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ABSTRACT

This executive summary highlights key elements of a paper produced by the National Center for Research in Vocational Education for persons interested in maximizing benefits from research and development in vocational education. This summary describes the legislative background, conceptual model, essential framework, and operational guidelines for a state-managed vocational education program improvement system. One state, Illinois, is used to illustrate the program improvement function through the research coordinating unit. The concepts in the paper may take various forms of relationships and procedures within a particular state governance structure, but the concepts of priority development, research and planning, development and testing, and diffusion/implementation are considered essential to a comprehensive program improvement framework. (Author/BM)

Information Series No. 192

MANAGING PROGRAM IMPROVEMENT: ONE STATE'S APPROACH

Executive Summary

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- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

FOREWORD

Program improvement in vocational education calls for timely investments in research and development activities in response to identified needs. Key elements in this complex process must be carefully orchestrated for efficient and effective use of resources. One state's approach to the development and operation of a research coordinating unit is described in this paper. This model depicts program improvement as a continuous process involving such activities as priority determination, research, product development and testing, diffusion, implementation, and impact assessment. Although this model may not fit into the management framework of every state, the key elements should be found in each state's program improvement operations. The author, Ronald D. McCage, has also provided a useful interpretation of existing legislative mandates in vocational education. This one state's response to legislative mandates represents a valuable contribution to our knowledge of program improvement processes.

The concepts in this summary have been excerpted from a more extensive technical paper. The paper contains additional information on the legislative mandates, program improvement continuum, guides for writing and evaluating proposals, and final report/abstract formats. The technical paper has been submitted to the Educational Resources Information Center (ERIC) under the same title as this summary.

We appreciate reviews of the draft document by Charles Hopkins, Assistant Director for Supportive Services, Oklahoma State Department of Vocational Technical Education; Charles Mojkowski, Educational Consulting Services; and Floyd McKinney, Program Director, National Center. We are indebted to Brenda MacKay and William Hull for their editorial assistance and advice provided in the development of this paper.

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Legislative Background

Legislation for the support of vocational education is a good example of Congressional concern for solving problems. In fact, vocational education legislation has been one of the major vehicles used by Congress to address new and emerging social issues. The Smith-Hughes Act of 1917 utilized vocational education as a method of retraining and rehabilitating the general population as well as veterans returning from World War I. The Vocational Education Act of 1963 encouraged the funding of training programs based on serving the individual needs of people as opposed to the prior emphasis which provided funds for the support of selected categorical programs. In this Act, Congress provided funds for a research coordinating unit (RCU) in each state to conduct research and development activities to improve and upgrade programs in the field.

In 1967, the implementation of the Vocational Education Act was reviewed and evaluated. Congress was displeased to learn that the social issues implied in the 1963 Act had not been addressed to the degree intended. The same basic programs had continued to receive support in a manner similar to the pre-1963 era. One bright spot in the Congressional review was the successful implementation of the research coordinating unit concept. Consequently, in passing the 1968 Amendments to the 1963 Vocational Education Act, Congress made the RCU a permanent part of the states' program for vocational education program improvement. In addition, Congress also included line item categories for curriculum development and exemplary programs.

Prior to amending vocational education legislation in 1976, the Congress conducted extensive oversight hearings to determine the strengths and weaknesses of the 1968 provisions. Simultaneously, no less than four major studies were conducted to determine the effectivess of the $250,000,000 that had been expended for research and development activities at the state and federal levels since 1965.

The most significant of these studies was the two-year study by the Committee on Vocational Education Research and Development (COVERD) under the auspices of the National Academy of Sciences. Major COVERD conclusions and recommendations were parallel to the general provisions

contained in Subpart 3, Program Improvement and Supportive Services of the Education Amendments of 1976, PL 94-482.

Significant findings of the COVERD committee, which include but are not limited to the following, are:

1. *COVERD included all aspects of Part C—Research (federal and state shares), Part D—Exemplary and Innovative Programs (federal and state shares), and Part I—Curriculum Development (federal only) in its definition of research and development.* COVERD charged that these programs had been conducted in isolation from each other, they had been operated without a sound set of long-range priorities, and no comprehensive model or plan was used for their management. Public Law 94-482 responded by eliminating the categorical line items in the 1968 Amendments and by consolidating research, exemplary and innovative programs, curriculum development, guidance and counseling, personnel development, and grants for elimination of sex bias and sex role stereotyping under Subpart 3—Program Improvement and Supportive Services. The Act further specified that program improvement, which was legislatively defined as research, exemplary and innovative programs, and curriculum development, would be coordinated by a research coordinating unit. At a minimum, the Comprehensive Plan for Program Improvement would contain the structure of the RCU, the state's priorities for program improvement, the state's method for addressing the priorities, the state's allocation of resources to each priority, and the procedures to be used for dissemination of its products and services to the local level.

