

## **SECTION VI –PROGRAM COST SYSTEMS**

### **A. INTRODUCTION**

### **B. COST ACCOUNTING TERMS AND CONCEPTS**

- B.01 Accounting Dimensions
- B.02 Minimum Dimensions

### **C. UNITS OF MEASURE**

- C.01 General
- C.02 Common Measures
- C.03 Definitions

### **D. OTHER COST CONSIDERATIONS**

### **E. EVALUATION**

### **F. IMPLEMENTATION**

- F.01 General
- F.02 Description of the Steps
- F.03 Detailed Description of Implementation Steps

### **G. ILLUSTRATIONS**

### **H. HELPFUL PUBLICATIONS**

## **SECTION VI –PROGRAM COST SYSTEMS**

### **A. INTRODUCTION**

Cost accounting may be defined as that method of accounting which provides for the assembling and recording of all elements of cost incurred to accomplish a purpose, to carry on an activity or operation, or complete a unit of work or a specific job. It is the accountant's role to provide the system to enable the instructional managers to label expenditures in as many dimensions as the manager desires and is willing to detail. Once this detail is recorded, the reporting system will enable the instructional manager(s) to ask appropriate questions of the cost system. The finance accounting system by necessity, should be supplemented by student, staff and curriculum accounting systems each compatible with the finance accounting system in order for the instructional manager to make decisions that take into account each of the variables pertinent to the management of education.

While the main purpose of the manual is designed to meet the legal and stewardship requirements connected with handling public funds, this section is designed to serve as a suggested basis for cost accounting at the local level. Eventually when programs are identified and results can be measured by operating personnel, cost accounting may serve as a better vehicle for program accounting. This section speaks primarily of the accounting responsibility.

Factors which lead to the development of cost accounting were numerous and complex. The need grew mainly from concerns of the public about the increasing investment in educational services. Educators could not tell the public what they were getting for their money. Cost accounting can provide the data necessary to make a better comparison between input and output.

Recent Federal and State legislation also recognizes the need to measure cost in new dimensions not available in traditional accounting methods and mandates it in areas of categorical aid.

Essentially, cost accounting organizes data differently and in more detail than conventional accounting. Cost accounting must be maintained on the accrual basis and charges incurred are recognized whether paid or unpaid. Current expenditures include all expenditures of the current period less capital outlay and debt service.

## **SECTION VI –PROGRAM COST SYSTEMS**

### **B. COST ACCOUNTING TERMS AND CONCEPTS**

#### **B.01 ACCOUNTING DIMENSIONS**

While the various dimensions of the account numbering system provide a multitude of statistical data, the results of an expenditure are often not accurately measured until compared in some relationship with non-financial data such as pupils, classroom hours, units of supplies, time, etc.

Relating each of the dimensions, as needed, to various statistical data can provide meaningful information to the decision maker and supply valuable trend data for future planning. Some dimension analyses that can be helpful are as follows:

##### **a) FUND**

The fund, as independent set of accounts, is generally established to meet legal or statutory provisions to assure that money is spent for the purposes specified in the various appropriations. Analysis is normally confined to identifying funds by legal basis, objectives served or the type of revenue or activities financed.

##### **b) FUNCTION**

This area identified broad areas of programs and activities in order to compare such groupings with other districts and to generate ratios and measures with which to make quick decisions.

For example, ratios of staff to total costs or instructional staff to supporting services staff provide rapid indicators of both costs and staffing relationships.

The Michigan Department of Education annually publishes various publications that may be used for inter district comparison of expenditures by function. The data for these publications are taken from the district's annual reporting to the Comprehensive Annual Financial Statement (FID submission). Some of those publications are listed in this Manual under Section VI, Subsection H.

##### **c) OBJECT**

The purpose of separating expenditures by object, such as goods and services, is to provide the decision-maker with comparisons of effectiveness for supplies and equipment or to measure the value of services purchased versus that provided within the system.

##### **d) PROGRAM**

Depending upon district design, programs should be identified that correspond to the objectives and performance requirements of the program measured. Accordingly, analysis of programs and sources for which performance data is required or available is useful in relating cost totals to the results or effectiveness of such programs.

## **SECTION VI –PROGRAM COST SYSTEMS**

### **e) GRANT (Funding Source)**

Used to identify various grant funding sources.

### **f) FACILITY (OPERATING UNIT)**

The identification of costs by facility or operating unit provides cost analysis or budget groupings which conform to the departmental or cost center operations of the district. Examples of such units are school building, transportation, food services, or other cost centers which may cross physical locations

### **g) FISCAL YEAR**

The identification of expenditures by fiscal year offers the analytical opportunity to relate costs of programs, objectives, etc. to the funding period of the expenditure. This opportunity is most important when the funding of certain programs goes from one fiscal operating year to another.

## **SECTION VI –PROGRAM COST SYSTEMS**

### **B.02 MINIMUM DIMENSIONS**

While some districts will identify various dimensions in accordance with their specific needs, it is suggested that a local district be able to identify at least the following six dimensions in order to provide consistent information throughout the educational community:

- Fund
- Function
- Object/Activity
- Program
- Grant Code and Fiscal Year
- Facility

Other dimensions may be added as needed to provide meaningful tools for more effective management.

## **SECTION VI –PROGRAM COST SYSTEMS**

### **C. UNITS OF MEASURE**

#### **C.01 GENERAL**

Ratios are useful in comparing different modes of achieving common objectives.

