a student who is both deaf and blind, regardless of where the code appeared in the entire set of ISBE data files.

TYPES OF HANDICAPPED STUDENTS DICTIONARY

<i>Facts Codes</i>	<i>Facts Categories</i>	<i>ISBE Equivalent</i>	<i>New Code</i>
A	TMH	TMH (trainable)	TMH
B	EMH	EMH	EMH
C	PH (crippled)	PH	PH
D	LD (learning disabled)	LD	LD
E	VI (visually impaired)	B (blind) and PS (part. std)	VI
F	HH (hard of hearing)	HH	HH
G	D (deaf)	D (deaf)	D
H	DB (deaf/blind)	no corresponding category	DB
I	SL (speech/language imp.)	SL	SL
J	EH (social/cultural)	EH (social/cultural)	EH
K	BD (behavior disordered)	BD	BD
L	OH (other health imp.)	no corresponding category	PH
M	MH (multiply handicapped)	MH	MH

Problem 2 Relating to Tables A-2

Problem 2 is related to the proration of state personnel reimbursement according to the work assignment of each employee. The first step in the tracking procedure is to identify a special education worker. The next step is to prorate the reimbursement funds according to the work assignment of the worker. Reference to Column 8 of ISBE Form 50-44 should have provided the appropriate information, but it did not. Not only are the job codes inappropriate, but they are inconsistently applied. For example, if the code FMH appears in Column 8 (50-44) and the code X appears in Column 12, then the reader makes the assumption that the worker is an EMH teacher. There should be a work assignment code for Teacher, but Appendix A offers none. Moreover, the code CC could appear in Column 8 of the form. In this special case the work assignment refers to a type of organization for instruction instead of to a person's job title. This inconsistency leads to confusion on the part of the programmer who is trying to write a computer program to track the reimbursement. Finally, when the programmer solves his work assignment dilemma he is faced with a further problem that the special education program

category codes used in Form 50-44 do not correspond exactly with the FACTS program codes. This problem was discussed in relation to Problem 1.

The problem of prorating state personnel reimbursements has been tentatively resolved by creating a modified set of integrated codes which are presented below. The suggested codes also make an effort to solve some English usage problems which are evident in Appendix A of the 50-44 documentation manual. These usage problems are:

1. The code A in Appendix A refers to an administrator of a special school. An administrator is a true job title.
2. The code B in Appendix A refers to a blind person. A blind person is not a true job title.
3. The code CC in Appendix A refers to a type of classroom organization. The term cross categorical is not a true job title.

Three new dictionaries were developed which reflect the semantic differences described above. Use of the three new dictionaries will enable the system operators to maintain all of the information contained in the original codes plus the added benefit of great improvement in the integration of the data files. Some new terms were added; for example, Teacher. Others may be added as needed. The three new dictionaries will contain all of the information contained in the original codes. The new dictionaries are:

Dictionary A contains work assignment codes only.

Dictionary B contains types of organizations for delivery of services only.

Dictionary C contains the same codes as those used in FACTS except that one new code was added. The new code is GEN for general special education.

The three new dictionaries appear below in abbreviated form.

DICTIONARY A Work Assignments

<i>Codes</i>	<i>Names</i>	<i>Definitions</i>
TCH	Teacher	a schoolteacher
DIR	Director	a special education director
AD	Asst. Dir.	an assistant director of special education

Dictionary A, continued

<i>Codes</i>	<i>Names</i>	<i>Definitions</i>
SSP	Support Ser.	a support service person
SUP	Supervisor	a special education program supervisor
PA	Prog. Asst.	a special education program assistant
BKP	Bookkeeper	a person who keeps special education records and accounts
CUS	Custodian	a person who maintains special education facilities
HVS	Screenener	a person who does hearing and vision screening