2. *COVERD charged that the $250,000;000 expended for research and development during the ten-year period (1965-1975) of the 1963 Act and the 1968 Amendments had no documented evidence of significant impact at the classroom level.* Visible evidence was available, according to COVERD, but researchers and research managers had not done an adequate job of addressing it. The 1976 legislation addressed this problem by putting in two provisions which were aimed at providing greater control and accountability. The first of these provisions was the need to use contracts to accomplish objectives or to do work internally. This provision applied to both the state and federal levels. Even though the original intent was admirable, the resulting problems in implementation have made the "contract only" form of funding less than desirable at both levels of government. The second measure passed by Congress was the inclusion of an impact or use statement within the law that put certain restrictions on research and curriculum activities. This provision requires the applicant to be able to show at the proposal stage that the idea put forth has a reasonable probability for significant use in a substantial number of classrooms or learning situations within five years of the termination of the contract. The ambiguity of this statement and the lack of clarification in the Rules and Regulations has caused this provision to be less than effective. Its inclusion of the words "curriculum materials" and "instructional techniques" has caused most states to limit research activities to a curriculum thrust.

The Program Improvement Conceptual Model

Illinois has developed a method of comprehensive program improvement to respond to national priorities. This process is based on a continuum which includes research, development, and dissemination/diffusion activities designed to impact on local level programming. This continuum consists of four major phases:

(1) Priority development phase
(2) Research and planning phase
(3) Development and refinement phase
(4) Dissemination phase

The continuum is cyclical in function in that information and feedback obtained at each phase can result in revision and refinement of ongoing activities as well as provide direction to future activities. Inevitably, the feedback obtained through the dissemination phase (Phase 4) provides for the identification of new priorities to be addressed in Phase 1. This cyclical process, described in figure 1, can result in a continuing responsiveness of vocational education to the emerging priorities of local educators.

Priority Development Phase

PL 94-482 requires that all program improvement activities be based on sound priorities. It is possible to determine and respond to national and state priorities through a process that is generated from state and local data. In Illinois, for example, an abbreviated survey is distributed annually to several diverse populations: educational administrators; vocational directors and classroom teachers at the elementary, secondary, postsecondary, and university level; key administrators and staff in business, industry, and labor; and private firms in educational management research and materials development. The information obtained from the survey is supplemented, clarified, and refined through the examination of available data, review of related research, inquiries with state office staff, and input from conferences and meetings. The resulting priority listing tends to represent the real program improvement needs at the local level that can be addressed by a state agency.