Some measures useful in evaluating economic efficiency in education can be expressed as ratios. Some examples are:

- Current expenditures per pupil
- Current operating costs per pupil
- Fund Balance as a percent of Current Operating Expenditures

## **SECTION VI –PROGRAM COST SYSTEMS**

### **C.02 COMMON MEASURES**

Some of the more common financial and statistical figures used in educational management include the following items:

#### **a) CURRENT OPERATING EXPENDITURES:**

- In Total
- Current Expenditures per Pupil
- Current Expenditures per Pupil by function, etc.

#### **b) BUILDING AND EQUIPMENT USE COST**

#### **c) OPERATING COST:**

- In Total (including direct and indirect costs and use costs of capital assets)
- Operating costs per Pupil
- Operating costs per Pupil by function, etc.

#### **d) INSTRUCTIONAL PROGRAMS:**

- Regular programs
- Added Needs programs

#### **e) OTHER TERMS AND TECHNIQUES:**

- Accountability
- Operations analysis
- Cost effectiveness

Use of these cost accumulations or unit costs as a measure of performance, results, or importance to the local education unit will depend largely on management's view of these figures as a basis for making decisions.

## **SECTION VI –PROGRAM COST SYSTEMS**

### **C.03 DEFINITIONS**

In order to establish common understanding in the use of these figures, the following definitions are offered:

#### **a) CURRENT OPERATING EXPENDITURES**

This grouping of expenditures is defined as the total charges incurred for the benefit of the current fiscal year, whether paid or unpaid. This group would include all expenditures of the instructional programs plus applicable supporting service costs less capital outlay, debt service, community services and outgoing transfers and other transactions. From this total grouping, unit costs can be computed for various segments or programs comprising the total of current expenditures, such as basic program, added needs program or elementary, middle school or high school delineations.

#### **b) BUILDING AND EQUIPMENT USE COST**

These costs are the equivalent of adding up the fiscal year depreciation amounts for buildings and equipment either in total or by the operating unit to be charged of such costs. Allocating depreciation to given programs may require unit cost determinations based upon floor space, hours of use, etc.

#### **c) OPERATING COST**

This term refers to the total costs of operating all programs or activities for the current fiscal year. The distinction here is on costs versus expenditures in operating programs for the year.

Accordingly, total costs mean direct and indirect costs plus the use cost of buildings and equipment in terms of allocated depreciation for the year. Depreciation charges are not maintained in the regular accounts, but are maintained on a memorandum basis.

The computation of depreciation comes from schedules maintained for district assets wherein the original costs are prorated over the useful life expectancy of the assets.

Total operating costs are determined then by adding depreciation for the year to current operating expenditures.

#### **d) OTHER TERMS AND TECHNIQUES**

The use of individual measures and ratios becomes more meaningful to management in their application to the decision-making process. Varying inputs or mixes of resources, and evaluating the corresponding results, enhances management hopes for improving use of these resources.

Because resources are many times limited, or in short supply, various techniques must be applied in order to arrive at optimum use of them.

## **SECTION VI –PROGRAM COST SYSTEMS**

Some of the terms being applied to this process today are described below:

**Operations Analysis:** The essence of this tool is to generate mathematical models that tend to describe key factors or variables and certain relationships for goal setting and planning.

**Cost Effectiveness:** Analysis under this concept is designed to measure the extent to which resources allocated to a specific objective under various alternatives actually contribute to accomplishing that objective so that alternative routes to that objective can be compared.

## SECTION VI –PROGRAM COST SYSTEMS

### **D. OTHER COST CONSIDERATIONS**

While the identification of cost units and accumulation of cost totals may be in itself a major goal for school districts, of paramount importance to such determination is the agreement by management concerning the need to determine the effectiveness of measuring the value of programs. Certain factors will have to be critically evaluated before their use can be validated as accurate measures.

The identification and analysis of costs must include the use of other cost dimensions in order to accurately appraise their impact on district programs.

Two additional concepts in the identification of costs are:

- Direct vs. indirect costs
- Program vs. non-program costs

Each is described below.

#### **a) DIRECT COSTS**

Those costs which can be charged directly to a program or cost accumulation center at the time the expenditure transaction is recorded. The emphasis here is the identification of a specific expenditure to a specific program or cost center and making that charge directly to it. The accumulation and identification of direct costs can be a valuable tool to management in economic decisions about given programs, particularly since they most often represent the major costs of such programs.

#### **b) INDIRECT COSTS**

Those costs which are not directly identifiable with a program or cost accumulation center or which cannot be conveniently charged directly to a program at the time of recording the expenditure transaction. These costs are typically allocated to several programs on an accumulated basis at the end of an accounting period.

The importance of allocating these costs to programs is primarily to recognize that direct costs do not represent the total costs of such programs.

Indirect costs and the proration of them are discussed in greater detail later in this section of the manual. Recovery of indirect costs by a proration formula is acceptable procedure for identifying indirect costs applicable to Federally and some State funded programs. The Michigan Department of Education annually calculates indirect cost rates based on financial data submitted by each Michigan public school in the Annual Comprehensive Financial Report (FID). The resulting rates may be found on MDE's website at: [http://www.michigan.gov/mde/0,1607,7-140-6530\\_6605---,00.html](http://www.michigan.gov/mde/0,1607,7-140-6530_6605---,00.html). These rates may be used to recover indirect costs from various state and federal grants. See Section II, E.03 for a discussion of accounting for the recovery of indirect costs.

## **SECTION VI –PROGRAM COST SYSTEMS**

### **c) PROGRAM COSTS**

Those costs included in the total costs of a program for which benefits, results or other measurable performance is produced. The distinction between program costs and direct costs is that the former includes all costs (direct and indirect of a program and eliminates charges not attributable to the operation of that program or cost center.