AND OTHER TERMS

DICTIONARY B Types of Organization for Delivery of Services

<i>Codes</i>	<i>Names</i>	<i>Definitions</i>
CC	Cross Cat.	a special education classroom which serves more than a single type of handicapped student
C	Classroom	a special education classroom for a single type of handicapped student
R	Resource	a special education classroom where students spend less than half of the day
I	Itinerant	a special education service where the teacher travels to the students' regular classroom
PRP	Professional	a professional service delivered to student clients on an individual basis

AND OTHER TYPES

DICTIONARY C Types of Special Education Programs

<i>Codes</i>	<i>Names</i>	<i>Definitions</i>
N	General	general special education
A	TMH	trainable mentally handicapped
B	EMH	educable mentally handicapped

Dictionary C, continued

<i>Codes</i>	<i>Names</i>	<i>Definitions</i>
C	PH	physically handicapped
D	LD	learning disabilities
E	VI	visually impaired
F	HH	hard of hearing

AND OTHER TERMS

It is recommended that ISBE Form #50-44 (1/80) be revised to take into account the revised coding system for the work assignments of personnel. The tentative list of revisions will include:

1. Column 8 would contain a three letter code for work assignment type (see Dictionary A)
2. Column 9 would contain a three letter code for type of organization for service delivery (see Dictionary B)
3. Column 10 would contain a one letter code for a type of handicap (see Dictionary C)
4. Column 11 would contain a two digit code for number of students (enrollment)
5. Columns 12 and 13 would repeat 10 and 11 for a second handicap
6. Columns 14 and 15 would repeat 10 and 11 for a third handicap

In the absence of the information which is needed to track state personnel reimbursements, a special conversion table was constructed which enabled the authors to minimize the effects of some of the ambiguity contained in the original data files. Using this conversion table, we were successful in prorating reimbursements whenever the recipient (special education cost center) was a single district program, a joint agreement program, or a legal entity program. The conversion table was not effective when prorating regional program reimbursements. However, the failure to prorate regional program reimbursements was not attributed to a failure of the conversion table concept. Problem 3 discusses the special problems encountered with regional special education programs.

Problem 3 Relating to Tables A-2

Problem 3 is the inability of the project staff to link state special education personnel reimbursements with the cost centers which

spend them. This is especially so with regard to regional special education programs. The project staff were able to resolve, at least partially, the problem by entering new data into the system for joint agreements, but not for regional programs. Thus the basis for the difficulty is that the original data tapes do not contain the information which is needed. Although it may not be easy to solve this problem, it is very clear what needs to be done. ISBE Form #50-49 (Special Education Personnel Reimbursement) requires specific modifications. These are:

1. Every preparer of an ISBE Form #50-49 will prepare a separate form for each type of special education organization it represents. For example, if a school district acts as the administrative district for: itself; for a joint agreement; and for a regional program, then it must prepare three forms. Under existing procedures, the only way to determine where the reimbursement is intended to go is to look at the payroll records of the various agencies subsumed under a single administrative district.
2. The ISBE Form #50-49 will retain the Code, Region, District entries in the heading of the report. These are needed to identify the administrative district who prepares the document for submission to ISBE.
3. Additional codes will be added to the heading of ISBE Form #50-49 to identify the special education organization which provides services to handicapped students. A suggested format for these new codes is:
 - a. Program type code—a two digit code number to identify all types of special education administrative organizations.
 - 01 single district program
 - 02 joint agreement program
 - 03 legal entity joint agreement
 - 04 regional special education program
 - 05 low prevalence special education program
 - 06 private facility
 - 07 state facility

It would be necessary for ISBE to prepare a complete dictionary for all program type codes.

- b. Program I.D. number codes—a four digit code to identify each individual program which is eligible to receive special education personnel reimbursements. A suggested procedure for developing the four digit codes follows:

01 Single district	Assign codes alphabetically by school district name. Publish dictionary
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02	Joint agreement	Alphabetically by joint agreement name. Publish dictionary
03	Legal entity	Use assigned code. Publish dictionary
04	Regional program	Use region number. Publish dictionary
05	Low prevalence program	Alphabetical by program name. Publish dictionary

Other codes may be added since this is not intended to be a complete list.

