Upgrading Performance Through PPBS in School Media Centers

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The adventure of building a satisfying and humane, decent and orderly life in the world of mass affluence, modern technology, and bureaucratic organization is as challenging a task as our society has faced from its beginning. And what we do or fail to do in education will have a great deal to do with the outcome.¹

ACCOUNTABILITY as a concept in education is as old as the first teacher with a genuine concern for the educational experience of his pupils. Accountability as an educational term is of much newer origin—somewhat less than ten years old. It is the result of the growing restiveness of a society that has found itself pressured on all sides for more and more money for what has seemed less and less "quality education."

In the expanding economy of the 1950s and early 1960s, an electorate unmotivated to challenge the decisions of professional educators and inured to tax increases by salaries which generally compensated for rising costs voted for the bond issues school administrators insisted were necessary for the "quality education" everyone deemed desirable. Conditioned to a fiscal pattern which based future expenditures on previous ones, the need for ever-increasing budgets was widely accepted. Funds for the National Defense Education Act, the Elementary and Secondary Education Act and other similar federal programs were enthusiastically appropriated by Congress. States quickly followed suit with state grants, and school

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[617]
districts initiated programs—particularly in the area of media services—which had never before been considered possible.

By the mid-1960s, however, the climate had changed and the electorate began to feel the financial stress of continuous bond issues and tax increases as new schools and new programs proliferated. As Robert Roush, School of Medicine, University of Southern California; Dale Bratten, Columbia Junior College, Columbia, California; and Caroline Gillin, U.S. Office of Education, pointed out in an article entitled “Accountability in Education: A Priority for the ’70’s”:

On every front there is an exigent sense of immediacy for the full justification of educational policy decisions and program operations. The sometimes raucous, but legitimate demands of the various publics served by education make the expedient resolution of our problems imperative. This is evidenced by the large number of school bond issues that have failed in the past few years, the growing militancy of teachers, the rising disconsolation of our youth, the increasing conservatism of legislative bodies, the spiraling inflationary costs of education relative to rather static revenue sources, and the overall malaise which characterizes much of American education.  

School administrators, jolted by rejected bond issues, and state legislators, sensitive to the mood of the public, looked around for answers and discovered the much-touted McNamara Planning, Programming, Budgeting System (PPBS) which had brought some organization out of the chaos in the unwieldy Department of Defense.

According to David Novick in a paper read at the First National Conference on PPBS in Education in 1969, “the program budget has a rather ancient and hoary origin and it did not start in the Department of Defense. There are two roots of this concept and method: one in the federal government itself where program budgeting was introduced as part of the wartime control system by the War Production Board in 1942; the other root—an even longer and older one—is in industry.”

In the area of government the Controlled Material Plan initiated in 1940 became one of the first attempts to provide a comprehensive look at needs and resources. This was followed by a plan developed by Dr. David Novick known as the Production Requirements Plan. The purpose was to identify the material and component requirements for contracts that were being placed by the military and to measure the inventories and capacities of America’s...
PPBS in School Media Centers

production industry. It was an interim step on the way to a program budget in that it provided the first overall picture of the United States' needs and resources for war.4

In the field of industry the General Motors budget contained some components of a program budget system in 1924, and Dupont had been using such a system even earlier than General Motors in the early 1920s. Another company with an important role in the development of the concept of planning for programs and budgets was the Rand Corporation, which became involved in weapons systems analysis no later than 1949. “They utilized not only the traditional standards for choosing among preferred means of warfare (for aircraft—bigger, faster, more payload) but they also took into account social, political and economic factors.” Further research led to the development of a program budget plan that won the approval of the Kennedy Administration as a possible approach to the analytical treatment of the military components of the federal budget. “In 1961 the initial effort in PPBS was launched in the Defense Department and has been continued since that time. In August of 1965, President Johnson announced that this system which had been so successful in the Department of Defense would now be applied to all the executive offices and agencies of the United States Government.”5

President Nixon extended this approach to education in his 1970 message to Congress on education reform in which he said:

As we get more education for the dollar, we will ask the Congress to supply many more dollars for education . . . . From these considerations we derive another new concept: accountability. School administrators and school teachers alike are responsible for their performance, and it is in their interest as well as in the interests of their pupils that they be held accountable. Success should be measured not by some fixed national norm, but rather by the results achieved in relation to the actual situation of the particular school and the particular set of pupils.6

President Nixon’s justification for accountability in education, according to Roush, et al., was that the concept might help to preserve and enhance local control. Hence, he stated in his 1970 message on education reform, “Ironic though it is, the avoidance of accountability is the single most serious threat to a continued, and even more pluralistic educational system. Unless the local community can obtain dependable measures of just how well its school system is performing
Lucile Hatch and Ralph A. Forsythe

for its children, the demand for national standards will become even greater and in the end almost certainly will prevail."