The identification of program costs is most valuable to management when efforts are being made to relate such cost totals to ratios and the results of those programs, such as:

- Total pupil attendance - costs per pupil
- Total pupil hours - cost per pupil hour
- Number of classes - costs per class
- Number of teachers - pupil/teacher ratio
- Average teaching salaries
- Indirect costs per pupil

### **d) NON-PROGRAM COSTS**

Those costs which are not reasonably identifiable with given programs or cost accumulation centers. These costs are excluded from program identification either due to the fact they are not related to the program results or inclusion of such costs would produce distortion or incomparability with other programs being measured. Examples of such costs are debt service costs, payments to other governmental units which do not represent a purchase of goods or services and transfer of monies to another fund.

## **SECTION VI –PROGRAM COST SYSTEMS**

### **E. EVALUATION**

Evaluation is the process of determining or judging the value or amount of an action, or a result by carefully appraising previously specified data in a particular situation according to goals and objectives previously established.

The analyst examines, evaluates and makes recommendations in such areas as costing procedures, systems, curriculum or other educational divisions. Since the goals for which the accounting system is implemented in a school district are established by divisions other than the business division, through the direction of the superintendent, it is reasonable to expect these divisions, with the help of the research division, where one is available, to develop the evaluation devices necessary to make evaluations and not to make the evaluations itself.

There are several distinct measuring devices or variables that are and can be used to measure various aspects of educational costs. One of the oldest measures is that of cost per pupil. This can be done by taking all costs of operating the school district and dividing by the average daily membership for the district's fiscal year. This is a very broad cost approach which doesn't take into consideration differences for elementary, middle school, high school or special education programs. To get a more realistic cost per pupil it would be more appropriate to make provisions for accounting for costs of programs with similar characteristics.

Other measuring devices are pupil teacher ratio, square feet of space per pupil and average achievement score of pupils. The first two may have a bearing on how well the pupils achieved, while the third is a measurement of achievement itself. The cost of variables such as differentials in wages for training and experience, cost per square foot of the building, price differentials for equipment and supplies and ability of the students may need to be normalized to obtain a better cost figure for comparison purposes. Studies need to be made to determine the cost effectiveness of teaching by a beginning teacher versus an experienced teacher with increased training and longevity. Does the amount of student learning increase proportionately to the increase in salaries paid?

This concept of accountability or cost effectiveness is relatively new. Accountability implies that there is a responsibility on the part of those receiving funds to provide something of value as evidenced by fulfilling a measurable assignment under defined conditions and constraints. Cost effectiveness will tell you how much it costs to obtain a unit of learning.

A unit of learning may be considered as progressing from one grade level to another. The best cost effectiveness ratio is obtained when the optimum mix of resources, process or method used, and goal fulfillment is obtained. This optimum mix is the one that provides the greatest amount of learning or achievement for the money spent.

## **SECTION VI –PROGRAM COST SYSTEMS**

In conclusion, accounting for evaluation can only be instituted with effect if the executive head of the school district will support the effort and make full use of the data produced. If properly used, the data provided for cost effectiveness can contribute to the management of the school district.

## SECTION VI –PROGRAM COST SYSTEMS

### F. IMPLEMENTATION

#### F.01 GENERAL

If cost accounting is going to be meaningful, one must be able to make timely, intelligent decisions about the utilization of resources in order to determine whether to continue on course, modify an existing course of action or withdraw from an existing program.

The cost accountant must involve all levels of management. Before one can design the cost system it must be determined what report content will be helpful to teachers, principals, curriculum directors and superintendents in making decisions. This can be difficult to determine without considerable interaction among the people involved in the design of the system and those management levels mentioned.

Once the need for a cost system has been established, together with some of the information that is needed on a periodic basis, development of the system can begin.

The following represents a list of factors that might be considered while one is designing and implementing the cost system for education:

- Some reference materials are needed to assist in forming the general direction of the system. Two references that may be of help are:
  - *Financial Accounting for Local and State School Systems 2003 Edition NCES 2004-318*
  - Cost Principles for State, Local and Indian Tribal Government OMB Circular A-87.
- The cost accounting, cost control and cost analysis functions are closely related. The design of the cost system should provide for the complete coordination of these three functions. Cost differences or variances should compel analysis almost as an automatic feature of the system.
- The cost system should be integrated with the budget and general accounting features of the total financial accounting system. It could, at a later date, provide the data necessary for the development of cost estimates for various levels of activity for adoption of flexible budget plans. This requires that fixed or constant costs be separated from variable cost elements.
- The system should begin with the accumulation of costs for broad areas of responsibility and then be expanded to include smaller units of responsibility as the need arises. The original thrust might establish cost centers that may first satisfy the minimal requirements of the State and Federal regulations.

Once the system has been tested under the minimal requirements then the system may be expanded to include cost units in the area of general curriculum, sciences, business and commerce, career and other and/or may include levels of instruction such as elementary, middle school and high school programs. In any event the cost

## SECTION VI –PROGRAM COST SYSTEMS

elements included in the accumulation centers should only contain the cost of the processes or modes of operations used by the center so that unit cost data and cost totals measure the cost activities of those processes.

