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ABSTRACT

A 4-phase study was conducted to provide an objective third-party assessment of the effectiveness of research and development (R. & D.) projects supported by the Research and Development Unit (RDU) of the Illinois Division of Vocational and Technical Education. Activities during the four phases consisted of: (1) a preliminary review to obtain descriptive information on more than 50 completed projects supported by the RDU since 1966, (2) development of a questionnaire based on findings from the preliminary review and designed to obtain information on project activities, (3) dissemination of the questionnaire to 121 known R & D project directors and on-site visits and interviews with 13 selected sample projects, and (4) data analysis, with particular attention paid to the effectiveness of the organizational and human relationships established with recipients of financial support by the RDU. Some conclusions were: (1) The greatest impact of R & D seems to be at the local level where schools, school districts, colleges and universities have become involved in the research process, (2) Little action has been taken to assist participating institutions prepare for and implement needed change, and (3) New research priorities suggest increased emphasis is being placed on career education, developing occupational programs for new and emerging technologies, and innovative techniques and delivery systems for occupational education. (SB)

Review and Assessment of the

IMPACT ON OCCUPATIONAL EDUCATION RESULTING FROM RESEARCH AND DEVELOPMENTAL ACTIVITIES

Supported by
The Division of Vocational and Technical Education – Illinois

REVIEW AND ASSESSMENT OF THE IMPACT ON OCCUPATIONAL EDUCATION RESULTING FROM THE RESEARCH AND DEVELOPMENT ACTIVITIES SUPPORTED BY THE DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION OF ILLINOIS

PROJECT RDC-A2-078

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The Research reported herein was performed pursuant to a contract with the State of Illinois, Board of Vocational Education and Rehabilitation, Division of Vocational and Technical Education, Research and Development Unit. Contractors undertaking projects under such sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Board of Vocational Education and Rehabilitation position or policy.

STATE OF ILLINOIS
BOARD OF VOCATIONAL EDUCATION AND REHABILITATION
DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION
RESEARCH AND DEVELOPMENT UNIT

PREFACE

The purpose of this study is to provide an objective third-party assessment of the effectiveness of research and development (R and D) projects supported by the Research and Development Unit (RDU) of the Illinois Division of Vocational and Technical Education (DVTE). Consequently, this initial study provided a number of new and challenging research and evaluation problems. First, because there was no previous statewide data base with which to make comparisons in Illinois (or from other states), how was the progress or the impact of R and D on occupational education in the State to be gauged? Second, given the limited time and financial resources allocated to this study, what data sources and information collection methods would reveal the best indication of the impact of R and D? Third, how could the influence of the evaluation process be minimized to reduce any threat that project directors and staff members might feel that would cause them to disguise the problems they were having or had experienced during the conduct of their projects?

From the viewpoint of Tadlock Associates Inc. (TAI), most of these problems were satisfactorily resolved in the study design that was finally employed. The RDU cooperated fully in helping TAI establish liaison with project directors of the projects that were selected for on-site visits and interviews. Furthermore, RDU staff members accompanied the TAI study team on various on-site visits as observers to obtain direct evaluation feedback from projects. TAI made certain all project personnel interviewed had ample opportunity to discuss in private any issues related to their projects.

The problem of which projects to use for on-site visits was resolved by the selection of a 10 percent sample of all projects that had been supported by the RDU between FY 1966 and 1972. The sample selected by TAI for on-site visits covered approximately 43 percent of total DVTE expenditures for R and D for the seven year period and included projects from each of the principal priority areas for R and D established by the DVTE. Additional evaluation information on the impact of R and D activities

supported by the DVTE was obtained through a combination of methods that included an office audit of project records and files, a review of final reports from completed projects, personal interviews, and the use of a printed questionnaire mailed to all project directors who had received financial support from the RDU since FY 1966.

During the course of the study, TAI established communications with the staff of the RDU through written progress reports and periodic meetings in Springfield. In addition, continuous informal communications were maintained with individual RDU staff members. Finally, a brief oral report was made to the Director and Assistant Director of the DVTE and the Coordinator of the RDU after all on-site visits were completed.

It is noteworthy that after this study was initiated the leadership of the RDU changed; the Coordinator resigned and the Assistant Coordinator was appointed to that position. The change was made without any effect on the progress or outcome of the study.

It is important to understand that the focus of this third-party assessment was the impact of R and D supported by the DVTE and administered by the RDU. It is not a simple matter to separate the two when attempting to assess the effectiveness of RDU operations or procedures because the RDU must operate within the policy and administrative guidelines established by the DVTE. Therefore, in this report many of the findings, conclusions, and recommendations are applicable to the DVTE as much as they are to the RDU.

This written report constitutes the final phase of the third-party evaluation. Throughout the report are TAI editorial comments identified as such. This reporting format was used because TAI considered it the most effective way of presenting its assessment of the various topics covered in the study.

Acknowledgements

The number of persons, project directors and project staff members who cooperated with and assisted the TAI study team during on-site visits is indicated in Appendix C. In all cases project directors were generous with their time and extremely candid. TAI is appreciative of their assistance.

During the study, John Washburn and Leroy Jordan, Consultants in the Research and Development Unit, accompanied TAI during on-site visits to sample projects. TAI is appreciative of their assistance in making arrangements. Robert K. Gray, the former Coordinator of the RDU, was most helpful in getting the study initiated and Ronald D. McCage, his successor as Coordinator of the RDU, was equally helpful in providing assistance and information during all phases of the study.

Finally, TAI is appreciative of the support given to this study by Sherwood Dees, Director of the DVTE, and by Roy McDermott, Assistant Director.

Fred Carvell was project director. Kirk Draheim was chief investigator and coordinator of field studies. This report was co-authored by them. Joan Carvell provided statistical analysis and editorial assistance for the final report. Mary Moran assisted in tabulation and analysis of the TAI questionnaire. Jana Ritchie provided typing and clerical assistance and Margaret Mick was responsible for the organization and final report production.

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I STUDY BACKGROUND, OBJECTIVES, AND METHODOLOGY

Although called by a different name before 1969, the Unit responsible for administering funds for research and development in Illinois was established in 1965. The present Unit is part of the Division of Vocational and Technical Education (DVTE) and is called the Research and Development Unit (RDU). Since 1965 more than $5 million of R and D funds have been allocated and administered by the RDU for over 120 research projects.

Approximately 85 percent of the projects supported by the DVTE since 1965 have been completed and the results are available. This makes it propitious to have an objective assessment of the pattern of research and the operations of the RDU at this time. The DVTE administration recognized this need and sought the consulting and research services of a third-party evaluator. Tadlock Associates Inc. (TAI) was selected as the evaluator and was commissioned to help identify the strengths and weaknesses of past and present operations and to suggest guidelines for future support in research and development (R and D) activities that are consonant with State and Federal priorities.

Study Objectives

As part of the third-party assessment of R and D in Illinois, TAI met early in the study with the Coordinator of the RDU and other staff members of the DVTE to confirm the objectives and methodology of the study. The following five objectives for the third-party assessment of R and D funding in Illinois were mutually agreed upon and became the focus of TAI study efforts.

1. To assess the impact of research and development activities at the local, state, and federal level--within the State of Illinois
2. To determine the degree to which the Research and Development Unit of the DVTE is assisting participating educational institutions to prepare for and implement needed change through the activities it supports

3. To identify the pattern of change taking place in occupational education as a result of research and development activities supported by the DVTE

4. To identify the relationship between local support, program change, and policy direction resulting from R and D activities supported by the DVTE

5. To assess the approval process for R and D activities used by the Research and Development Unit of the DVTE.

Procedures of Implementation and Study Methods

Based on the study objectives mentioned above, the following steps and procedures to gather and analyze evaluative and descriptive data were initiated by TAI as part of the study design.

Study Design

The study was conducted in four phases.

Phase I: Preliminary investigation was made of background, development, and modes of operation of the Research and Development Unit. During this phase descriptive information was sought on the number, type, and size of individual projects that have been supported by the Research and Development Unit since 1966.

Phase II: Appropriate instruments and data gathering procedures, as prescribed by the descriptive information obtained in the first study phase were designed. During this phase the stratified sample was selected. This sample included those to which the instruments were administered and those selected for on-site visits to be made by TAI.