- c. Program name—Each state approved special education administrative organization will have an approved name which will be included in the dictionary of program codes. That name will be preprinted on the reimbursement form.
- d. The three new program codes will be printed at the top of the ISBE Form #50-49 in the following manner:

Program Type:
 Program I.D.:
 Program Name:

The data processing changes which are recommended above would enable ISBE, and others, to monitor the flow of special education revenues from their origin to the district of residence of the handicapped student who received their benefits. The capability would not be complete, however, until another problem is dealt with. This will be undertaken in Problem 4 which follows.

Problem 4 Relating to Tables A-2

Problem 4 refers to the difficulties encountered by the project staff in linking individual handicapped students with the special education administrative unit which actually provided services. For example, did the student receive the major portion of his/her education in his/her own district, or were the services of a joint agreement or other administrative unit utilized? The project staff made a concerted effort to provide this linkage through use of the A-1 Tables (see p. 2). The effort was only partially successful because of the coding problems discussed in Problem 1. A more important reason for the difficulty is that FACTS tells us where a handicapped student lives, but it does not tell us where he/she goes to school. If the system of six digit program I.D. codes which was suggested in problem 3 is adopted, it will theoretically be possible to link every handicapped student with the special education program cost center which provides his schooling.

The discussion of the results of the project teams' work has, to this point, been narrowly confined to the topic of special education revenue tracking procedures. This policy was followed because revenue tracking was the primary concern, but also because the other assigned

tasks of the project depend upon material developed in Part I of this report. Part II of this report will consider the second task: how to design an automated system to monitor LEA expenditures for special education.

II. Monitoring LEA Expenditures for Special Education

Every regular school district in Illinois is required by statute to submit its budget to ISBE on an annual basis. The state foundation program depends on this information. The state board uses the data to prepare its annual budget request to the state legislature. The Illinois School Problems Commission uses the data as the basis for researching funding problems in the state's schools. It's difficult to imagine how the state would manage to exercise its responsibilities to the schools without recourse to the information contained in their budgets. Fiscal planning at the state level would be difficult were it not for the budgetary information received annually by the state.

Beginning with the 1975-1976 school year, the Illinois State Legislature has required special education joint agreements to submit their approved budgets through the LEA acting as administrative district, or through the regional office of education, to the state. These special education budgets are submitted to the state on forms prescribed by ISBE. This significant improvement in financial reporting has resulted in an improved ability on the part of ISBE to plot special education budgeted amounts from year to year. However, so far as this project has been able to determine, it is not the policy of the Division of Specialized Educational Services at ISBE (ISBE-SES) to require special education approved administrative units to submit sub-program budgets. Exceptions to this general policy do exist for special types of programs such as programs funded under the Orphanage Act. It is clear why the legislature decided on this procedure. ISBE needed information on an annual basis, about special education expenditures in the published state budget categories. For example, data about: special education personnel reimbursement; extraordinary cost reimbursement; private facilities reimbursement; Orphanage Act reimbursement; and a few other categories were needed. The new reporting system has met this original purpose. However, some old data processing problems remain and some new ones have emerged since the system was put into operation. The old problems include: the file integration difficulties alluded to in Part I; and, the persistent problem of linking state budgeted amounts (especially in the personnel reimbursement category) with the particular special education cost center which has provided special education and related services for handicapped students. Thus it is a pragmatic requirement that if ISBE-SES now intends to monitor LEA expenditures for the various kinds of special education programs and related services then, written records of the expenditures must flow from each cost center (or approved special education service deliverer) to ISBE. The question is not one of whether or not to submit program cost information, but one of how much information and in what format. The new information problem faced by ISBE is that their data files are being asked to respond to questions never envisioned by the file designers; i.e., questions about per pupil costs of the various kinds of special education programs and related services.