- Reporting of all cost elements of the local school district to the established accumulation center is desirable but not essential. The needs of the individual district should dictate what elements of cost will be reported at the accumulation center. The major elements of costs should be approached first and attention will be drawn toward the lesser elements at a later date depending on the needs of the local district. Salaries, major items of purchased services, materials and allocations of significant supporting services to the instructional cost centers would probably give any district a good start.
- The operating people and the accountant should know what the elements of controllable costs are and what the appropriate factors for allocating indirect and supportive service costs to the instructional cost centers are. The accountant may be helpful in recommending what the cost content should be within each cost center and the method of allocating other costs; but the final decision should be approved by, or be subject to the approval of, operating personnel.
- The allocation of indirect and supporting service costs to the instructional cost centers for obtaining categorical aid may be one of the expectations of the system. However, careful consideration should be made to determine the advantages of expanding the allocation to all instructional cost centers to arrive at total costs of these centers.
- Review the possibility of using cost standards in the system. This may be useful for recording data quickly and to provide a method to facilitate the cost analysis and cost control functions by recording budget and cost variances as they occur. This method would record transactions at standard costs through ordinary bookkeeping routines and produce reports showing variances of actual costs from standard costs. The use of cost standards also provides a method to standardize price differentials at the cost center level in order to obtain a realistic cost figure.
  - The accounting staff and the operating staff have considerable interaction in the development of the reports prepared by the accountants for the operating staff. The reports should contain just the relevant facts applicable to the cost center. Cost elements and ratios not under the direct influence of the manager of a cost center should be withheld and included in another cost center. Arbitrary allocations of space costs or general administrative costs to a small cost accumulation center are examples of such costs.
  - The preceding comments were offered to assist the accountant in establishing the road aspects in the design of the cost system. The following represents the suggested steps to implement the system adopting program oriented cost centers using actual costs as opposed to a system with standard costs. Also the accountant should determine the statistical data that is now prepared for use at the local

## **SECTION VI –PROGRAM COST SYSTEMS**

intermediate and State level. Generally much of the data used with some slight changes in format and timing could be easily brought into the system.

## SECTION VI –PROGRAM COST SYSTEMS

### F.02 DESCRIPTION OF THE STEPS

The following represents a brief description of the steps the accountant might adopt in the implementation of the cost system. These may not be done in the exact order shown. In fact, it might be best if the steps were accomplished in reverse order except in the instances that the completion of one step is totally dependent on a preceding step.

- Establish the cost accumulation centers for the next year under the broad functional categories of instruction, supporting services and community services.
- Determine within each cost center the direct costs and the indirect costs which will be accumulated.
- Determine the expected level of instructional activity by cost center including teaching salaries.
- Determine the expected indirect and expected supporting services personnel requirements by program.
- Furnish each program director the cost sheets showing the relevant activity levels and the financial costs for prior periods to establish the next year's expected costs.
- Allocate those expected direct costs that may be charged to the cost center more easily by using an allocation formula that will cause little or no serious distortions of costs-fringe benefits fall in this category.
- Allocate the expected direct costs of supporting service cost centers to other supporting cost centers.
- Allocate the expected total operating costs of the supporting services cost centers to the instructional cost centers.
- Determine the allocation rates for charging to the instructional cost centers the costs of supporting services.
- Establish the bookkeeping and cost routines needed to record the actual transactions as they arise.
- Prepare for the approval by cost center manager(s) the cost and cost analysis reports using the expected costs.
- Design the additional cost analysis and cost variance reports that may be needed to supplement the previous step. Also, prepare the related routines to prepare such reports.

## SECTION VI –PROGRAM COST SYSTEMS

### F.03 DETAILED DESCRIPTION OF IMPLEMENTATION STEPS

The steps used by the accountant for implementing the cost system were briefly discussed. Further detailed descriptions of these steps are offered to assist the accountant in the successful implementation of the cost system.

#### a) STEP 1 - ESTABLISHING COST ACCUMULATION CENTERS

Establishing cost centers is not generally the responsibility of the accountant. The accountant may provide during the initial thrust some centers to satisfy minimal requirements supporting categorical aid but generally the establishment of cost centers is an operational control endeavor. The centers should follow reasonably close to the organizational structure of the local district.

For purposes of this discussion, although a building could be considered a cost center, it is intended that the building be considered an additional dimension to describe where the activities were performed. Generally the cost center is used to accumulate those costs that relate to a group of like objectives or activities.

In establishing cost centers to satisfy future needs as they arise, it is recommended that the cost center dimension be treated as three levels and for illustration we will call these, reading from left to right, major level, intermediate level and minor level.

(1) When first establishing cost centers, one starting point is major levels:

##### *Instructional Cost Centers*

- 100 Elementary
- 200 Middle School
- 300 High School
- 400 Adult Continuing Education

##### *Supporting Services Cost Centers*

- 100 Pupil Services
- 200 Instructional Services
- 300 General Administrative and “etc.”

(2) When a need for a further breakdown has been established, the cost centers could be expanded to the intermediate level (assuming a subject oriented system):

##### *Instructional*

## SECTION VI –PROGRAM COST SYSTEMS

- 100 Elementary
- 110 General Curriculum
- 120 Science
- 200 Middle School
- 210 General Curriculum
- 220 Science

(3) Then when a still further breakdown is needed, the cost centers could then be established to the minor level:

### *Instructional*

- 100 Elementary
- 110 General Curriculum
- 111 Spelling and Reading
- 112 Arithmetic
- 113 Social Studies

### **b) STEP 2 - ESTABLISH DIRECT COSTS AND INDIRECT COSTS**

Direct costs have been defined as those costs which can be easily and conveniently associated to the activities and processes of the cost center. Another practical rule of thumb is if the cost center activity was eliminated, direct costs would be significantly reduced or eliminated. Examples of such costs for instructional cost centers:

1240 Salaries of Teachers  
1630 Salaries of Teaching Aides  
2000 Employee Benefits  
3110 Contracted Instructional Services  
4220 Rental of Teaching Equipment  
5100 Teaching Materials

Examples of such costs for the supporting services cost center entitled “pupil services” are:

1680 Salaries of Attendance Workers  
1440 Salaries of Social Workers  
2000 Employee Benefits

## SECTION VI –PROGRAM COST SYSTEMS

3130 Purchased Pupil Services  
3200 Local Travel Expenses  
4200 Rental of Equipment  
5900 Supplies and Materials

Indirect costs are those costs which are not easily and conveniently associated with the cost center. These costs have a character of belong to several cost centers. This definition would include the cost of some items that come under the definition of Direct Costs but may be treated as indirect because of the inconvenience and the lack of significance in making a direct charge to the cost center such as chalk, pencils, paper and incidental supplies used by teachers.