The instruments used for data collection by TAI were mailed to all recipients that received DVTE R and D support since 1965. Approximately 10 percent of the institutions and agencies receiving contracts were included in the on-site visitation schedule. Four basic criteria were used by TAI in selecting a

stratified sample for on-site visits--type of institution, nature of program being funded, level of funding, and geographic location of recipient within the State.

Phase III: Data collection began with the administration of mailed questionnaires to all institutions receiving contracts since 1965 and the on-site visits by TAI to selected programs that were in operation during the study period.

Phase IV: The findings from the preceding study phases were analyzed by TAI and quantitative and qualitative evaluation criteria were applied to the overall operations of the Research and Development Unit. As appropriate, analysis of data included use of such management techniques as cost-benefit analysis. However, particular attention was paid to the effectiveness of the organizational and human relationships established with recipients of financial support by the Research and Development Unit.

Data Collection Methods and Responses

Once the four study phases were determined, TAI established liaison with the Coordinator of the RDU.

TAI Comment: The person who was the RDU Coordinator when this study was initiated left the Unit during Phase II. TAI then established liaison with the Assistant Coordinator who subsequently became the Coordinator of the RDU. No changes in study objectives, scope, or methodology occurred as a result of the change in leadership of the RDU.

TAI engaged in the following data collection activities. The designated levels of coverage obtained for each activity are shown where applicable.

1. A desk review was made of more than 50 final reports and supporting records for completed projects between 1966 and 1972 which were on file with the RDU in its

Springfield office. This review covered about two-thirds of the completed projects funded by the RDU since 1966.

2. A questionnaire aimed at obtaining information from project directors on project activities was designed by TAI. (See Appendix A for a facsimile of the instrument and the cover letter.) The RDU cooperated in the dissemination of the questionnaire by mailing 121 copies to all known project directors who had been involved with R and D projects between 1966 and the last week of April 1972. A self-addressed, stamped envelope accompanied the questionnaire so that the completed instrument could be mailed directly to TAI offices in California.

   Usable responses to the questionnaire were received from 66, or 54.5 percent of the project directors. Responses from these projects represented 73.1 percent of the total R and D funds allocated by the RDU during the seven year period covered by this study. This means that most major projects, in terms of level of funding, were included in the survey responses. (See Appendix B for a list of all projects from which questionnaire responses were received by TAI.

3. TAI conducted personal visits and interviews with 13 selected sample projects. Six of these on-site visits were conducted with projects that were still in progress (at the time of the visit) and seven visits were with project directors of completed projects. In order to obtain the maximum coverage of project funding, TAI selected the on-site sample from projects funded for two or more years, receiving more than $10,000 and initiated or completed since 1969. Data from one major project was obtained by TAI even though the last year of R and D funding was 1967 because the program has been

subsequently implemented by several school districts. (The list of projects covered by on-site visits and personal interviews appears in Appendix C.)

The funding covered by on-site project visits represented 43.7 percent of the total funding of $5.2 million for R and D projects between 1966 and 1972.

4. The TAI study team held a series of conferences and meetings with the staff of the RDU during the course of the study. During these periodic meetings, findings and analyses of findings were related to the RDU staff so that they could be used for planning and for making needed operational changes. A summary staff conference was held in June 1972 with the Director and Assistant Director of the DVTE, the Coordinator of the RDU, and the TAI study team so that TAI could obtain an interpretation of organizational priorities for R and D projects and so that TAI could relate the key study findings of its study.

Limitations and Special Considerations of the Study

The research study conducted by TAI covered an evaluation and third-party assessment of the research and developmental and the exemplary activities sponsored by the RDU of the DVTE in Illinois since 1965. The focus of the study was directed toward projects funded under Part C of the VEA; however, programs funded under Part D or other sections of the Vocational Education Act as amended 1968 were included as necessary. Included in the third-party assessment are programs and projects that have been completed since 1965 and those still in progress.

As a final point, the reader should understand that although a considerable amount of detailed information was gathered from individual R and D projects covered by on-site visits, only aggregate data are used in this report. Individual data are identified only where they illustrate or support a major finding. The primary purpose of this study was

to analyze statewide patterns and practices as part of the overall assessment of the effectiveness of R and D activities in Illinois. It was not intended as an effort to reveal or evaluate individual results on any given R and D project.

Formal progress reports were submitted to the RDU during the course of this study.

Organization of This Report

The remaining chapters of this report contain aggregate data upon which TAI drew conclusions and formulated recommendations. Because some of the data gathered during the study were confidential, statistical data for individual R and D projects are seldom cited, except where appropriate. TAI editorial comments appear in each chapter where the study team deemed it important to clarify its interpretation of the findings.

Chapter II is a summary of the major study findings and key recommendations of TAI. Chapter III contains a synthesis of the goals, organization, and activities of the RDU; Chapter IV is an assessment of the RDU by project directors of R and D projects; Chapter V is an analysis of R and D project funding and performance characteristics; and Chapter VI gauges the impact of the DVTE R and D support in Illinois.

II SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter contains a summary of the key findings as they relate to the study objectives listed in Chapter I. Thirty such findings appear in the next section. They are listed and referenced by chapters in this report so that further discussion on each finding can be readily found.

Following the key findings are some of TAI's third-party observations and conclusions regarding the study objectives and general findings. The final section of this chapter containes TAI general recommendations.

Summary of Key Findings

The following findings are supported by evidence presented in Chapter III.

1. The original goal statement and general objectives for the RDU have not been formally revised and published since 1967.
2. The major activities of the RDU have created a workload which is heavily oriented toward paperwork and internal activities as opposed to field work and personal contacts with project personnel.
3. The proportion of RDU staff time devoted to monitoring of projects and field visits has decreased during the past operating year.
4. The priority areas established by the DVTE in 1972-73 for accepting and funding R and D projects are not clearly related to the priority areas used for screening project proposals in former years. Therefore, some confusion exists as to the relationship between new and older research priorities among educators who are interested in submitting proposals.

5. The RDU has attempted to solicit the ideas and opinions of educators in the State in establishing research priorities, but little input was solicited from employers or persons outside the educational community.

6. The proposal screening and approval process in the DVTE has taken considerably more time in recent years. The average elapsed time to process a project proposal through approval was 9.1 days in 1970. In 1972, this had increased to an average of 45.0 days.

7. Project directors were generally satisfied with the assistance the RDU staff members had given them during the duration of their projects.

8. Dissemination of research by the RDU can be classified into three broad categories: base data on local, state, and national trends; project results; and statistical analysis of projects funded. Activity in the dissemination of information in all three of these areas needs to be increased by the RDU and other DVTE units.

9. Project files of the RDU are not presently organized so that all project information on an individual project is stored in a single location in the central RDU office.

10. The RDU has taken initial action in compiling an inventory of research resources within the State.

11. Working relations among the staff of the RDU seem amicable and efficient. Work loads generally have been evenly distributed among the staff. The vacant professional position in the unit needs to be filled as soon as qualified personnel can be found, thus reducing the individual workloads of the RDU staff.

12. Implementation of the results of some projects may be impeded due to lack of continuous communications and coordination activity between the RDU and other DVTE operating units.

13. The past relationship between the RDU and the regional office of the U.S. Office of Education has been limited largely to project contractual matters.

The following findings are supported by evidence presented in Chapter IV.

14. Generally, overall project funding has been sufficient to meet the requirements and objectives of the R and D projects supported by the RDU.

15. Project directors expressed strong concerns about certain aspects of project funding procedures, such as the delay between project approval and the receipt of funds and the lack of flexibility for changing line item allocations within the overall project budget.

16. Project directors indicated that they had not encountered any problems in closure of their projects with the RDU.

The following findings are supported by evidence presented in Chapter V.

17. A total of $5.2 million was allocated by the DVTE to fund R and D projects in Illinois between FY 1966 and 1972.

18. The strongest funding emphasis of projects has been in the areas of vocational education program development, curriculum development, and guidance and counseling programs.

19. The average size of projects funded by the RDU has increased from $15,751 in 1966 to $42,745 in 1972. The median has increased from $7,547 to about $20,000. Fewer small projects are now being funded and more large ones are being awarded.