The following pages describe how the work which has already been accomplished in the revenue tracking system may be expanded and applied to new or improved systems which are designed to permit ISBE-SES to monitor LEA expenditures for the various kinds of special education programs and related services.

A. The Applicability of Previous Planning

Much of the work done in developing the revenue tracking system is directly applicable to the new task of monitoring LEA expenditures for special education. Some examples are:

1. The adoption of a unified system of coding procedures for all special education data files will minimize the fragmentation of the files.
2. The modifications to the work assignment sections of ISBE Form #50-44 will facilitate detailed file analysis and report generation which is not now possible.
3. The publication of a Special Education Dictionary of Codes to be used by anyone in the state who either prepares or uses special education data files will assure file integration which is a prerequisite to report generation.
4. The adoption of the newly developed six digit program coding system for special use with ISBE Forms 50-49 will have special applicability to tracking LEA expenditures for special education.
5. The six digit program codes will also be useful for generating categorical program cost reports if the codes are included as a required part of FACTS. For example: the cost center (read Program I.D. code) which provided educational services would be available for every student listed on FACTS.
6. The six digit program I.D. codes should be added to every ISBE special education report form. This will have the effect of spreading the integrating influence of the codes to all parts of the data systems.

B. Additional Information Requirements

Very little information about the cost of educating handicapped students currently flows from the service deliverer to ISBE. Teachers' salaries do, but this information is used by the state to verify that the LEA's program cost is in excess of the \$6250 statutory reimbursement amount. The teacher's salary cannot be used as an estimate of the total LEA expenditures per pupil in the various types of special education programs because the costs vary so greatly from program to program. For example, the cost of educating a deaf student may be as high as \$5000 per pupil per year; whereas the cost of educating an EMH student

may only be \$2000 per pupil per year. Thus the teacher's salary expressed as a percentage of program cost would vary so greatly that it would be useless as an estimate of special education program costs. It is evident that for high prevalence special education programs additional information about program costs will be needed.

More information about program costs flow from the service deliverer to the state for low prevalence programs than for high prevalence programs. For example, the state currently requires detailed information from the special education cost centers (read program I.D. code) about the costs of educating students who are included under the 14-702, 14-702a, 14-703, 14-703a, and 14-703b programs. However, this information is in fragmented form at the state level because integrated program codes and cost centers are not identifiable on the data tapes.

To summarize, more information about special education program costs than is now available needs to be made available to ISBE on a regular planned basis. New budgetary information is required so that the state agency may be more efficient in carrying out its programmatic and fiscal planning functions.

The project staff have tentatively concluded that the sole source of information about LEA expenditures for special education programs is the approved budgets of special education service deliverers. It is both convenient and useful to think of these service deliverers as cost centers each of which would be identified by a six digit program I.D. code number. As was explained previously, every special education cost center would have a unique numerical designation. It is reasonable to assume that every special education cost center either has an operating budget or, if they do not, they should have. Although these budgets currently vary greatly with respect to their budget format, there are significant similarities. It is recommended that ISBE request each cost center to provide the state office with the following budget information about their programs and services on an annual basis:

1. Cost center budgets will be organized on a subprogram basis. There will be subbudgets for the following subprograms:
 - 1.1 administrative costs
 - 1.2 support service costs
 - 1.3 budgeted costs for each program in each handicapping category. Program categories will include all categories used in FACTS
2. The line items in each subprogram budget will follow the requirements pertaining to school budgets in the Illinois School Code.
3. A per pupil cost will be computed for each subbudget. The per pupil cost will be computed by dividing the gross budgeted amount by the number of pupils served. Number of pupils served will be either:

- 3.1 numbers of handicapped students enrolled in the program
OR
- 3.2 the sum of enrollments (ADA) of all LEAs which make up the cost center's membership.
4. Budget information will be submitted to ISBE on forms provided by that agency. The forms will provide appropriate space to record all of the information listed in items 1.1, 1.2, 1.3 above.
5. Budgets will be identifiable by their program I.D. code number.
6. Programs budgeted in item 1.3 will be coded according to their program code designation according to FACTS.
7. ISBE will prepare and distribute a Special Education Budget Manual which will explain the revised fiscal reporting procedures to be used in the state.