It should be noted when applying the definitions of these two classification of costs to a particular situation that the character of the cost element changes depends upon the scope of the activity. A cost element may be a direct cost to a broad group of activities but are considered indirect when applied to a small group of activities. Salaries of substitute teachers could be classified as a direct cost of instruction however, when applied to a cost center such as Math, English, etc., it should be considered indirect and allocated as such.

### **c) STEP 3 - DETERMINE WHAT FACTORS MEASURE INSTRUCTIONAL ACTIVITY AND ESTABLISH THE EXPECTED LEVEL OF INSTRUCTIONAL ACTIVITY**

For the Instructional cost centers established in Step 1, management and the accountants should list the factors of activity that shall be reported with financial data and translated into unit costs and other ratios.

Some of these factors presently being used in the management of education are:

- (1) Enrollment
- (2) Number of classes
- (3) Contact hours
- (4) Classrooms
- (5) Number of teachers
- (6) Teacher salaries
- (7) Learning units (if available)

This information, except for learning units, is available for previous years; and procedures have been established for accumulating this information for the current year.

If the information for previous years was presented in comparison form, a knowledgeable official of the school district could determine for the next year a low, high and reasonable

## **SECTION VI –PROGRAM COST SYSTEMS**

expected activity level. Once this information has been prepared, it could then be used in completing the succeeding steps.

### **d) STEP 4 - DETERMINE THE EXPECTED REQUIREMENTS FOR SUPPORTING SERVICES PERSONNEL**

The cost of supporting services personnel is the highest indirect instructional cost element. A list of personnel by activity assignment within each support service program would be an essential schedule. Again much of this information is available for previous years and a comparison schedule could be prepared and an informal official could make a reasonable assessment of what can be expected during the next instructional period(s).

Once you have the head count assignment, the expected dollar value should not present a problem.

### **e) STEP 5 - ESTIMATE NON-SALARY COST CENTER EXPENSE AND TOTAL COST CENTER EXPENSES**

After completing steps 3 and 4, furnish each cost center manager the estimating cost sheets showing the relevant activity levels and the financial costs for prior accounting periods. The directors can estimate the other direct charges not developed during steps 3 and 4 such as, cost of materials, purchased services, travel and conference expenses, etc. The activity data, salary items and employee benefits are posted for the program director during the previous steps. When complete, the other non-salary items are included for previous years for consideration by the program manager. In this connection, you should only include those items that are actually controllable by the manager. Charges for other cost elements not controllable by the director should be charged to the supervision and direction departments. However, occupancy charges which could be considered a questionable item that could be under the control of the program director might, under your policy, be included as a controllable cost. The program director then completes this schedule using the best informed judgment considering the factors shown on the cost sheet and other data that might be available for the manager's use.

### **f) STEP 6 - DISTRIBUTE EMPLOYEE BENEFITS AND OTHER DIRECT CHARGES**

There are instances when it is more practical to accumulate a direct cost into an account or accounts for later allocation as a direct charge to the appropriate cost centers. Employee benefits is one such classification. The assignment of salary fringe benefits can be a laborious task. The official who is in charge of administration of various employee benefit plans can easily determine the expected costs and then could allocate these direct charges to the cost centers by using salary dollars or head count data prepared during steps 3 and 4.

### **g) STEP 7 - DISTRIBUTE THE DIRECT COSTS BETWEEN SUPPORTING SERVICES COST CENTER**

## SECTION VI –PROGRAM COST SYSTEMS

Upon completion of the preceding steps a distribution rate for charging instructional programs for supporting programs may be highly desirable to simplify the charging of these costs to instruction and to determine reasons for variations in cost. This can be done by completing the distribution schedule shown as step 7. It is recommended that the redistribution of service costs be done in two steps - first between supporting service cost centers and second to instructional cost centers. However, the first step may not be practical even though theoretically correct. In those instances where the first step is not feasible or significant, then a direct redistribution to instructional programs should be made. See step 8.

The method used to determine the amount that should be redistributed is a matter of judgment and agreement. If based on fact and is reasonably consistent, the final result should give a fair indication of the relationship of service costs to instruction.

Some suggested bases for cost redistribution are shown and discussed in the publication Cost Principles for State, Local and Indian Tribal Organizations OMB A-87.

Some bases for consideration are listed:

- Number of employees
- Direct charges (dollars)
- Direct hours
- Teaching hours
- Teaching salaries
- Machine hours
- Requisitions
- Value of materials
- Number of transactions
- Contact hours
- Floor space
- Fees
- Service hours
- Job or case load basis

## **SECTION VI –PROGRAM COST SYSTEMS**

### **h) STEP 8 - DISTRIBUTE DIRECT AND INDIRECT COSTS OF SUPPORTING SERVICES COST CENTERS TO THE INSTRUCTIONAL COST CENTERS**

The determination of the distribution of costs was discussed in detail in step 7 and will not be repeated here. Step 8 recognizes that the direct and indirect costs of the supporting services cost centers accrue for the benefit of the instructional cost centers. The cost then should be charged on a basis that is indicative of the amount of benefit received or should have been received in those instances where management wishes to encourage the use of a service.