20. Generally, the pattern of funding of large projects (over $100,000) has been geographically dispersed; allocated to various areas of emphasis (a variety of topics), performed by a number of secondary and post-secondary institutions, and spread over all fiscal years since 1966.

21. Funding of new projects, as opposed to continued funding, has ranged between 14.7 percent in 1967 and 39.8 percent of the annual R and D budget in 1971.

22. Nearly 25 percent of the project directors responding to the TAI questionnaire did not believe that all project objectives had been met.

23. Failure to meet stated objectives was related to three principal problems; lack of technical expertise, inadequate project staff, and lack of necessary support for the project by teachers, students, parents, etc.

The following findings are supported by evidence presented in Chapter VI.

24. Generally, project directors believed that R and D supported by the RDU addressed itself to the needs of the state, schools and school districts, students, and teachers. There was slightly less agreement that R and D activities met the needs of local communities. The extent (about 25 percent) of project directors not knowing whether R and D was meeting needs of any of the above indicates the requirement for better communications between the RDU and R and D project personnel.

25. The impact of R and D on local communities is significant where post-secondary institutions are located. The highest levels of funding occurred in counties with the highest student enrollments in secondary and elementary schools.

26. Post-secondary institutions have received about one-third of the total DVTE R and D budget in Illinois since 1966. A shift in the pattern of R and D funding of major universities within the State has occurred.

27. Local support for R and D projects has increased from 28.3 percent of project costs in 1966 to 42.4 percent in 1971.

28. The direct impact of R and D projects has been limited in many cases to those students enrolled in schools where experimental or demonstration projects have been funded. Several projects have been continued after R and D funding was concluded, thus providing examples that more students than those enrolled during the project period benefited.

29. Increased emphasis on Career Education is expected to influence the impact of R and D on both teachers and students.

30. In general, project directors believe that R and D has had a positive impact on teachers in the area of instructional techniques, improved guidance and counseling methods, new curricula, and improved understanding of students.

Conclusions as to the Effectiveness of RDU Activities

The 30 key findings previously outlined indicate some of the operational and procedural strengths and weaknesses of the RDU. As such, they are important factors in considering recommendations. A broader assessment, however, of the R and D function was called for in this study--an objective third-party evaluation of the degree of impact the RDU has had on various educational institutions, school districts, communities, and organizations within the State.

Although the degree of success the RDU has had is open to different interpretations, TAI based the following conclusions on the information it

was able to gather during the six months duration of this study. TAI's conclusions are presented on each of the major objectives of this study agreed upon by the RDU.

Impact of R and D on Federal, State, and Local Levels within Illinois

According to the available evidence gathered and analyzed by TAI, the impact of R and D on the Federal (Regional Office of the USOE) level in Illinois is minor; the impact on the State is yet to be fully realized because major projects on Career Education which hold potential impact on elementary and secondary school students and teachers have yet to be concluded and implemented; and the greatest impact of R and D, thus far, seems to be at the local level where schools and school districts and colleges and universities have become involved in the research process.

Extent to which RDU Assists Participating Educational Institutions Prepare for and Implement Needed Change

The evidence indicates that little action has been taken to assist participating institutions prepare for and implement needed change. However, the responsibility for implementation of project results is not necessarily that of the RDU but rather is that of the DVTE. The RDU has funded demonstration projects which were intended to promote and disseminate results (procedures, materials, techniques, etc.) from research projects. However, on the whole, many projects do not make the transition from the experimental or research phase to the operational phase in other schools or districts because of the lack of a mechanism (DVTE policies and procedures) to accomplish this.

Changes in Occupational Education Resulting from R and D

The new priorities for research adopted by the RDU suggest increased emphasis is being placed on Career Education concepts and materials, developing occupational programs to prepare students for new and emerging technologies (nuclear technicians, environmental control, etc.), innovative techniques and delivery systems for occupational education, and information systems for planning, administering, and evaluating occupational education programs.

R and D areas that seem to be diminishing in importance are development of curricula in specialized or narrow occupational fields (except those noted above), remedial programs, and dropout prevention programs.

Relationship between Local Support, Program Change, and Policy Direction Resulting from R and D

Although the extent of local support for R and D projects has risen sharply during the past seven years, except for unsolicited proposals, local institutions have had little to do with the policy direction of the DVTE. For FY 1973 the RDU established 21 possible R and D priorities, then surveyed 302 persons (mostly educators in local districts of which 171 responded) to obtain their opinions of these possible priorities. Of the 13 priorities finally submitted by the RDU to the Board for approval (12 were adopted), only nine could be identified as being among the original 21 cited for consideration by the educators surveyed. The nine surveyed priorities selected by the RDU (along with the four others) for submission to the Board did not always receive the highest average ranking in the survey conducted. It would seem that local inputs obtained through the priorities survey had little effect upon the establishment of R and D policy direction.

Approval Process for R and D Projects

The system now being used by DVTE for approving R and D projects has evolved during the life of the RDU. During the past year, certain changes in the approval process have had a considerable effect upon the functioning of the RDU, specifically the allocation of time between the monitoring of R and D projects in the field and office paper work.

One of these changes has been the requirement of DVTE administration that all projects in excess of $30,000 be submitted to the Illinois Board of Vocational Education and Rehabilitation (Board). This change has increased the documentation necessary for submission by the RDU in support of recommendations for approval. TAI questions the establishment of the amount at $30,000 for those R and D projects requiring Board approval. For FY 1972 for example, three projects (each for more than $100,000)

accounted for 61.0 percent of total R and D funding. When two more projects in excess of $75,000 are added, 80.1 percent of the total funding is represented.

The project approval process for FY 1973 funding has been slowed by the requirement placed upon the RDU for a Request for Proposal (RFP) for all R and D project work funded by the DVTE. TAI does not question this requirement provided that unsolicited proposals are not excluded in the process. A review of RFP's for FY 1973 did not disclose any requests for unsolicited proposals.

TAI Recommendations

This section of the report contains general and specific recommendations for consideration by the RDU and the DVTE. They focus on issues and procedures that TAI believes will affect the future planning and priorities of the RDU. Most of the recommendations are self-explanatory. In a few cases, recommendations are accompanied by a TAI Comment containing the rationale for the recommendation and/or an amplification of the need for the suggested action.

Recommendations are listed below under the following headings:

- Recommendations Related to the Organization, Staffing, and Administration of the RDU
- Recommendations Related to the Planning Functions of the RDU
- Recommendations Related to the Funding and Management of R and D Projects
- Recommendations Related to the Relationships between the RDU, the DVTE, and Others
- Recommendations Related to the Impact of R and D Funding by the DVTE on the Needs of the State.

Recommendations Related to the Organization, Staffing, and Administration of the RDU

1. RDU goals, functions, and relationships within the DVTE should be reviewed, updated, and published for dissemination to educational institutions and other interested parties in the State.

TAI Comment: Although goals exist, they are not in clearly communicable form to those outside of the DVTE. The review of relationships should also involve the administration of the DVTE and other units within the DVTE.

2. The RDU staff should be increased. (Four positions are now authorized for the Unit.) Additional positions need not be at the professional level, but should include capabilities to develop and analyze statistical data, prepare RFPs and screen proposals. This would enable the RDU professional staff to spend more time in the field monitoring projects.

3. Improvements should be made in the screening, selection, and approval of R and D projects to expedite the process. Consideration should be given to changing the present requirement that the Board must approve all projects funded for more than $30,000. An alternative approach would be to have the Board approve annually individual projects funded for a certain percentage of the total R and D funds.

TAI Comment: Based on the study findings, if projects approved by the Board were limited to those being funded for 10 percent or more of the annual R and D budget, the workload of the RDU would be substantially reduced.

4. Project files should be reorganized so that all records relating to any one project are kept in a single location. As projects are completed, these files should be removed to a completed project file. A copy of the final report on each completed project should be kept in a secure master file to assure availability for reference.

TAI Comment: Although a variety of filing systems are available (by title, subject, etc.), it is suggested that project records be filed numerically by the basic project number. A cross index card file by subject and title would facilitate utilization of the project files.