James E. Allen, Jr., formerly United States Commissioner of Education, speaking to the same point, declared that:

There has been a lack of hard data about the productivity of our schools, and their evaluation has thus been more in terms of what goes into the process of education rather than its outcomes. This lack of simple accountability hampers efforts to reform public education at all levels. The need to develop and support the procedures to permit accountability in public education is one of the most important tasks facing both the President's Commission on School Finance and the proposed new National Institute of Education.

Robert Finch, former Secretary of Health, Education and Welfare, further reinforced this concept in a memorandum to the Office of Education in which he listed thirteen operational objectives to be implemented by the Office of Education in fiscal year 1971: "There were no fewer than eighteen separate references to performance evaluation in the memorandum. Perhaps the most inclusive statement was 'to introduce performance contracting into all Federal discretionary programs whether the discretion lies with the Office (of Education), the regions, or the State agency or institution.'"

The later Secretaries of Health, Education and Welfare and Commissioners of Education have not stressed this concept in their speeches but it has continued to be a basic principle underlying federal attitudes toward education.

Just what is accountability? Roush, et al., define it as:

Conceptually defined and in its simplest form, accountability is a definitive delineation of the goals and functions of education, each of which is qualitatively described in measurable objectives which are either directly or indirectly related to student performance. Operationally defined, accountability requires the reporting of achievement against promised accomplishment. But according to Leon Lessinger, formerly an associate commissioner of education with the U.S. Office of Education, the definition is a lot less important than the spirit of the thing—and the fact is that the spirit has permeated the highest levels in Washington and is spreading throughout the country.

Unfortunately, it is one thing to talk about being accountable; it is another to prove accountability without destroying the essence of the
learning that the system is designed to nourish and effectuate. Various systems of measurement—from competitive letter grades to individual letters to parents and parent-teacher conferences—have been used in the past to evaluate the learning experience of the child. None of these evaluate the effectiveness of the teaching operation, nor do they evaluate the relationship of the result to the dollars expended, which is the heart of the problem as seen by the tax-paying parent and the tax-appropriating legislator. Both have sought a cost-determinant formula of some type. The legislator has sometimes turned to laws, as in the state of Colorado where Article 41: Educational Accountability has been enacted.

The general assembly hereby declares that the purpose of this article is to institute an accountability program to define and measure quality in education, and thus to help the public schools of Colorado to achieve such quality and to expand the life opportunities and options of the students of this state; further, to provide to local school boards assistance in helping their school patrons to determine the relative value of their school program as compared to its cost.

The general assembly further declares that the educational accountability program developed under this article should be designed to measure objectively the adequacy and efficiency of the educational programs offered by the public schools. The program should begin by developing broad goals and specific performance objectives for the educational process and by identifying the activities of schools which can advance students toward these goals and objectives. The program should then develop a means for evaluating the achievements and performance of students.

The article then spells out the duties of the State Board of Education and the responsibilities of the Local Accountability Programs, which are elaborations of the principles set forth in the introductory paragraphs quoted above.

In *Roles of the Participants in Educational Accountability*, a publication of the Cooperative Accountability Project—a seven-state, three-year project initiated in April 1972—and financed by funds provided under the Elementary and Secondary Education Act of 1965 with Colorado as the administering state, Wilsey and Schroeder state: “In Chapter 1 we defined ‘accountability’ as the condition of the public schools being answerable or liable to the citizenry in general for the efficient use of resources in achieving the goals which have been established by the people, or by their official representatives, for the public schools.”
Basic Assumptions

Inherent in the above assumption are a number of assumptions, including the following:

Goals and objectives can be identified and agreed upon by the people or their representatives. The schools can, in fact, achieve the goals and objectives for which they are held accountable. Progress toward these goals and objectives can, in some acceptable manner, be measured. Efficiency in the educational process can be measured. The relative impact or influence of each participant in the educational process on the achievement of goals and objectives can be measured in some acceptable manner.

Recognition can be given in some tangible form to the participants in the process according to measures of their efficiency in achieving goals and objectives.

The process by which these assumptions are to be achieved is a major concern and has led, in the different states that have enacted accountability laws, to a variety of plans: performance contracting, management by objectives, local or statewide testing programs, personnel evaluation programs, program auditing, and PPBS.