### **i) STEP 9 - DETERMINE THE DISTRIBUTION COST RATE FOR CHARGING SUPPORTING SERVICE COSTS TO INSTRUCTION COST CENTERS DURING THE CURRENT YEAR**

The rate is determined to provide management and accountants a method to simplify the bookkeeping requirements for transferring indirect costs to the operating departments and a diagnostic tool for purposes of relating the cost of indirect activity to the instructional activity.

The calculation of supporting service distribution cost rate becomes a matter of dividing the direct salaries (teacher salaries) of the instructional cost centers into the supporting service costs arrived at in step 1 and step 8 respectively.

In the calculation above, it was suggested the cost rate be determined by using teaching salaries. Any basis could be selected as long as the basis relates reasonably well to the activity between supporting cost centers and instructional cost centers. One could use total direct charges, average enrollment, contact hours or classes. If the accountants apply the expected distribution cost rate to actual instructional activity such as teaching salaries and after the distribution some costs are still left in the supporting service cost centers as not distributed, this should encourage someone to investigate in order to determine the reasons.

If by chance the reverse is true and more supporting service costs were transferred than were incurred, then a person might investigate the instructional areas for causes.

### **j) STEP 10 - ESTABLISH THE COST ACCOUNTING ROUTINE PROCEDURES AND METHODS**

Implementing the recording routines can be made simple and timely if the cost system is integrated with the general accounting routines and the routines used in the collection of non-financial data.

It is not the purpose of this section of the manual to describe or evaluate a system of data collection using mechanical equipment or manual means. This determination should follow the same procedure of comparing the total costs of one method versus the total costs of another method for collecting cost related data.

## SECTION VI –PROGRAM COST SYSTEMS

It is the purpose of this section to describe the common type of routines found in recording data whether it be manual, mechanical or combination of the two methods.

The implementation can be best accomplished if simple instructions are issued to all of the people involved in reporting or recording of both financial and non-financial transactions. It is recommended that only the instructions directly related to a given data collection point be distributed to the person(s) responsible for collecting and forwarding the data. Furnishing a complete set of instructions for the entire district to all persons has a tendency to complicate matters. Specific instructions that relate to attendance, social workers, teachers, purchasing, warehousing, etc. should each receive their specific sheet(s) of instructions.

The instructions should include:

- (1) The accounting period closing date.
- (2) A schedule showing dates (or working day of the month) and possibly the time of day that information is required to reach a data collection point.
- (3) Preprinted forms or work sheets so that only variable information need be inserted. Coordination of these forms and work sheets to the next level of summarization and recording is highly desirable.
- (4) The established standard costing entries.
- (5) The established format for all journals including journal entries.
- (6) The statistical information which will be summarized along with financial information.
- (7) The scheduled closing date in the recording of financial entries.
- (8) The reports that will be prepared daily, weekly, biweekly and summarized toward month-to-date and year-to-date totals.
- (9) The established standard monthly accrual entries.
- (10) Schedule the preparation of cost reports from the highest reporting unit toward lowest reporting unit in those instances where the use of subsidiary ledger bookkeeping is reasonable and practical.

In those systems not using subsidiary ledgers, schedule the preparation of reports from the lowest reporting unit towards the highest reporting unit utilizing consolidating techniques. Cost accounting involves the recording of data in more detail. The accounting staff should review in depth the existing procedures in recording financial data to determine the best methods and procedures to follow in installing the cost system. It is possible to expand the existing system to include cost data without increasing accounting costs appreciably. This might be done by:

## SECTION VI –PROGRAM COST SYSTEMS

- Expanding subsidiary record keeping.
- Smoothing out the valleys, if any, in the assignment of accounting personnel.
- Use of accounting boards or machines in maintaining cost ledgers for recording financial data and statistical data.
- Ledgerless accounting methods.
- Mathematical methods.
- Use of regional or outside service centers for the cost accounting and/or general accounting records.

The following represents a list of procedures that should be studied to determine the best way to record cost center data:

Nature of Transaction.....	Procedure
Payroll.....	Payroll distribution register
Contracted Service.....	Accounts payable register
Textbooks.....	Accounts payable/amortization schedule
Material and supplies.....	Requisitions
Salary extras and benefits.....	Allocation journal
Repairs and maintenance.....	Work order analysis
Supporting service costs.....	Redistribution journal (Note: Use of budgeted redistribution rates)
Depreciation.....	Depreciation schedules or ledgers

### **k) STEP 11 - DESIGN THE MANAGEMENT COST ACCOUNTING AND COST ANALYSIS REPORTS**

In the design of reports and report content, it would be well to study for a moment the following attributes of good reports:

- (1) The reports are simple and clear — The report should be designed so that the reader can begin to make some decisions or arrive at a conclusion within minutes after he or she begins reading the report. It is helpful when preparing reports to the lowest reporting unit that accounting descriptors be changed to descriptors more easily understood by operating people. Accountants can always change descriptors when

## SECTION VI –PROGRAM COST SYSTEMS

reporting to the highest reporting units where those managers can be expected to know accounting terminology. In connection with reporting upon the activities of a cost center, it may be helpful to report the cost of each job classification used by the cost center rather than show total salaries. For example, the descriptors may look like the following for salary classifications used within an instructional program:

Salaries:

- Teaching
- Planning
- Student Teaching
- Teaching Assistant
- Teaching Intern
- Teaching Aide

However, when consolidating these reports with others to prepare a district-wide report, the classifications may lose their identity and the information may be summarized and shown as salaries or totals by major job classifications such as:

Salaries:

- Professional Education
- Professional - Other
- Technical
- Office/Clerical

- (2) The reports should show and analyze trends of adequate and inadequate performance. A good report will compare actual data and performance to an established standard. The report will also allow the reader to observe a new relationship when it begins to occur. Comparisons of actual to budget or forecasted data and a comparison of performance ratios to preceding year(s) are examples of data to be included in the reports.
- (3) The reports furnished to managers will contain no information that cannot be acted upon by the manager of the cost center or is not significant to the activities of the cost center. Building occupancy, supervision and direction and general administrative costs allocated to the cost center are examples of such costs. These indirect costs should be allocated at a higher reporting level and should be controlled at that higher level.