Recommendations Related to the Planning Functions of the RDU

1. New or revised priority areas for research should be accompanied by explanation of their relationship to earlier priorities so that institutions interested in performing DVTE research will know if a priority area has been dropped or is included in a new or restated category.

2. Future surveys conducted by the RDU to assist in the formulation of priorities should provide for the input of employers and agencies concerned with the manpower needs of the State. The results of such surveys should be utilized not only in establishing R and D priorities but also other planning activities of the RDU and the DVTE.

3. A priority area for unsolicited proposals should be established to encourage new and innovative proposals for projects not covered by other priority areas.

4. Additional analysis of R and D project funding and project characteristics should be performed by the RDU as a basis for planning, analysis of the unit, and the internal evaluation of R and D projects.

TAI Comment: Examples of this type of analysis are included in this report in Chapters V and VI.

5. Continuing information on future trends in occupational change, economic growth, manpower needs, population shifts, and social patterns should be developed or contracted for by the RDU as a basis for formulating R and D goals and priorities and other planning functions of the DVTE.

TAI Comment: This type of information would be of assistance to project directors on some R and D projects.

Recommendations Related to the Funding and Management of R and D Projects

1. Additional effort should be expended to disseminate the results of completed projects so that more implementation will take place. To provide more readership of project results, TAI suggests that the RDU require project directors to submit a brief summary (ten pages or less) of their final report.

2. The inventory of institutions wishing to perform R and D established by the RDU should be systematically assessed to determine the capability and resources of these potential research sources.

TAI Comment: One method for reviewing the qualifications of institutions wishing to perform research for the DVTE would be for RDU consultants to contact these institutions during the course of monitoring projects in the field.

3. A small contingency fund should be maintained by DVTE to provide for unusual or unanticipated costs on projects that would curtail completion of a project and maximum distribution of final reports.

4. Greater flexibility should be provided in the funding process for such things as progress payments, limited line item substitution (up to 10 percent within the total contract price), year-to-year carryover of funds, and contract cancellation, when the RDU has determined that project objectives cannot be met.

5. Project directors should be required to submit periodic progress reports that contain a statement of the problems encountered and the extent to which progress is being made. The number of progress reports and the dates of submission should be determined by the RDU for each project and indicated in the RFP.

6. The responsibility of the project director for the expenditure of project funds should be clearly indicated in the RFP.

7. In the case of new respondents to RFPs, a pre-contract investigation should be made to determine the capability and resources of the institution for performing research and to determine the support for such a project by school administration, community, and others.

8. Small planning contracts should be considered for potentially large projects during which the project personnel would develop plans of action for all phases of the proposed project, including how financial and other support for the project will be obtained from school personnel, parents, employers, etc.

9. Before the decision to continue the DVTE funding of some projects is made, particularly on large projects, more evaluation of the project should be made by the RDU. This includes the review of progress reports, on-site visits to the project, personal contact in the area, and the possible use of third-party evaluation.

10. Upon completion, a project should be formally closed by a letter which also indicates the anticipated disposition of the final report or the project results.

Recommendations Related to the Relationships between the RDU, the DVTE, and Others

1. An effective system should be established which would coordinate the efforts of project directors, the RDU, and other DVTE units, thus enabling more results from R and D projects to be implemented.

2. Stronger liaison with the Regional Office of the USOE should be maintained so that information of mutual interest might be shared.

3. Better liaison should be established between the RDU and the State Advisory Council on Vocational Education.

Recommendations Related to the Impact of R and D Funding by the DVTE on the Needs of the State

1. Future R and D project priorities and the allocation of funds should emphasize the implementation of research already performed on projects funded by the DVTE, particularly in the area of career education concepts and materials at the elementary and secondary levels.

2. In support of the implementation of research results already obtained, the DVTE should move from the high concentration of funding at the post-secondary school level (69.1 percent of total DVTE R and D funding in FY 1972) to the funding of more R and D projects below the post-secondary school level.

Concluding Statement

The foregoing recommendations comprise a number of suggestions for review and implementation that have potential impact on many RDU activities as well as inter-relations between the RDU, the DVTE, and the R and D projects it supports.

TAI recognizes the implications and has attempted to make recommendations that are practical and attainable. Some suggestions involve changes in procedures and practices of the RDU. Others are concerned with ways to improve the basis for RDU and DVTE planning and decision making. A number of recommendations are related to methods for obtaining more benefit from the R and D expenditures made. And finally, suggestions are made to improve the working relationship between the RDU, other units in the DVTE, project directors, and outside organizations.

TAI recommendations were made with the knowledge and understanding of the desire of the RDU and the DVTE to continue to serve the research needs of vocational and technical education in the State of Illinois.

III GOALS, ORGANIZATION, AND ACTIVITIES OF THE RESEARCH AND DEVELOPMENT UNIT

Background of the Research and Development Unit (RDU)

The Illinois Research Coordinating Unit (RCU) was established under the authorization of the Vocational Education Act of 1963. It was among the original group of 24 RCUs approved in 1965 by the U.S. Office of Education (USOE). In 1969, the name of the Illinois Unit was changed to the Research and Development Unit (RDU) of the Illinois Department of Vocational and Technical Education (DVTE).

Mission and Objectives of the RDU

The state RCUs were created to stimulate, encourage, and coordinate research activities among state departments of education, universities, local school districts, and others with an interest in vocational and technical education.

In Illinois, the original RCU was established to achieve the following goals:

1. To provide assistance and support for increased and improved vocational research
2. To identify and upgrade research personnel
3. To provide a means for the trial and evaluation of experimental curricular and instructional procedures
4. To develop a microcosmic concept of survey procedures relating to occupational opportunities and training needs
5. To develop and implement sound operational procedures for a Research and Development Unit

6. To consider the advisability of providing informational and evaluative services for the State Board and other state agencies.[1/]

The general objectives of the RCU were set forth in their proposal to the USOE for a continuation of work covering the fiscal year (FY) 1968. These objectives were

1. To continue identification of basic issues and problems facing vocational education and encourage research for possible problem solutions
2. To coordinate occupational research and demonstration activities among educational, business, industrial, and labor agencies within the state to achieve optimum and efficient utilization of resources
3. To stimulate and assist research and experimental projects supported from ancillary program funds
4. To accumulate and abstract the results of research activities into a form suitable for extensive and regular dissemination
5. To evaluate the activities of the unit to develop a sound operation for continued service to vocational and technical education.

TAI Comment: The general objectives for the RCU FY 1968 were more specific than the earlier goal statement composed in 1965 by V.E. Burgener. TAI did not find evidence that the general objectives written for the RCU in FY 1968 have been reviewed or updated for the RDU in more recent years. Numerous documents circulated by the DVTE contain statements regarding the procedures and systems employed by the RDU. The priorities for research that are used to screen and select projects supported by the RDU are published yearly but there is no evidence to indicate that the goals for the RDU itself have been communicated to persons outside of the RDU or the DVTE.

1/ V.E. Burgener, An Occupational Research and Development Unit for the State of Illinois, Illinois Board of Vocational Education Rehabilitation, 1965.

Organization and Staffing of the RDU

The RDU is one of eight units in the Division of Vocational and Technical Education (DVTE). As indicated on the DVTE Organization Chart (Figure III-1), the Coordinator of the RDU reports to the Assistant Director for Planning and Development, who reports to the Director of the Division. Along with other unit coordinators, the Coordinator of the RDU is a member of the Administrative Planning Council headed by the Director of DVTE.

At the time this project was initiated, the RDU consisted of a Coordinator, an Assistant Coordinator, two Consultants, and a secretary.

> TAI Comment: Effective May 1, 1972, midway in the performance of this project, there was a change of Coordinator for the RDU. The Assistant Coordinator was named Coordinator. This left the Assistant Coordinator position open and the position remains open at the time of writing of this report (August 1972).

