

MEASURING PRESCHOOL COSTS AND REVENUES: ISSUES AND ANSWERS

Executive Summary

Increased public attention to early education and care requires that policy decisions and public opinion be informed by accurate and reliable information. The use of economic cost analysis has provided strong evidence for both high returns to investment in quality early education and direct benefits to children resulting from efficient allocation of program resources. However, despite its success, a number of challenges have been identified that limit the extent to which cost analysis can be used effectively in the field of early education.

Cost studies typically report findings on a “cost per child” basis. Issues arise when determining whether “cost” should refer to program costs, classroom costs or some other unit of cost. There is a growing need for research relating the cost of early education programs with their quality. However, costs are often measured at the program level, while quality is often measured at the classroom level. Resolving discrepancies between the two measures is necessary for accurate and reliable analysis.

School and program accounting records do not always correspond to the unit of measurement chosen for a particular cost study. For instance, most public-school early education programs do not track individual classroom usage of resources such as food or supplies. Instead, these costs are often tracked at the school or district level.

Differentiating between “costs” and “expenditures” has implications for the accuracy of a study’s data. For those early education programs that use donated resources, the dollar value of these resources should be included in the cost analysis. Although these are not program expenditures, the donated resources are utilized in the delivery of early education services.

Methods used to assign dollar values to specific costs can limit a study’s accuracy. For instance, while market value is commonly used to estimate dollar value, determining the market value of costs such as volunteer labor and building space can be complicated.

Attention to these issues is underscored by a recent report release by the GAO that highlights the need cost analysis research in the field of early education. National and local early education experts have called for the development of nationwide cost indicators that are consistent across states. In response to these requests and to inform our future research agenda, The National Institute for Early Education Research (NIEER), The National Center for Early Development and Learning (NCELD) and The National Prekindergarten Center (NPC) sponsored a two-day symposium attended by a panel of 12 experts in the field of preschool cost analysis held at the National Institute for Early Education Research in New Brunswick, New Jersey on September 19th and 20th, 2002. This report reflects the research experience and theoretical knowledge of panel members who presented their work at the symposium and is focused on six components of cost data collection and analysis: classroom costs, non-classroom

costs, transportation costs, unreported costs, facilities, and revenues. The author of each paper highlights the most frequent pitfalls of preschool cost data collection and analysis and provides guidelines and recommendations for resolving these issues.

In *Classroom Costs*, Suzanne Helburn points out that while early education researchers typically measure the quality of services using classroom characteristics, the cost of these services is usually measured at the program level. She argues for more consistency across these units of measurement and provides guidelines intended to assist researchers collect cost data at the classroom level. These guidelines help to accurately collect and calculate data to estimate costs in four key categories: 1) labor; 2) food; 3) materials and supplies; and 4) furnishings and equipment. When collecting data on labor costs at the classroom level, Helburn recommends the following information be obtained for each staff member assigned to each classroom: job title, education background, credentials, hours worked per week, and wages. For non-labor costs, such as food, she suggests allocation costs should be based on the number of Full-Time-Equivalent (FTE) children in the classroom. Using the example of food, these costs can be adjusted for age-related portion-size. For the remaining two categories, materials and supplies and furnishings and equipment, Helburn again recommends allocating costs based on the proportion of FTE children, adjusted for age group. She provides a useful formula for calculating FTE based on class enrollment information.

John Morris' *Non-Classroom Costs*, outlines several issues that frequently present themselves to the analyst measuring early education non-classroom costs. Non-classroom costs are defined as those costs that are not incurred directly in the classroom, such as supplies and materials for administration or equipment for common use. Once these costs are defined, Morris recommends allocating each according to their relationship to one of the following: direct labor costs; full-time-equivalent (FTE) caregivers; FTE children; total licensed capacity and estimated time spent on each activity. Among these allocable expenses, the most important is the cost of labor for common functions such as administration. An accurate estimate of the value for non-classroom labor costs requires the desegregation of staff administrative time spent across classroom and non-classroom duties. Morris illustrates several methods for allocating costs to overhead, supplies, and donations. He provides recommendations for resolving issues specific to measuring costs in each of these areas. In some cases, costs relate to specialized functions that can be tied directly to an individual class but in other cases such functions are distributed across classes. In these types of cases, the choice between allocating based on labor or based on FTE enrollment of children may be arbitrary. He reminds readers that since these costs make up a relatively small proportion of total program costs, they are unlikely to significantly affect the final cost per child.