The following list of reports should be used as a guide in formulating reporting on the operations of a local school district to the various levels of management:

- Teacher utilization and allocation - The major cost element of a local district is teacher salaries and the related employee benefits. It appears that some means should be developed to report the performance of the teaching process more often than annually or monthly and the data be furnished in addition to what appears in the regular cost center reports.

## **SECTION VI –PROGRAM COST SYSTEMS**

- The utilization of building and equipment - These reports should be prepared to include the cost of using capital assets and to show what the effect on this cost element would be by using alternative means of utilization and modernization versus new school construction. Again this data should be reported beyond and above that which is included in regular cost center reports.
- Instructional cost reports - These reports should be prepared showing the direct costs and comparing these costs to the budgeted costs and prepare meaningful ratios which serve as guides in evaluating performance. In this connection the reports should be designed to show not only relevant financial information, but also sections showing relevant operating statistics.
- Supporting service program cost report - These reports should be prepared showing the direct costs and comparing these costs to the budgeted costs to prepare meaningful ratios which serve as a guide in appraising performance. An effort should be made to relate performance and the cost of the supporting service cost centers to the instructional process. Again this report, like the instructional cost reports, should be designed to show not only the relevant financial information, but also sections showing relevant operating statistics.
- Regional/Building responsibility reports - These reports should be prepared showing the direct costs of instructional programs conducted within the region and/or building together with the related supporting service costs. Also meaningful ratios should be prepared which can serve as a means to appraise performance within the area of responsibility. Comparisons should be made to the budget and sections showing relevant operating statistics should also be shown.

### **I) STEP 12 - DESIGN COST ANALYSIS, COST VARIANCE AND COST EFFECTIVENESS REPORTS**

In order to improve control over costs or to increase the effectiveness of the instructional process, it may be necessary to develop a system of reporting that provides management with the information necessary to make decisions concerning the effectiveness of existing programs. In this connection, it is important to retain discrete information on the existing delivery system. This may involve listing finer elements from the accounts and displaying this data on a comparison form to a predetermined standard and several untried alternatives. This may involve getting information outside the local district. This may involve other local districts, professional organizations, suppliers, and State and Federal education offices. It is only sufficient at this time to have an awareness. This may involve an additional organizational responsibility and the local accounting personnel should be ready to help undertake these types of studies.

Such reports are prepared generally under one or a combination of the following bases:

- (1) By exception or special assignment - When a group or specific cost center report indicates a lack of control or a significant variance from a standard.

## **SECTION VI –PROGRAM COST SYSTEMS**

- (2) Continuous - The researcher and the analyst are always looking for ways to improve the educational delivery system and in this connection need data that should be reasonably available to them in determining the cost of alternatives available. The type of information and manner in which these data are presented are generally different than what the accountant is generally providing to the staff. It is very important, in full utilization of the skills the accounting personnel possesses, to help explore what modifications or additions to the existing data collection system are necessary to aid management in this important endeavor.
  
- (3) Activity levels - In order to assist management to increase or decrease activity, the accounting staff should develop means to show management a breakdown of cost as to fixed, semi-variable and variable. This information can be easily obtained by mathematical formulas, scatter diagrams and sight approximations using three or four previous period cost data. Each method has its strong and weak points in arriving at useful data to management for purposes of forecasting future periods or comparing one alternative delivery system to another.

## **SECTION VI –PROGRAM COST SYSTEMS**

### **G. ILLUSTRATIONS**

The illustrations on the following pages are designed to be used as examples to project information discussed in the preceding implementation steps.

**SECTION VI –PROGRAM COST SYSTEMS**

**FIGURE VI- 1**

**STEP 3: Determine the Expected Level of Instructional Activity**

**BUILDING:**

INSTRUCTIONAL PROGRAM	ENROLLMENT	NUMBER OF CLASSES	CONTACT HOURS	CLASS ROOMS	LEARNING UNITS (A)	NUMBER OF TEACHERS	TEACHER SALARIES
Regular							\$
Elementary							
Middle							
High School							
Other							
Special							
Continuing							
TOTALS							\$

(A) To be developed

**SECTION VI –PROGRAM COST SYSTEMS**

**FIGURE VI- 2**

**STEP 4: Determine the Expected Supporting Services Personnel Requirements**

<b>BUILDING:</b> _____		<b>PROGRAM:</b> _____					
<b>SUPPORT SERVICE PROGRAMS</b>	<b>ACTIVITY ASSIGNMENT OR JOB CLASSIFICATION (A)</b>	<b>PRIOR YEAR END</b>		<b>CURRENT YEAR EXPECTED</b>		<b>NEXT YEAR FORECAST</b>	
		<b>FTE</b>	<b>SALARIES</b>	<b>FTE</b>	<b>SALARIES</b>	<b>FTE</b>	<b>SALARIES</b>
PUPIL SERVICES (21x)	Supervision		\$		\$		\$
	Professional						
	Technical						
	Other						
	<b>TOTAL</b>		\$		\$		\$
INSTRUCTIONAL STAFF SERVICES (22x)							
GENERAL ADM. (23x)							
SCHOOL ADM (24x).							
BUSINESS OFFICE (25x)							
OPNS AND MAINT. (26X)							
TRANSPORT (27X)							
CENTRAL: (28X)							
OTHER:							
<b>TOTAL SUPPORT:</b>			\$		\$		\$

(A) = Depending upon the level desired. Finer breakdowns may be desired.  
 FTE = Staff Full Time Equivalent.