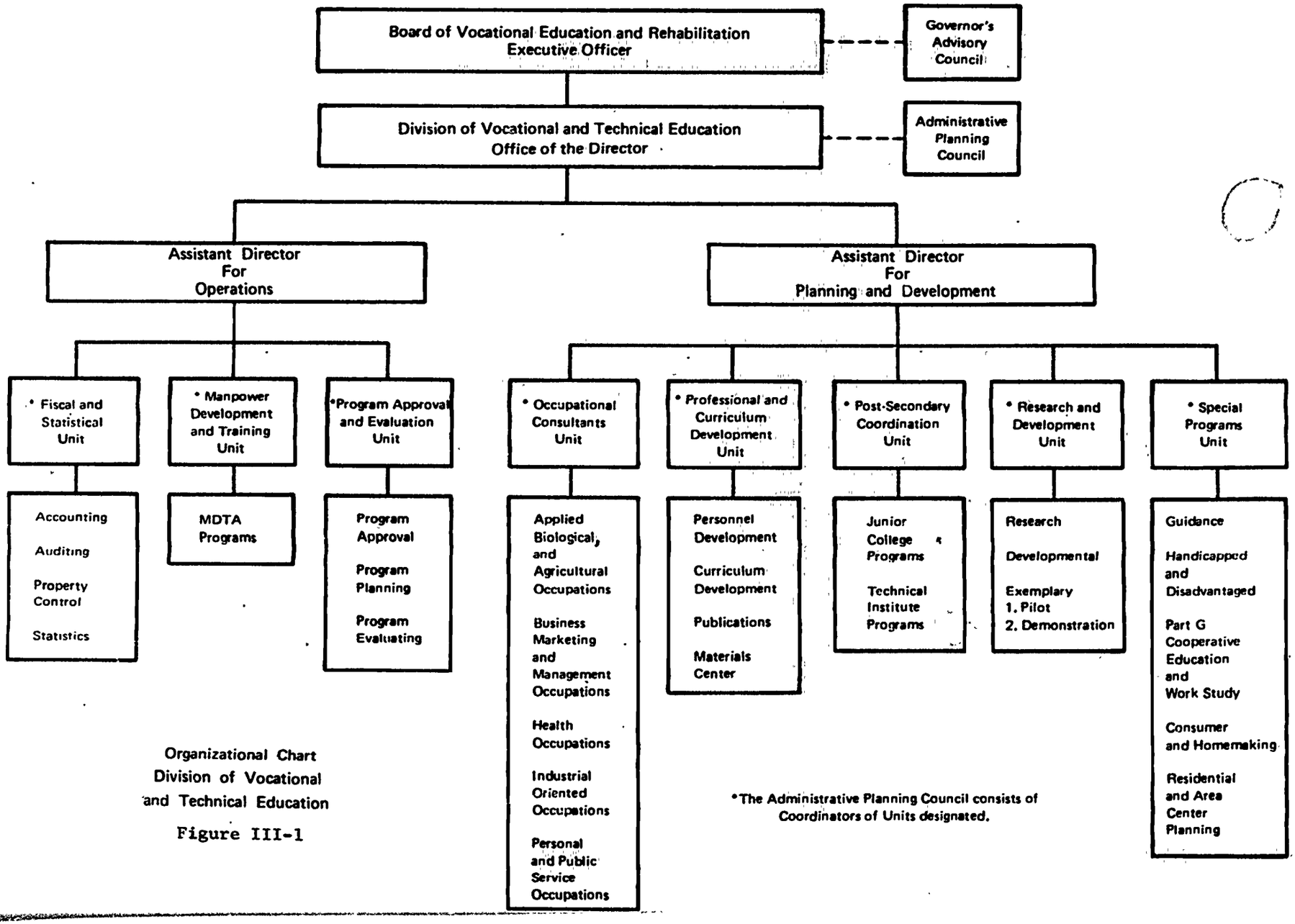
Major Activities of the RDU

The activities to be performed by the RDU are stated in the DVTE Administrative Provision, paragraph 5.1, which is contained in A State Plan for the Administration of Vocational and Technical Education in Illinois, Fiscal Year 1971-1972.

> The Research and Development Unit will coordinate vocational institutions of higher education, local education agencies, the educational research development of the Office of Superintendent of Public Instruction and other agencies involved in educational research.

Within the context of this broad mission, the principal activities of RDU include the following:

1. Formulation of goal statements and the establishment of priorities within the availability of funds
2. Solicitation and review of R and D proposals and recommendations for funding approval by the Director of the DVTE and the Board of Vocational Education and Rehabilitation



Organizational Chart
Division of Vocational
and Technical Education

Figure III-1

*The Administrative Planning Council consists of Coordinators of Units designated.

3. Monitoring of projects and the provision of consultant assistance

4. Dissemination of research information

5. Inventory of research resources within the State.

As estimated by RDU personnel, the time spent in the performance of these activities is shown in Table III-1. It will be noted that the amount of desk time has increased from 55 percent of the total RDU time to 70 percent. At the same time, field activity (included in project monitoring and technical assistance) has decreased from 45 percent of the total to 30 percent. A discussion of each of the major RDU activities listed above appears in the following section of this chapter.

Formulation of Goals and Priorities

In recent years the RDU has developed a set of priorities as a basis for its yearly activities. As shown in Table III-2, the priority areas receiving the largest financial support have been (1) improving the learning environment, (2) information for decision making, and more recently, (3) career education concepts and materials.

The establishment of priority goals results from a combination of external and internal (DVTE) inputs. For establishing FY 1973 priorities, for example, the RDU surveyed 302 vocational educators and lay persons in Illinois to determine the vocational and technical education areas that most need research support from the DVTE.

> TAI Comment: There is little input in the formulation of RDU priorities from employers. The survey for establishing priorities also should be sent to those who have manpower needs in private industry and other key employment agencies in the public sector of the State.
>
> As noted in Table III-2, the six priorities used for funding research and development projects in FY 1973 differ from those priorities used in previous years. For example, Career Education appears for the first time as a priority in FY 1973 because it is a new area of research; however, in other cases the relationship of priorities in FY 1973 and those of prior years is not shown. Certainly not all of the priorities prior to FY 1973 have been abandoned, yet the new terminology

Table III-1

ESTIMATED TIME SPENT BY RDU IN PERFORMANCE OF ACTIVITIES, FISCAL YEARS 1971 AND 1972

Activities	Percent of time spent in Activities	
	FY 1971	FY 1972
Formulation of goals and priorities	15%	25%
Preparation of RFP's proposal review and project selection	15	25
Project monitoring and technical assistance	45	30
Dissemination of research information	15	10
Other activities	10	10
Total	100%	100%

Source: Compiled by TAI from RDU staff estimates.

Table III-2

DVTE PRIORITIES FOR FUNDING OF RESEARCH AND DEVELOPMENT PROJECTS
FISCAL YEARS 1969-70, 1970-71, AND 1972-73
(THOUSANDS OF DOLLARS)

Priority Area	1969-70	1970-71	1972-73
Local and state program planning	$ 87.1	$121.7	
Assessment of attitudes and needs	47.1	62.4	
Articulation and coordination	90.8	29.3	
Comprehensive occupational education	298.0	154.9	
Improving the learning environment	342.8	500.3	
Evaluation and accountability	37.5	64.7	
Career education concepts and materials			$ 275.0
New and emerging technologies and education delivery systems			190.0
Information for decision making			300.0
Innovative exemplary programs			210.0
Consumer and homemaking			60.0
Cooperative education			30.0
Unclassified as to priority	181.8	48.3	
Total	$1,085.1	$981.6	
Less duplications (project considered by RDU to be in more than one priority area)	315.4	--	
Adjusted Total	$ 769.7	$981.6	$1,065.0

Source: Compiled by TAI from RDU records.

has not been related to the language used in previous years. For example, the relationship between evaluation and accountability, articulation and coordination, and local and State program planning (all areas of DVTE priorities before FY 1973) and the new priority area known as information for decision making is not clearly shown.

Solicitation and Review of R and D

Requests for R and D project assistance are assigned a possible contract number and entered on the Contractual Log issued monthly by RDU. TAI reviewed the Contractual Log for FY 1971 and FY 1972. During this period RDU received 74 requests for project support totaling $3.8 million. As shown in Table III-3, after review by RDU, 49 requests (66.2 percent of the number and 70.4 percent of the dollar amount originally requested) were submitted to the Director of DVTE for review and approval. Except for one proposal, all of these requests were approved for DVTE financial support. The $1.7 million of DVTE funds authorized for these 48 projects averaged 44.0 percent of the $2.6 million requested for these projects. Thus the review and selection process of the RDU substantially reduced the original number of projects and the level of funds requested by institutions before submission for final approval by the DVTE.[1/]

As indicated in Table III-4, where reasons for disapproval were stated in the Contractual Log, lack of funds (54.9 percent of total amount disapproved) and not a priority area (32.3 percent) were the reasons most frequently given.