If this suggested system, or one similar to it, is adopted, the state will be able to attain levels of professional accountability in special education fiscal planning which have been heretofore beyond their capability. What is being recommended is admittedly complex, but consider the alternative. Given the condition that additional budgetary information must be required of the cost centers in order for ISBE to meet its commitments elsewhere (i.e., regulatory and statutory constraints), the decision is easier. Any additional information overload imposed on an already fragmented data system can only worsen the information problem which exists. Finding information in such a system is akin to trying to find a book in a well stocked library where there are no call numbers. It is even worse because books are intelligible visually, where magnetic tapes are not.

This concludes the section of the interim report on monitoring LEA expenditures on special education programs. The final section of the report, Part III, deals with developing a report generating system for use by ISBE to effectively use the information contained in their growing files.

III. Developing A Report Generating System for Special Education Information Files

Part III of this report is by far the most difficult to prepare. This is primarily because the previous parts of the document address information system issues which are quite specific and are associated with strategies and responses which are equally specific. Part III, on the other hand, is general. It deals with how best to collect and organize files of information which will be needed by ISBE to answer questions, some of which have not even been asked. Theoretically the general approach to solving the problem is to collect information, turn the information into organized knowledge through the process of analysis, and then apply the necessary wisdom to gain insight into

creative ways to use the knowledge. In this theoretical sense perhaps information centers should best be called knowledge centers. Be that as it may, the information system designer's first task is to anticipate as best he can the knowledge requirements which will be imposed on his new system. This entails, at a minimum, determining what questions are likely to be imposed and what questions have been asked in the immediate past. The next question is: What information must I collect, analyze and store in order to answer the questions which I assume will be asked? Finally, the information system designer must answer further questions. Who will use the finished system? In what form will the information be stored? What system will be used to identify the information in storage so that it may be retrieved? In what form will retrieved information be presented to the system's clientele? Fortunately many of these questions are readily apparent with respect to the present design problem. Following are some assumptions about the ISBE system which seem reasonable:

1. The ISBE special education information system will be an in-house system. That is, ISBE will be the primary clients of the system. This simplifies the analysis of information because persons employed by ISBE special education office share a common professional frame of reference.
2. The ISBE system will be mission oriented. That is, the questions to be answered by the system will pertain exclusively to the assigned missions of the special education office at ISBE.
3. Information collected by the system will consist primarily of public documents which pertain to the operation and management of special education programs in Illinois.
4. Information will be analyzed, coded, and recorded in predetermined formats on magnetic tape.
5. Report generating procedures will be standardized and published for use by ISBE personnel.
6. Reports will be delivered to the system's clientele in the form of computer printouts.
7. An information systems committee will be appointed within ISBE to monitor the system effectiveness and to maintain the system documentation on a continuing basis. Data processing supervisory personnel from ISBE will be appointed to the committee.

It is hoped that the following questions will provide thoughtful arguments for: improved cost/effectiveness; better fiscal planning; and better special education regulation in Illinois. The examples are economic efficiency questions which would be well within the capacity of the data system to respond.

- o—Can you generate a report which will make it possible to study a special education program's cost with respect to its size?
- o—Can you generate a report which will make it possible to study how geographic cost-of-education differences vary within the state?
- o—Can you generate a report which will make it possible to simulate the effects of LEAs of various block grant funding formulas which the state may adopt?
- o—Can you generate reports which will make it possible to study various fiscal planning options with respect to their costs to the state, and their effects on handicapped students?