**SECTION VI –PROGRAM COST SYSTEMS**

**FIGURE VI - 3**

**STEP 5: After completing steps 3 and 4, furnish each program director the program cost sheets showing the relevant activity levels and financial costs for prior periods for establishing next year’s expected costs**

**BUILDING:** \_\_\_\_\_

**PROGRAM:**

	ACTUAL			CURRENT YEAR BUDGET	EXPECTED TOTAL
	PRIOR YEAR 3	PRIOR YEAR 2	PRIOR YEAR 1		
INSTRUCTIONAL ACTIVITY:					
Number of Students					
Class Rooms					
Contact Hours					
Number of Teachers					
Teacher Salaries					
DIRECT COSTS: (A)					
Regular Salaries (from steps 3 & 4)					
Temporary Salaries					
Overtime Salaries					
Employee Benefits Allocated (given)					
Purchased Services					
Supplies and Materials					
Other					
<b>TOTAL BEFORE REDISTRIBUTION:</b>					

(A) = Finer breakdowns may be desired.

**SECTION VI –PROGRAM COST SYSTEMS**

**FIGURE VI - 4**

**STEP 6: Allocation of salary benefits or other to instructional and supporting services programs as a part of direct costs.**

PROGRAM	SALARIES					EMPLOYEE BENEFITS ALLOCATED (D)				
	PRIOR YR. 3	PRIOR YR. 2	PRIOR YR. 1	CURRENT YEAR BUDGET	EXPECTED	PRIOR YR. 3	PRIOR YR. 2	PRIOR YR. 1	CURRENT YEAR BUDGET	EXPECTED
Instructional										
Program 1										
Program 2										
Support										
Department 1										
Department 2										
<b>TOTAL</b>					(A)					
SALARY BENEFITS										
Health Insurance										
Retirement										
Workmen's Compensation										
Other										
<b>TOTAL</b>					(B)					
<b>ALLOCATION RATE</b>					(C)					

C = Total per salary dollar (A divided by B)

D = Allocation to Programs = Salaries multiplied by C

**SECTION VI –PROGRAM COST SYSTEMS**

**FIGURE VI - 5**

**STEP 7: Redistribution of the costs of supporting services to other supporting services**

**BUILDING: \_\_\_\_\_ DISTRICT-WIDE**

PROGRAM	DIRECT COSTS	PUPIL	REDISTRIBUTION IN (OUT)						TOTAL AFTER REDISTRIBUTION	BASIS
			STAFF	ADMIN.	SCHOOL	OPERATIONS	TRANS	OTHER		
Pupil Services	\$	\$	\$	\$	\$	\$	\$	\$	\$	
Staff Services										
Administration										
School										
Operations										
Transportation										
Other										
<b>TOTAL</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	<b>\$</b>	

**SECTION VI –PROGRAM COST SYSTEMS**

**FIGURE VI - 6**

**STEP 8: Determine the redistribution costs of supporting services programs toward the instructional programs**

**REDISTRIBUTION OF TOTAL COSTS:**

SUPPORTING SERVICES	DIRECT COSTS	REGULAR				SPECIAL AND OTHER	TOTAL AFTER REDISTRIBUTION	BASIS
		ELEMENTARY PROGRAMS	MIDDLE SCHOOL	HIGH SCHOOL	OTHER			
Pupil								
Staff								
Administration								
School								
Operations								
Transportation								
Other								
<b>TOTAL</b>								
INSTRUCTIONAL:								
Elementary								
Middle School								
High School								
Other Regular								
Special Education								
Continuing								
Other								
<b>TOTAL INSTRUCTION AFTER REDISTRIBUTION</b>								

**SECTION VI –PROGRAM COST SYSTEMS**

**FIGURE VI - 7**

**STEP 9: Determine the redistribution rates of supporting service costs to instructional programs**

INSTRUCTIONAL PROGRAM	TEACHER SALARIES FROM STEP 1	TOTAL SUPPORTING SERVICE COSTS--STEP 8	REDISTRIBUTION RATE (A)
Elementary			%
Middle			
High School			
Other Regular			
Special			
Continuing			
Other			
<b>TOTAL</b>			%

(A) = Redistribution rate for transferring supporting service costs towards the instructional programs.

## SECTION VI –PROGRAM COST SYSTEMS

### H. HELPFUL PUBLICATIONS

- *Financial Accounting for Local and State School Systems 2003 Edition NCES 2004-318*  
(<http://nces.ed.gov/pubs2004/h2r2/>)
- *Cost Principles for State, Local and Indian Tribal Government OMB Circular A-87.*
- *Bulletin 1014- Michigan Public School Districts Ranked by Selected Financial Data*  
([http://www.michigan.gov/mde/0,1607,7-140-6530\\_6605-21514--,00.html](http://www.michigan.gov/mde/0,1607,7-140-6530_6605-21514--,00.html))
- 
- *Bulletin 1011 – Analysis of Michigan Public School District’s Revenue and Expenditures*  
([http://www.michigan.gov/mde/0,1607,7-140-6530\\_6605-21539--,00.html](http://www.michigan.gov/mde/0,1607,7-140-6530_6605-21539--,00.html))
- 
- *National Public Education Finance Survey*  
([http://www.michigan.gov/documents/npefs2005\\_163631\\_7.pdf](http://www.michigan.gov/documents/npefs2005_163631_7.pdf))