All proposals in excess of $30,000 now require the approval of the Illinois Board of Vocational Education and Rehabilitation. Under this policy, 11 of the 31 proposals approved in FY 1971 and six of the 18 proposals approved in FY 1972 would have required Board approval.

TAI Comment: The average number of days between the date of receipt of a proposal and the date the proposal was submitted to the Director of DVTE for approval has increased considerably in recent years. From an average of 9.1 days in FY 1970, this number has increased to 18.7 days in FY 1971 and 45.0 days in FY 1972. This suggests the effect of the additional RDU paper work, which includes the preparation of documentation for the increased number of proposals going to the Board for

1/ The difference between the amount requested for projects and the amount approved by the DVTE is primarily the amount of local support.

Table III-3

SUMMARY OF DVTE RESEARCH AND DEVELOPMENT PROJECT SELECTION, FY'S 1971 AND 1972
(THOUSANDS OF DOLLARS)

	Requests Received (RDU)		Submitted to Director (DVTE)		Approved by Director (DVTE)		
FY	Number	Amount	Number	Amount	Number	Requested	Authorized
1971	40	$2,170.0	31	$1,754.1	30	$1,705.6	$1,081.7
1972	34	1,623.0	18	917.1	18	917.1	588.0
Totals	74	$3,793.0	49	$2,671.2	48	$2,622.7	$1,669.7
Percent	100%	100%	66.2%	70.4%	64.9%	69.2%	44.0%

Source: Compiled by TAI from RDU Contractual Log.

Table III-4

REASON FOR DISAPPROVAL OF REQUEST FOR DVTE FUNDING OF RESEARCH AND DEVELOPMENT PROPOSALS, FISCAL YEARS 1971 AND 1972 (DOLLARS IN THOUSANDS)

Reason for Disapproval	Number of Requests	Amount of Requests	Percent of Total Where Reason Stated
Lack of funds	9	$ 484.9	54.9%
Not a priority area	7	285.1	32.3
Withdrawn by project director	1	83.4	9.4
Proposal does not meet specifications	1	30.0	3.4
Reason for disapproval not stated	7	246.3	--
Totals	25	$1,129.7	100.0%1/

1/ Based on a total of $883.4--where reasons were stated for disapproval.

Source: Compiled by TAI from RDU Contractual Log.

approval, without an increase in personnel. Not only has the process of project selection been slowed, but RDU personnel are devoting less time in the field monitoring projects.

Unsolicited Proposals. One of the screening elements in the review and selection of project proposals is that every proposal submitted must conform to one of the research priority areas established by the RDU and that all research projects must be solicited by the RDU as part of a Request for Proposal (RFP) system.

The DVTE has considered adopting an RFP system which would eliminate a source of innovative R and D--that of the unsolicited proposal. TAI believes that there is a need for unsolicited proposals. (This position was discussed in a TAI memorandum of June 1, 1972 sent to the RDU Coordinator.) Support for maintaining the unsolicited proposal comes from many authorities in educational research. Bright and Gideonse express their opinion on the topic in this way:

> We must be careful . . . that we continue to pursue the wisdom of earlier efforts in support of research by maintaining a significant portion of the research budget for unsolicited efforts.1/

TAI Comment: Discussions with the Director and Assistant Director of the DVTE and the Coordinator of RDU indicate that unsolicited proposals will be provided for under the new RFP system by establishing a priority category that would encourage this source of vocational and technical innovation.

Monitoring of Projects

During the past year the RDU has had a substantial increase in the paper work required to perform its principal functions. Much of this increase results from the requirement to prepare RFPs for all contracts awarded. Even without this additional work the RDU staff have been unable to devote as much time in the field as is necessary to adequately

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1/ R. Louis Bright and Hendrik D. Gideonse, "Research, Development, and Dissemination Strategies in Improving Education," Designing Education for the Future, No. 3, Citation Press, New York, 1967, p. 102.

monitor some projects. This situation is recognized by the staff of the RDU and is reflected in the diminished proportion of time that the RDU staff has spent in the field monitoring projects. (See data on Table III-1.)

Despite this reduction of time spent in the field, RDU personnel have attempted to meet with the directors and staff of all projects supported by the Unit at least once a year. In the case of large projects more frequent meetings are held.

On the TAI questionnaire, project directors were asked if they received sufficient assistance from the RDU staff to meet operational difficulties (Question 13c). Only five of 66 respondents answered no. Further investigation by TAI indicated that most of the operational problems cited by project directors in these five cases were of such a nature that increased RDU monitoring would not have eliminated the operational difficulties.

When project directors were asked to rate the performance of the RDU as related to their project (Question 13e), no one rated the RDU poor and six of 66 respondents wrote in a rating of excellent, exceptional, outstanding, etc., even though no rating above good was listed on the questionnaire. Forty-five respondents rated the RDU good and 15 rated it average.

The generally favorable working relationships between the RDU and project personnel may have resulted from the fact that the RDU staff tend to be service oriented rather than technically oriented. As a consequence the RDU has not established a professionally competitive relationship with project directors or other project personnel.

A request expressed by some project directors was to have the Director and Assistant Director of the DVTE make on-site visits to their projects. Although such visits would not be in the realm of monitoring projects, per se, they would help establish important face-to-face contacts and assist the top DVTE administration to keep abreast of operating problems being encountered by project personnel.

TAI Comment: TAI has further observations and comments on other aspects of the RDU relationship to projects aside from project monitoring. These will appear in later sections of this report. Insofar as the topic of project monitoring is concerned, the information TAI was able to gather indicates that the RDU staff has established favorable working relationships with most project personnel. A few exceptions exist, but this is to be expected in the area of research where diversity of opinion is a hallmark.

Dissemination of Research Information

In fiscal year 1972, the RDU spent about 10 percent of its time in the dissemination of research information including submission of reports to the Educational Research Information Center (ERIC), responding to requests for final reports, and preparation of copy for the quarterly, Illinois Vocational Newsletter.

In earlier years the RDU sponsored a State Conference ("Making Vocational Education Research Relevant"--1968) and informal Review Sessions throughout the State (1967 and 1968). The State Conference was attended by R and D educational researchers and administrators from schools, colleges, and universities throughout the State. During the Review Sessions project directors reported on the progress of their projects to the RDU and other DVTE staff members.

Dissemination activity by the RDU can be separated into three components. First is the dissemination of base data on local, state, and national trends in economics, job market surveys, educational needs related to occupational programs and services, career counseling information, and other information that has been gathered and analyzed by the RDU. The second type of information to be disseminated by the RDU is that related to the results and status of the projects it supports. The third type of research information is that related to the statistical analysis of the characteristics of projects funded and supported by the RDU.

Each of these three types of research information is discussed below.

Base Data. In the establishment of research priorities, the RDU lacks continuing information on future trends in occupational change, economic growth, manpower needs, population shifts, and social patterns. In industry this type of information is developed as market research; in education this is frequently related to job market analyses. This is not to say that such a function has to be performed in the RDU, but the RDU, as well as others in DVTE, should have access to such continuing information as a basis for establishing vocational education priorities and requirements.

This type of information also would be helpful to certain R and D project directors. For example, one of the projects visited by TAI was being supplied occupational listings by a commercial source. These listings were historical. As a consequence, students in the program requesting information about various technical occupations--inhalation therapists and nuclear and instruments technicians--were unable to receive needed information because these occupations are among the newer ones and had not been supplied by the outside source and programmed into the system. Another project director complained that base data on job market analysis needed for his project was not available from the DVTE or the RDU. The latter example illustrates the point that the RDU cannot disseminate research information not in its possession.

Project Results. Perhaps the most important dissemination activity of the RDU is distributing the results of completed projects so that other education institutions might benefit from the inputs. Several project directors in their response to the TAI questionnaire commented that the dissemination activity was not being fulfilled by the RDU. One project director articulated concern over the problem as he saw it:

> I was told the state office (DVTE) would develop a printing capacity to deal with publication of materials. This did not occur and money could not be found for publication on the scale we had intended.