According to Frederic Glantz, in *Measuring Unreported Costs in Child Care and Early Education Programs*, the analyst must resolve a number of potential dilemmas related to unreported program costs in providing early education services. Glantz defines unreported costs as those costs that do not show up in a program's expenditure account. An initial evaluation of the program's organizational structure is necessary before choosing a method for estimating unreported costs. If an early education program is part of a larger organization, costs may be incurred for overhead and other types of support. In addition, financial statements may consolidate the early education program costs with those of the full organization, further

complicating the analysis. Glantz offers a number of possible solutions for estimating costs in these situations. Unreported costs can also include in-kind program donations. Glantz recommends using the survey instrument to identify volunteer labor, equipment, and any other types of donated resources. Assigning a value to the donated resources requires additional information which may also be obtained from the survey: if the program director would have purchased the item in the absence of the donation, the analyst can use the market price to assign a value to the donated item. Otherwise, the analyst must assume the item's value lies somewhere below its market price.

In his second paper, *Measuring Transportation Costs in Child Care and Early Education Programs*, Frederic Glantz notes that early education programs typically report costs on a line-item basis rather than a functional basis for cost analysis. Measuring the cost of transportation (or any other service) requires a system for allocating a program's line-item accounts across the various functions that the program is engaged in. This requires the researcher develop what Glantz refers to as a "functional cost reporting system". Using this system, the starting point for estimating transportation costs is an estimate of the full cost of operating a program. The next step is to distribute the full cost of program operation to overhead and direct service activities. This distribution is made through a combination of direct assignment and allocation based on the researcher's decision rule. The final step is to allocate overhead costs across the direct service activities. This process usually involves creating separate overhead pools. A separate algorithm may then be used to allocate each overhead pool across each of the direct service activities.

In *Methodological Issues in Measuring Early Education Facilities Costs*, Pamela Kelley outlines the limitations of school budget accounting systems for accurately measuring the cost of preschool facilities and recommends the use of the "ingredients" method (Levin & McEwan, 2001) for a more accurate estimate of these costs. Using the ingredients method requires the analyst to list program categories such as instructional costs, equipment costs and facilities costs; list the subcomponents of each category and then assign a value to each item. Determining the market value of the facility can present problems to the cost analyst when the facility is owned rather than rented. (if rented, the rental value is equivalent to the facility's market value). In these cases, Kelley recommends 2 methods: 1) estimate the rental value of a similar facility in a comparable geographic location (comparable rent method); 2) Apply an annualization factor (Levin & McEwan, 2001) to the market value of the facility to obtain a cost estimate. A second issue for cost analysts is assigning a cost to facility space that is donated. Kelley addresses Glantz and Layzer's argument that a program's donated square footage may be in excess of what the program director would have ordinarily purchased in the market (Abt 2000). Kelley recommends when estimating the value of donated space, the analyst can apply the market value as an upper bound estimate, and can assume the estimated value will lie between \$1 and the upper bound. It may be also be possible to obtain an estimate through a survey question that asks program staff for their willingness-to-pay for space, in the absence of the donation. Alternatively, a sensitivity analysis can be performed to compare the outcomes of more than one estimate. She adds that the researcher should consider whether children might be gaining developmental benefits from the donated space. Finally, Kelley discusses situations in which program space is shared with another agency. She recommends pro-rating these costs based on the proportion of preschool enrollment to total school enrollment or the proportion of facilities usage-time represented by the preschool program compared to that of grades K-12.

Jana Fleming's *Collecting Revenue Data from Public Pre-Kindergarten Programs*, cites the wide variation in reported revenue and income from program-to-program. Some reasons for this variation include differences in services offered, types of funding available, variations in accounting, and the failure of school systems to maintain records that link discrete sources of funding to individual programs. She describes strategies that have been effective in collecting program-level data for services offered both within and outside of public school facilities. The first strategy is to know the sources of funding available to the program under investigation, the population eligible to receive the funds, and for what purposes. After identifying all *potential* sources of funding for pre-kindergarten services, she recommends drafting a data collection template, listing the major revenue sources. Fleming reminds the reader that further probing is always necessary to ascertain that all revenue sources are accounted for and to reduce the incidence of underestimation of revenue for public pre-kindergarten programs.

Taken as a whole, this report is intended to provide education administrators, policymakers and cost researchers with a reference tool for collecting the types of cost information that will be most useful for evaluating and making decisions regarding resource allocation to early education programs. In addition to the papers, the report also contains a bibliography of cost studies and sample survey instruments provided by the symposium participants. It is hoped the recommendations and guidelines presented in this report will assist those collecting preschool cost information and point the way toward future research.