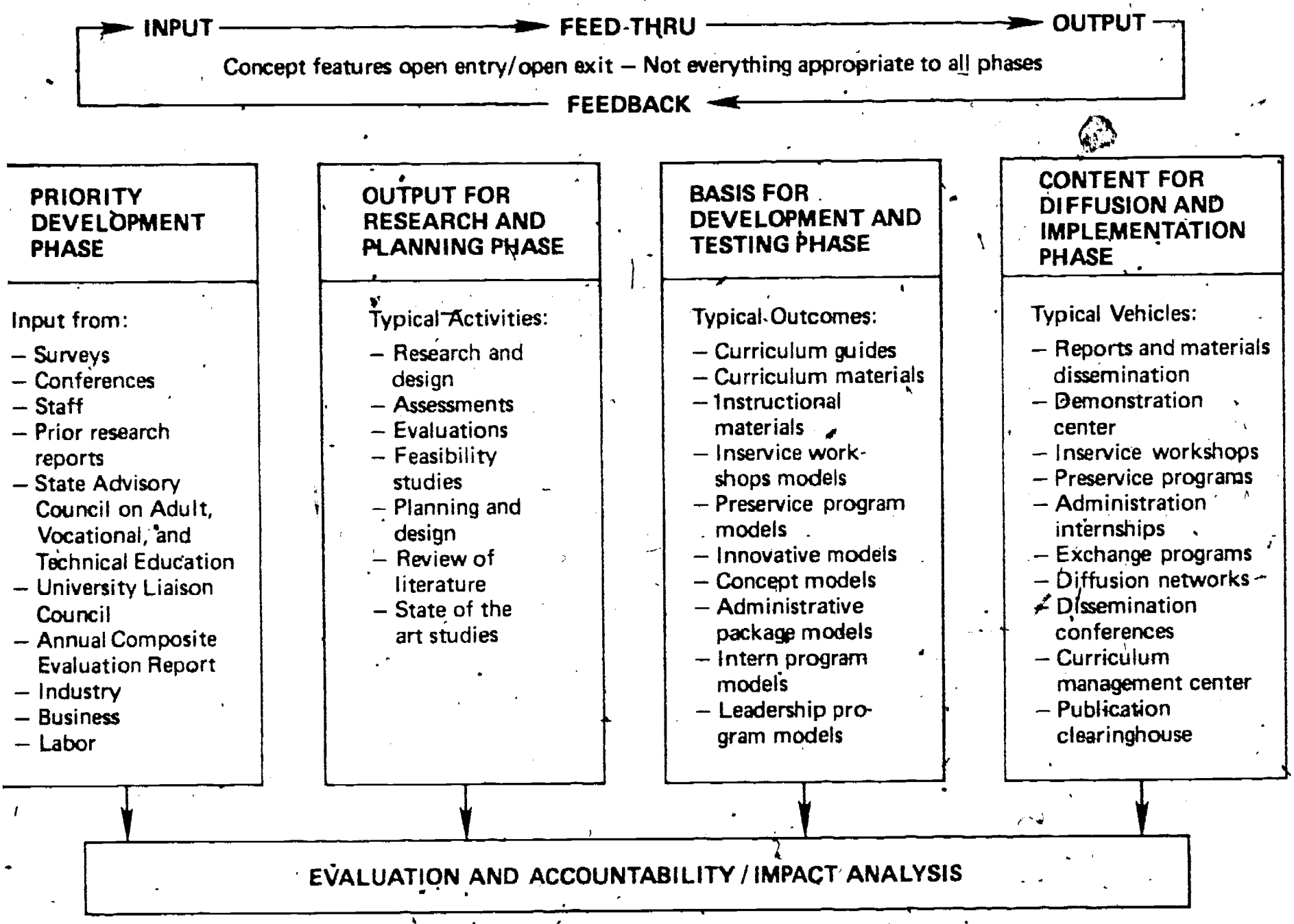
Research and Planning Phase

During this phase the state should verify that a priority is in fact a real need. This phase should center around traditional research, status assessments, evaluations, feasibility studies, and activities that are designed to determine the state of the art in a given area. Major planning and design efforts should be conducted toward the end of this phase that are based on the outcomes of the assessments and evaluations. These designs and planning efforts should serve as the basis for products or services to be developed and delivered in later phases. Diffusion strategies should be identified in this phase that will help define selected activities in the development and testing phase.

Development and Testing Phase

The development and testing phase should be dedicated to those activities necessary to produce a product and to provide a service, such as curriculum materials, program guides, instructional materials, and supportive materials for teachers, counselors, and administrators. Illinois includes developmental work toward inservice and preservice programs as a part of this phase. Exemplary and innovative programs can be demonstrated during this phase as one method of validating a concept or product.

FIGURE 1.
Program Improvement Continuum for a Vocational Education Research and Development Operation



Diffusion and Implementation Phase

Techniques used during the diffusion and implementation phase have the ultimate goal of implementation in the classroom or other learning situation. The tasks may be simple or complex, such as mailing a document or conducting inservice workshops, preservice programs, internships, exchanges, or demonstration centers. The major purpose of the diffusion phase is to provide concepts and materials to the local level with the necessary technical assistance to implement the innovation. Simultaneous preservice or inservice is necessary for internalization of the innovative concepts by staff.

Essential Framework

A. Background

In order to prepare adequate guidelines for developing a framework, the following assumptions and parameters have been established:

1. The Rules and Regulations for implementing Subpart 3, Title II of the Education Amendments of 1976 indicate that if a state chooses to conduct program improvement activities, which include Section 131 (Research), Section 132 (Exemplary and Innovative Programs), and Section 133 (Curriculum Development), they must be coordinated through the research coordinating unit (RCU). Since the Research and Development Section of the Department of Adult, Vocational, and Technical Education/Illinois State Board of Education has been designated as the Illinois RCU, this section is responsible for preparing a comprehensive plan for program improvement as part of the state's One- and Five-Year Plan. This comprehensive plan must include:
    a. Priorities for program improvement
    b. Methods to address these priorities
    c. Allocation of resources for each priority
    d. Dissemination procedures
    e. Impact indicators
2. Section 134 (Vocational Guidance and Counseling), Section 135 (Vocational Educational Personnel Training), and Section 136 (Grants to Assist in Overcoming Sex Bias) are grouped under the umbrella of Supportive Services. Legislatively there are no ties between these funds and the state RCU function, but these activities can be managed by the RCU if the state chooses.
3. In Illinois, administrative responsibility for Sections 131, 132, 133, 135, and the sex equity grants provision of Section 136 has been assigned to the RCU. Placing the funding with this section provides for utilization of already existing processes for handling grants and contractual funding agreements.
4. The State Board of Education requires the following items in funding agreements:
    a. Measurable objectives
    b. Time-specific and outcome-oriented procedures related to each objective
    c. Formative and summative evaluation processes tied to each objective and/or procedure that places a major emphasis on impact
    d. Dissemination plan
    e. Designation of job descriptions, names, and qualifications of personnel
    f. Designation of deliverables
    g. Program budget
    h. Abstracts for summary and reporting requirements

The process for developing contracts follows these steps:

a. Pre-established priorities
b. Issuance of requests for proposals (RFPs)
c. Competitive review
d. Award of a funding agreement with predetermined and prespecified outcomes.

When a contract is based on an RFP, the board contracts with an external agency to perform a service or develop a product. Most of the tasks and methods used to address the issue are part of the funding agreement, and any changes made in the tasks or methods must be accomplished through negotiations between the board and the contracted agency.

5. The Research and Development Section has been given responsibility for contracting and establishing rules and regulations for this process. The contract administrator within this section is responsible for coordinating the contracting process and insuring that all management and monitoring functions are fulfilled. This staff person is held responsible for the success or failure of the given activity.

B. Project Categories

1. A number of projects funded from Section 130 do not require a content expert/resource specialist on an ongoing basis. For these projects, the contract administrator does everything necessary to fulfill the requirements of management and monitoring.

2. Increasingly the Research and Development Section is funding projects that fall under the broad category of program improvement and deal specifically with the development of curriculum and/or instructional materials used in local schools. This category of projects places the highest demand on the board for subject matter expertise from other sections and/or outside the department. The need for this involvement is based on such considerations as type of project, stage of development, and subject matter.

3. The third category of projects is funded from other than Section 130 and involves the support and operation of programs at the local level. The Research and Development Section is responsible for the project's fiscal management, while the program management remains with the section originally responsible for the management of that source of funds.

4. The fourth category includes activities, such as career guidance centers, funded from Section 130 for which the Research and Development Section is given budget preparation responsibility, while the overall management remains with the Special Program Section.

C. Framework

From the perspective of the Research and Development Section, there are four major points in the program improvement process that require the involvement of more than one section. Specific procedures for interface have been determined for each of the four stages.

1. Priority Input and Development

   a. In August the Research and Development Section initiates the priority determination process by conducting surveys and information analysis.

b. By October 30 all sections of the Department of Adult, Vocational, and Technical Education are asked to submit prioritized needs to the Research and Development Section along with needs input from the field and other sources.

c. By November 15 the section staff analyzes and summarizes all data and returns a composite to all other section managers for review and comment.

d. By December 1 all input is returned to the section for analysis and consolidation.

e. By the second Monday in December the section staff prepares a list of priorities with documentation and presents this list at a formal meeting of the Administrative Council for acceptance and approval.

f. Given final approval, the Research and Development staff translates the priorities into activity statements for inclusion in the annual plan.

2. Request for Proposal (RFP) Development

a. By January 15 the Research and Development Section manager meets with other section managers to determine the assignments for writing requests for proposals (RFPs). These assignments are generated from topics appearing on the approved priority list.

b. By January 30 a contract administrator and a resource person are assigned to each activity with the exception of open category activities. These cannot be done at this time due to the nonspecific nature of the open category concept.

c. The section makes all final arrangements for preparation and issuance of the RFP booklets by March 15.

3. Proposal Review

a. By February 15 the Research and Development Section manager meets with the managers of other sections to discuss the need for personnel to review proposals.

b. By March 1 the managers having personnel involved in research and development project reviews assign reviewers from within their section in accordance with the categorical need agreed upon by all managers involved. In addition, section managers are asked to nominate people from the field who would make good proposal reviewers.

c. Where possible, it expedites the process if the same person originally designated as a writing resource person for a task-specific RFP is assigned to review and later monitor the project in question. This assignment philosophy is consistent with the Research and Development Section practice of a contract administrator following a project from inception to completion.