Other comments regarding the dissemination of project results were:

> We would like more help with dissemination while the project is in operation.

The project director should be informed as to what was done with his work and the results.

Implementation of results: Closely related to the RDU function of disseminating the results of projects is the activity related to implementation of study results. Obviously not all projects require RDU activity beyond dissemination (i.e., publication and distribution of reports), but some projects need assistance and guidance from the RDU in order to become operational after the project funding period has ended. Frequently such assistance requires little more than coordination of activities within the DVTE itself, in which case the RDU need only establish communications and contact directly between project personnel and appropriate staff members of other units in the DVTE so that implementation of results can occur.

The need for assistance in the area of implementation was expressed by a number of project personnel during on-site visits and interviews. In addition, responses from project directors to Question 11 on the TAI questionnaire indicate that many (36 out of 57) project respondents do not feel that significant findings from their projects were properly implemented.

Those respondents who did not feel that their project results had been properly exploited were asked for suggestions on how to improve the implementation process (Question 11b). Some of the comments were:

Curricula and programs based upon research findings should be developed

Inservice training of teachers needs to be instituted

Application of program in a number of schools

Restructuring of schools to facilitate interdisciplinary action

Testing and follow-up of findings in other schools should be initiated.

Further support for the need for increased effort in dissemination and implementation of research results came from the responses of a number of occupational education teachers and administrators in Illinois to the

RDU survey conducted in early 1972. This survey was used to help determine services and activity areas with which the RDU needs to be concerned in FY 1973.

Statistical Analysis. An internal research function of the RDU requiring additional time and attention is the analysis of information accumulated during the year about each of the R and D projects funded through the RDU. Research information (similar to the information developed and discussed in other chapters of this report) is needed for planning and assessment by the RDU and the DVTE. If a data base were maintained, it would assist in project evaluation and priority establishment for future research. Such research data need not be widely disseminated outside of the DVTE but parts could be used for such purposes as promotion of the DVTE in published reports and brochures (i.e., Research, Development, and Exemplary Activities in Vocational and Technical Education, 1971). Other uses for this type of research information are related to myriad documents that must be prepared for USOE, state legislatures, and other educational agencies.

Project files and reports: Closely related to the need for improved dissemination of statistical analysis of project data is the need for developing a rational basis for maintaining and storing project data. The present RDU project filing system is set up on a fiscal year basis so that if a project is funded for more than a year, the files for that project are in as many locations as years of project funding. Also, if the project becomes exemplary, the information covering that period of funding is found in another section of the files.

During office audit of project files TAI encountered difficulty in assembling complete and accurate research data on projects supported for more than one year.

> TAI Comment: All aspects of research dissemination could be strengthened by the RDU; however, some aspects of the dissemination problem are beyond the control of the RDU itself. A coordinated approach within the DVTE should be formulated; otherwise project personnel will seek other ways to disseminate (or implement) the results of their projects. A case in point

has been the publication of a textbook as a result of the Technical Mathematics Project.

Significant improvements in the dissemination of research will require additional personnel in the RDU. Such personnel need not be a statistician; under supervision, this type of dissemination could be performed by a qualified person below the professional level.

Inventory of Research Resources in the State

A principal activity of the RDU in FY 1972 was its inventory of research resources within the State. This activity was performed in early 1972 as part of the RDU survey of priorities. A total of 121 responses out of 144 received from school personnel indicated an interest in performing DVTE research.

Performance Relationships of the RDU

A number of relationships are required for the RDU in the effective performance of its functions. Those covered in this report are internal RDU relationships, relationships with other operating units of the DVTE, and relationships with the USOE. Each of these is discussed in the following section of this chapter.

Internal Relations of the RDU

Within the RDU there is a division of responsibility on projects. The Assistant Coordinator has been generally responsible for projects with post-secondary educational institutions. One Consultant has been responsible for the projects with secondary educational institutions and the other Consultant has been responsible for exemplary projects. The former Coordinator of RDU assumed or shared the responsibility on some of the projects, usually those involving substantial funding. The present Coordinator is in the process of determining the most advantageous role he can play in sharing project responsibility.

TAI Comment: The RDU is small enough so that the Coordinator and Consultants keep informed generally as to what is going on within the Unit. Thus, when one member of the Unit is on a

field trip or away from the office, another member of RDU usually can provide assistance that might be requested from the staff of projects being monitored by someone else within the Unit. Also, the secretary for the RDU knows the status of most projects being supported by the Unit and can often answer inquiries. This aspect of performance relationships within the Unit was observed a number of times when TAI personnel were working in the RDU office. Also, this situation was tested via telephone by TAI with positive results.

Relationship of RDU and Other DVTE Units

Within the DVTE formal contacts between the RDU and the Director and/or Assistant Director of the DVTE and contacts with the Coordinators of other units within the DVTE are made through the Coordinator of RDU. There is considerable informal contact, however, between RDU Consultants and personnel of other division units, particularly with units involved with professional and curriculum development, special programs, and fiscal and statistical activities. On occasion, personnel from other units, particularly the Professional and Curriculum Development Unit are asked by RDU personnel to visit R and D projects.

TAI Comment: If greater benefit is to be obtained from research and development expenditures, the results from more of the projects should be implemented. To do this there must be considerable ongoing coordination between the RDU and other units that are concerned with operational programs. The separate operation of units within the DVTE does not result in the most benefit from expenditures to effectively maximize results. A high level of coordination among all units of the DVTE is required.

From the on-site visits and several of the responses to the TAI questionnaire it was evident that more coordination was needed between project directors, the RDU, and other DVTE units to effect the transition of a project from research to operational status. On some large projects, such as Computerized Vocational Information System (CVIS) and Illinois Occupational Curriculum (IOC), that were reaching the end of their funding as R and D projects, there was little indication that much was being done in other units of DVTE to utilize the research results from expenditures that will exceed $750,000.

Relationship of RDU and USOE

On June 30, 1972, the TAI team visited the Regional Office of the U. S. Office of Education (USOE) in Chicago and met with two Program Officers for Vocational-Technical Education to discuss their performance relationship with the RDU. The USOE Regional Offices operate primarily on contract matters and not as policy makers. The Program Officers indicated that their limited contacts with RDU were made with the former Coordinator and that those relations were favorable. They also indicated that this third-party evaluation of R and D projects contracted for by the Illinois DVTE was the first of its kind among the six states (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin) under their jurisidiction and that they were favorably inclined toward such a project.

TAI Comment: Although the direct relationship between the RDU and the USOE Regional Office has been limited, TAI believes that it would be advantageous for personnel from both agencies to meet periodically to share information on research activities of mutual interest and benefit.

IV ASSESSMENT OF THE RESEARCH AND DEVELOPMENT UNIT BY PROJECT DIRECTORS

This chapter of the report includes information obtained from (1) responses to the TAI questionnaire sent to all project directors, (2) a seminar critique of questionnaire responses by members of TAI and the RDU, and (3) TAI observations of the sample projects visited.

Reactions of Project Personnel

A series of questions in the TAI questionnaire were related to the financial and technical support the project received from the RDU. Responses to parts of Question 13 are as follows.

Project Funding

As to the support projects received from the State R&D Unit (RDU):

Were funds sufficient? (Question 13a)

Response	Number of Responses
Yes	57
No	8
Don't know	1

The extent to which funds were insufficient was estimated by the responding project directors in two of the projects. In one case the additional amount requested was $1,000 (6.7 percent of the original project funding). The additional funds were not granted. In another case the amount was $12,000 (24.0 percent of the project funding). However, there was no indication in the RDU files that this additional amount was ever requested by the project director.

Some of the comments on funding made by project directors were

Needed money for testing

Did not request enough

Need for larger resources for the development, reproduction, and dissemination of materials.

TAI Comment: The insufficiency of funds for printing additional quantities of the report were on projects being performed during the period 1968-70. Subsequently the RDU resolved this problem by requiring that the printing cost for a number of copies of the final report be included in the proposed project budget.

The nature of R and D suggests that consideration should be given for the establishment of a small contingency fund in the RDU to be tapped in those cases when additional funds to complete a project would be advantageous or additional reports are needed for unexpected distribution. This is unlike estimating costs of an operational project where normally there is previous experience upon which to base estimates.