The most comprehensive of these programs and the one that offers the greatest possibility of success in programs with varying requirements is PPBS which, consequently, has been adopted by a number of school districts across the country. There are as many PPBS models as there are writers on PPBS, but each basically contains the following elements:

1. identification of district-wide goals and objectives;
2. identification of programs and activities to be planned;
3. identification of outcomes and costs of programs;
4. generation of alternative programs and activities;
5. selection of desired alternatives;
6. implementation and evaluation of alternatives;
7. feedback of information to the system; and
8. repetition of the total program.

In generating goals, most agree that a cross-section of the total public, including administrators, teachers, parents and students, should be involved. In the Pearl River (New York) School District, whose budget was defeated in 1968, the school board appointed twenty-five citizens to serve as an advisory committee.
PPBS in School Media Centers

The committee consisted of a cross section of the community and included some of the most outspoken critics of past budgets. Unlike previous citizen advisory committees, this committee began during the initial stages of budget preparation. During their review of prior years' budgets, the committee repeatedly expressed frustration over the lack of relevance of expenditures to the educational program. It was at this point that PPBS was presented to the Budget Advisory Committee. Initially, there was some apprehension by the committee that the adoption of a new budgeting system might further confuse an already complex area. But there was agreement that PPBS promised more relevant and detailed data. Therefore, the Budget Advisory Committee endorsed the PPBS concept and immediately began developing its plan of action.

Major programs—e.g., language arts, social studies and physical education—were reviewed by the entire committee; other program memoranda were evaluated by sub-committees and findings were presented in written reports to the entire committee as a basis for the final recommendations to the Board of Education for a K-12 program budget. Separate written recommendations were submitted at the same time by the administration. The two reports proved to be comparable, with minor exceptions, and a final budget was prepared for presentation to the public. With members of the committee able to explain the proposed expenditures in relation to educational objectives, the vote resulted in "the greatest margin of 'yes' votes [67 percent] in the recent history of school budget elections."

Goals must be based on community concerns and aims, and priorities must be established for the final selection of the goals and objectives to be implemented. To prevent proposing "the impossible," specific, measurable objectives with (1) stipulated acceptable standards of performance, (2) criteria for measuring the success achieved, and (3) deadlines for achievement must be developed in relation to the students, the teachers and the resources of the school district.

With priorities established, current programs must be analyzed to determine discrepancies between present outcomes and stated goals and objectives. Feasible alternative programs and activities must be identified and evaluated through cost-effectiveness analysis and research studies. Questions such as the following would be pertinent: How much is it costing to run the present tape recording program? How much would it cost to improve it by adding more tapes, more recorders, and more listening stations? What would be the cost of the
LUCILE HATCH AND RALPH A. FORSYTHE

substitution of a dial-access system? Which dial-access system, A, B, or C, would provide the level of services required at the most reasonable cost?; What are the relative merits of a centralized processing system? Could the same or better results be obtained by contracting for service from another library? If so, what are the relative costs? Would service be improved and costs pared by setting up a cooperative processing center with two or three other school districts? Could such a center obtain individuals with the appropriate knowledge and skills at cost-effective salaries to staff the operation? Would catalog cards prepared by a commercial cataloging agency be acceptable? If so, can the company provide the stipulated percentage of the cards needed within an acceptable time limit at a lower cost than the district can by doing its own cataloging?

As such questions are pondered, current programs must be revised to make them more proficient and new plans designed to fulfill identified unmet needs. This may well necessitate a staff in-service program to develop the requisite problem-solving skills and the ability to use rational analysis in the determination of appropriate ways of achieving the district's educational goals efficiently and economically.

Once programs and activities have been selected and designed, media resources and services can be allocated to each unit according to its priority. Purchase of appropriate media and the necessary supportive media equipment; duplication of demand materials; and allocation of staff to individual, small-group and large-group services become mandatory as the media center establishes its role as an integral component in the accomplishment of district goals and objectives.

Concurrently with the identification, analysis, evaluation and selection of programs and activities, program accounting and budgeting procedures must be developed by the district. If PPBS is to succeed, a constant input of data on the costs of services, staffing, resources and facilities must be available for each proposed program. So extensive is this need for a variety of statistical data that PPBS systems were not possible until the advent of computers and of program evaluation and review techniques. As Wilsey and Schroeder point out: "The development of knowledge and skills in program accounting and in the field of computer utilization, or the application of electronic data processing to the school setting, is essential if the necessary cost data are to be generated. The quantities of data required by PPBS dictate some degree of automation even for the smaller district."12

The Program Evaluation and Review Technique (PERT) was used to determine and guide the thirty-five steps needed to implement the
program budget created for School District 68 in Skokie, Illinois.\textsuperscript{13} Integral to the system was the use of the computer in ten of the thirty-five steps.