4. Project Monitoring

a. Once a contract administrator and a content specialist have been named, these individuals meet to plot the course of a given activity. Plotting the course is based on the RFP and the intent of the activity. Role and function of each person is delineated at this time.

b. Once a proposal has been selected for funding, the contract administrator and the resource person meet to agree on points to be negotiated. Once these are agreed upon, the contract administrator proceeds with the negotiations. Disputes are resolved via the chain of command prior to entering negotiations.

c. Within 30 days after a contract has been approved, the contract administrator and the resource person meet with the contracted agency to lay out a plan of action.

d. Periodically throughout the contract, meetings are held in accordance with the funding agreement and the agreed-upon plan of action. In every case the contract administrator coordinates with other staff concerning the agenda for these meetings.

e. Project personnel are advised of the relationship between internal personnel and their role in the funded activity. In all cases, unless otherwise agreed upon, the project directors and staff are advised that their official contact of the board is the contract administrator for that project.

This process is summarized in figure 2.

Guidelines for the Operation of a Program Improvement System

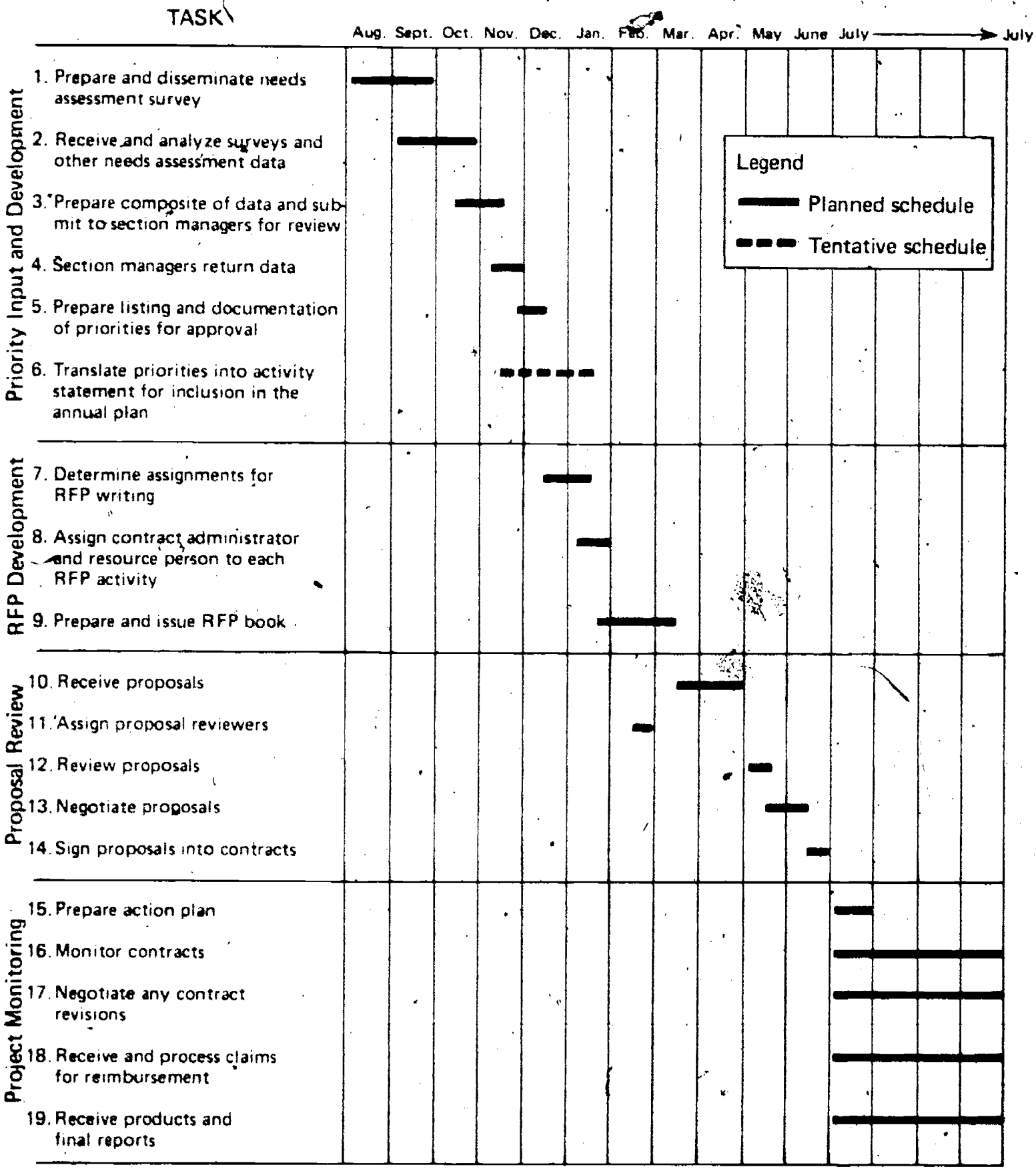
Obviously, there are several elements essential to the effective development and operation of a comprehensive program improvement system for vocational education through a research coordinating unit. The guidelines contained on the following pages are presented to states interested in developing and/or upgrading the program improvement function. The guidelines are presented in a brief and somewhat concise form so that they can be used as a review checklist. There are some key assumptions necessary to the understanding of these guidelines. It is assumed that the reader does have or will gain:

1. A thorough knowledge of all current legislation and rules and regulations that are applicable to the program improvement/research coordinating unit function in vocational education.
2. A knowledge of existing literature that is relevant to the management and operation of a research coordinating unit. The RCU should be an integral part of the state vocational education structure.
3. A philosophical or conceptual understanding of the program improvement function within a vocational education framework.
4. A conceptual understanding of the purpose of a research coordinating unit.

Given these assumptions, the following guidelines are absolutely essential to the development and operation of a comprehensive system of program improvement in vocational education:

1. Gain or have the administrative support of the state director of vocational education for the concept of program improvement. Without administrative support and involvement of key staff, the concept will fail.
2. A single unit should be responsible for coordinating all elements of the program improvement system. The current legislation calls this a research coordinating unit but this term may be outdated.
3. A state should have a conceptual base or operational model, such as research and assessment, product/service development and testing, diffusion and personnel development, etc. with assessment and evaluation mechanisms built into the operational model. This model provides for the articulation and coordination in and among the elements.

FIGURE 2.
Task/Time Framework for State Program Improvement Activities



4. Define program improvement as a comprehensive research, development, and diffusion process that is driven by a priority or state/local needs base as opposed to a collection of categorical programs such as research, curriculum, etc.

5. Have a comprehensive plan for program improvement which includes the administrative structure of the RCU, the annual priorities for program improvement activities, a description of the method for addressing these priorities, the allocation of resources by priority or need, and the various techniques to be used for dissemination and diffusion of the products as well as the methods to be used for accountability and input. Have a plan! Work the plan!

6. Develop a needs assessment process that produces sound data for identification of priorities for program improvement activities that looks at all aspects of vocational education and places a high level of emphasis on input and use of information from the practitioner at the local level as well as emphasis on traditional sources such as reports, advisory groups, and state staff.

7. Given a legislative directive for doing work internally or contracting externally, develop an equitable and fair process for soliciting and identifying those agencies that will address the state's priorities. Probably the most common competitive process is the request for proposal (RFP) process. Regardless of the process, insure that everyone involved knows the rules and that the system is operated according to the rules. An above-the-board, honestly operated system will generally be accepted and supported by the field.

8. Develop a method for evaluating activities while in progress and after completion. This process needs to be highly formalized so that the research coordinating unit is provided with accountability data for long-range impact purposes. Field testing and validation techniques should be an integral part of each activity. This evaluation and impact system should be integrated into every activity of the unit on an ongoing basis.

9. Dissemination and diffusion activities should be planned into every activity from the beginning of the activity. Without a good diffusion and dissemination process, one cannot expect to document significant impact referenced in the legislation. Make maximum use of the developers in the diffusion process. They know their product best.

10. Personnel development activities, both preservice and inservice, should be considered integral to a total program improvement concept. Not all personnel development activities can be defined as diffusion techniques, but preservice and inservice techniques can certainly be used effectively as diffusion devices.

11. Have an effective activity/project monitoring system that maximizes use of available staff and resources. Be sure the system is accountable within itself. Be sure contractual documents are outcome-based and budgeted in such a way that financial accountability can be established through auditing.

12. Have a system for the integration of other agency staff into the program improvement process. Maximize the use of resource people in their area of expertise using RCU staff as facilitators of the process.

13. Use local people to the greatest extent possible. They are where the action is. They are on the cutting edge and know the problems first. They are also the best barometers of whether something will work or not.

14. Have a well-balanced staff in terms of expertise, equity, etc. Assign responsibilities to staff and let them operate.

15. Be a risk taker. Nothing innovative will ever occur unless you are willing to stick your neck out.