As a result of this procedure, the library program became the eighth largest item in a 48-item budget, with an allocation of 3.08 percent of the budget. Five of the seven items that received a larger appropriation were connected with administration or buildings and grounds: building construction and improvement (32.33 percent), debt service (8.39 percent), land acquisition and use (6.51 percent), plant operations (6.40 percent), and general administration (4.20 percent). Only reading (4.16 percent) and mathematics (3.38 percent) in the curricular area exceeded the allocation for library services.\textsuperscript{13}

Much work remains to be done to complete District 68's PPBS. Still needed are (1) a better program outline, which will follow after more detailed objectives have been established; (2) more time devoted to planning with special attention to long-term and alternative plans; (3) more techniques for cost accountability so that the same technique used for measurement of cost application can be used to allocate resources; and (4) program analyses and cost-effectiveness studies to determine the best allocation of resources when weighed against the benefits.\textsuperscript{14}

"While much remains to be done in Skokie District 68, the limited application has been a valuable and refreshing experience in school budgeting. We now know, more accurately than ever before, what it is we are trying to accomplish, and how much we are spending in the attempt."\textsuperscript{15}

Kent concludes his report by saying that the district now has a tool to measure the cost of various pursuits and to weigh the benefits against the costs. Already several individual programs have been selected for detailed study, and useful results have been obtained as a basis for further study and experimentation.

The final and most important step is the evaluation of achievement in relation to the goals and objectives for students, faculty and the school district as a whole. What objectives were achieved at the level deemed acceptable? What objectives were not met? Was the failure partial or whole? Why? Was the objective unrealistic in terms of the staff and facilities available? Did the media center undertake to schedule all classes wishing to use the center when it has space for only one or two classes at a time? Did it promise to provide individual reference service for each class scheduled when the staff consists of only one full-time professional media specialist? Or did the objective prove invalid and/or lose its priority as the year progressed so that the
media center simply did not attempt to implement it? Evaluation of the relative effect of various influences—staffing, resources, facilities, time—on the achievement of objectives is still in a very primitive stage and will require, in most districts, development of staff capability in the art of evaluation before this vital step in PPBS is fully implemented. Needless to say, until the program can be properly monitored and the results truly assessed, PPBS will not reach its maximum potential for improving the quality of the learning experience.

With the evaluation complete, a report must be made to the public. Then the whole process begins again, based this time on the additional inputs of the past year's experiences, successes and failures. Goals and objectives are revised and refined in light of new knowledge. Activities and programs are redefined and restructured. The PERT chart is redrawn to reflect a more realistic time sequence. Staff are instructed in the skills of planning, programming and evaluation.

Many articles dealing with PPBS can be cited from the educational literature but, in fact, PPBS as an accounting practice is still just in its infancy. Only a few districts have seriously tried to implement the total process for, as Weiss says in his article, "PPBS in Education," many feel that "PPBS requires too much computation, form filling, data processing, and paper shuffling—all at great expense." In states where an accountability act has been passed, progress towards its accomplishment has been slow because, according to Weiss, doubters and detractors feel that:

1. It is impossible and undesirable to force everyone in the district to agree on goals and values.
2. The school board will not understand the system and will therefore reject it as a viable approach to school district budgeting.
3. Formal planning stifles creativity and innovation.
4. Many good educational results are unmeasurable.
5. There is not enough community (or student, or teacher) involvement.

For each of these objections Weiss has an answer. He concludes with this summary:

Public school planning and budgeting should be evaluated on criteria of responsiveness and effectiveness. Without the major elements of PPBS, it is impossible for the decision makers in any school to respond systematically to any need or influence, and, further, impossible for them to decide whether the schools have
PPBS in School Media Centers

been effective in achieving any of their purposes. If administrators, teachers, and parents believe their own homilies about the mission of the schools, then they must, logically, advocate planning reform.\textsuperscript{17}

Although the literature abounds with references to accountability in the schools, little has been said about the role of the media center in assisting the school to achieve its goals. Examples given of how accountability might be achieved usually relate to language arts or the social sciences. However, a few articles have appeared recently in library journals which touch in general terms on this new approach to budgeting.

William Summers says that performance budgeting in anything like a pure form never caught on very widely in libraries because it is very costly to switch to a performance budget, and the process of auditing is substantially complicated. He found, in talking to librarians who had tried PPBS, that formulation of satisfactory objectives had proved very difficult and that the staff lacked the requisite skills in evaluation that are so important to the effectiveness of PPBS. The great advantage to libraries, he concluded, was that departments would quickly learn that they cannot operate in isolation from one another.\textsuperscript{18}

Diana Lembo, in “Approaches to Accountability,” states that it is vital in the implementation of a PPBS design for the school administrator to recognize the value of having the media specialist participate fully in (1) the overall planning of the educational goals for the school, (2) each program array—whether by grade or by subject area—to integrate the media center’s supportive services, (3) the development of alternative methods of allocating resources, (4) the actual program budgeting, and (5) the final evaluation and reporting to the public. Despite the adoption of program budgeting, however, the media specialist may find it necessary to also utilize fiscal budgets for “the operation of the media center administrative unit to control overlapping among the services to each program array.”\textsuperscript{19}

Jane Hannigan presents thirteen “programmatic units” among which priorities may be designated for a PPBS design. She believes that “it would be most advisable to institute within each building a requirement that the media program be submitted in terms of PPBS or a parallel systems approach,”\textsuperscript{20} but she wisely cautions that:

it is essential to realize that personnel reflect a variety of talents, people who have strengths and weaknesses. Some personnel in media centers are capable of instituting a PPBS approach and successfully reporting. Others will find it strenuous and difficult.
LUCILE HATCH AND RALPH A. FORSYTHE

Still others will find it totally insurmountable. In some instances it will be better to refrain from assigning responsibilities and expecting performance in areas for which a staff member has no training or experience which authority suggests he should have. Above all else, it is essential that the child is not penalized due to the ineptitude of the human resources within a given system.20

"There are many aspects to be taken into consideration when shaping programs for school media centers—educational, demographic, organizational, and legal," states Robert Wedgeworth.21 He believes a model for such plans should contain a combination of each of the following aspects:

1. the most effective combination of programs and services to support the general educational program and to provide for individual learning experiences at the appropriate level;
2. trends in school population (size, age, family composition, and characteristics) and other change-producing influences;
3. forecasts of the availability and level of funding sources;
4. alternate program combinations depending on the availability of funds, personnel, equipment, etc.;
5. controls on programs and services which provide the means for evaluating the costs and benefits at regular intervals; and
6. a clientele (e.g., teachers and principals) at both the building level and the district level who are convinced of the value of the program and will support it.

James Liesener, in "The Development of a Planning Process for Media Programs," has reacted to the "facts" and principles outlined above by formulating nine very concrete steps designed specifically for the media specialist faced with the need or the desire to implement a PPBS design. The process, developed with the cooperation of the Maryland State Department of Education, Division of Library Development and Services; the Montgomery County Public Schools; and the School of Library and Information Services, University of Maryland, is clear, easy to understand, and appropriate to the needs of the media specialist, who recognizes that accountability-conscious administrators and school boards will require systematic, rational, responsive media programs with adequate documentation of what was done, why it was done, and what resources and services were required. For each step the objective is defined, and suitable techniques are described along with an explanation of results that may be expected.22
PPBS in School Media Centers

To supplement *A Systematic Planning Process for School Media Programs,* Liesener has prepared a very practical instrument packet which includes: (1) an Inventory of School Library/Media Center Services, (2) a Form for Determining Preferences for School Library/Media Center Services, (3) a School Library/Media Program Data Collection Guide, and (4) a School Library/Media Program Costing Matrix. With the book and the instrument packet, any media specialist can play a very dominant role in a school district’s PPBS program.

PPBS, as far as school media centers are concerned, is a concept whose time has not yet arrived for the great majority of school districts in the United States. It is, however, a vital idea that is growing rapidly. Not only have the tools (computers, PERT charts, and a variety of PPBS designs) for successful planning, programming, budgeting and evaluating now been provided for the school administrator and the media specialist, but the public is beginning to demand a logical, rational, workable approach to evaluating the learning experience of its children in relationship to society’s goals and objectives and the financial expenditures involved. If media specialists believe that the media program is vital to the achievement of the district’s educational goals, then each and every media specialist must be intimately involved with every aspect of whatever PPBS design the district adopts.

References

12. Wilsey and Schroeder, op. cit., p. 11.
15. Ibid., p. 90.
17. Ibid., p. 27.

Additional References