Project Approval

A question related to the approval of projects appeared on the TAI questionnaire and received the following response:

Was there undue difficulty in receiving project approval? (Question 13b)

Response	Number of Responses
Yes	3
No	61
No answer	2

The "yes" responses were explained as follows:

FY 1971 budget was not approved in total by the State Director until 4½ months after the project began.

The process of budget finalization was slow, resulting from both University and RDU policy.

Approval was continually postponed--August to September to October. Then written approval was slow in coming. I will not act to spend school district money until written approval is received from a state agency.

TAI Comment: These three responses were special situations and not generally representative of project funding. Most project directors interviewed were understanding and tolerant of the

constraints of committing federal funds. Most project directors also understood that delays in project selection and approval were related to the nature of federal funding and to the workload of the RDU.

Project Closure

Project directors gave little indication that they had encountered problems in closure of their projects as shown by the pattern of their responses to TAI's question on the subject.

Upon completion of project, were there difficulties in closure with RDU (such as submission and publication of report, payment, etc.)? (Question 13d)

Response	Number of Responses
Yes	0
No	59
Project not finished	4
No answer	3

Project Personnel Suggestions on Procedural Changes

As part of the overall assessment of the RDU by project directors and personnel, TAI asked for suggestions on procedural changes that would improve the operations of the RDU. The comments received by TAI fell into two broad categories. These were related to (1) project selection and funding and (2) project operations.

Representative comments were selected by TAI to illustrate the suggestions of project directors on each of these topics.

Project Selection and Funding:

Provide more time between the RFP and deadline date (for submission of proposals) and less time between proposal (submission) deadline and award of contract

Devise a better system to evaluate and expedite proposals that are submitted

Establish consistency in development of and carrying out research priorities of the RDU

Make a more definite commitment on how much funding will be available in the second and third year of the program

Allow greater budget flexibility within the overall project budget, i.e., a 10 percent leeway on line items

Provide funding as project progresses rather than at the end of the fiscal year.

Provide needed financial support for action research beyond the experimental stage

Allow funds to be carried over from one year to the next.

TAI Comment: As indicated in previous TAI comments, the nature of federal funding is not only a constraint on expediting the funding process but is also a constraint on making long-term commitments on projects. TAI agrees that year-to-year commitments do not make possible the most effective project planning. Although federal and state policies do not provide for advance funding, consideration should be given, when required, for greater flexibility in the funding process--i.e., progress payments, limited line item substitution, and year-to-year carryover of funds. The nature of R and D is such that budget estimates are not as accurate as budget estimates for operational activities of a repetitive nature. Also, a no-carryover limitation on funds tends to encourage the expenditure of funds at the end of the fiscal year resulting in a forced acceleration in a project's expenditure rate and a potentially inefficient use of the funds.

Project Operations:

Projects should not be put in jeopardy by the RDU as a result of local situations beyond control of the project staff

Establish a "watch dog" task force to insure institutional compliance with contract agreements

Establish an advisory committee of local people to assist the unit

Provide more expertise in the process of transition from an experimental to a regular program.

TAI Comment: Several of these comments by project directors appear to reflect problems of a local nature. The RDU is limited in what it can do to mediate factional difficulties that interfere with the effectiveness of a project. If a community cannot satisfactorily resolve these problems, the RDU has little alternative but to stop funding the project as early as possible or until such time as the local situation has changed.

As for establishing a watch dog task force to insure institutional compliance, the expenditure of project funds is the responsibility of the project director. Approval for the commitment and expenditure of these funds should be that of the project director. This responsibility can be facilitated, however, by an RDU requirement that the project director either approve the Application for Reimbursement or be one of the signators.

The establishment of local advisory committees is a logical activity for a project director. Normally the project director knows the local situation better than the RDU. Because the project director would be working directly with the local advisory committee, a relationship that was imposed by the RDU could result in an unworkable arrangement. Therefore, the RDU might better serve this function by offering suggestions for competent members to serve on such committees upon the request of project directors.

TAI found that the suggestions by project directors were practical, constructive, and made with some understanding of the constraints under which the RDU operates. This was generally reinforced during on-site visits made by TAI. In most cases project directors and other project personnel regarded the RDU as a supportive agency. There was concern that the RDU, because of its limited staff and the nature of its administrative structure, was unable to be responsive to the need for rapid decisions and technical assistance on projects. Most of these concerns were voiced in regard to various funding problems. No one interviewed by TAI stated that the RDU did not attempt to provide assistance within the available time and resources of the RDU staff when requested.

V ANALYSIS OF RESEARCH AND DEVELOPMENT PROJECT FUNDING AND PERFORMANCE CHARACTERISTICS

This chapter contains (1) an analysis of the RDU expenditures on research and development (R and D) projects during the period 1966 through 1972, and (2) a summary of responses to the TAI questionnaire from project directors on the project performance by the RDU.

Expenditure Analysis of R and D Projects

The analysis of project expenditure data in this section is confined to DVTE financial support (i.e., Federal and State funds) of RDU projects. A discussion of the relationship of the local contribution to R and D projects appears in Chapter VI. TAI's analysis includes type and level of funding, characteristics of large projects being funded by the RDU and related topics. Each of these is discussed below.

Type of Funding

During the seven year period, fiscal years (FY) 1966-1972, a total of $5.2 million was allocated by DVTE in support of research and development projects. As indicated in Table V-1, funds have increased from $425,285 in FY 1966 to a peak of $981,570 in FY 1971. The total number of projects for a particular year ranged between 23 (1972) and 39 (1968). Funds of $3.7 million (71 percent of total DVTE funds) were allocated for 142 development projects and $0.5 million (10 percent of total) for 51 research projects. Initiated in FY 1970, exemplary funds of $0.6 million (11 percent of total) were allocated for 23 projects and discretionary funds initiated in FY 1972 of $0.4 million (8 percent of total) were allocated for four projects.

Projects funded as research reached a high in FY 1969 (10 projects for $161,662) and since 1970 ranged between $32,495 and $38,918 (approximately 4 percent of total funding).

Table V-1

SUMMARY OF DVTE FUNDING BY TYPE OF FUNDING AND FISCAL YEAR

Fiscal Year	Funds for Research Projects		Funds for Developmental Projects		Part C Funds Discretionary		Part D Funds Exemplary		All Projects	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
1966	8	$ 41,244*	19	$ 384,041*	--	--	--	--	27	$ 425,285
1967	14	67,264*	22	650,974*	--	--	--	--	36	718,238
1968	9	157,756*	30	609,105*	--	--	--	--	39	766,861
1969	10	161,662*	25	520,616*	--	--	--	--	35	682,278
1970	6	33,349**	24	576,718**	--	--	6	$159,612	36	769,679
1971	3	38,918***	15	693,053***	--	--	6	249,599	24	981,570
1972	1	32,495***	7	290,992***	4	$382,790	11	191,361	23	897,638
Totals	51	$532,688	142	$3,725,499	4	$382,790	23	$600,572	220	$5,241,549

Source: Compiled by TAT from RDU published and unpublished records.

Editor's Comment for Clarification
* Funds came from Section 4(a) of the Vocational Education Act of 1963
** Funds came from Part B and Part C of the 68 Amendments to the 63 VEA
*** Funds came from Part C of the 68 Amendments to the 63 VEA

Funding by Functional Areas and Occupational Program Areas. In its analysis of R and D projects, TAI allocated total project funding for the period FY 1966-1972 into six functional areas. Although some projects covered more than one of these functional areas, the categorization of each project was based upon TAI's judgment of the project's primary emphasis as reflected by its stated objectives. As shown in Table V-2, projects relating development and operation of vocational education programs accounted for 29.0 percent of total funding; followed by development of curriculum with 28.7 percent; guidance and counseling with 18.8 percent; instructional resource development with 11.7 percent; job market analysis with 6.2 percent; and program administration and management with 5.6 percent.

TAI Comment: Although the functional areas devised by TAI are subject to revision, the analysis shows that a strong emphasis in funding projects has been placed on the development of vocational education programs and curriculum. This pattern of funding is in agreement with one of the stated goals of RCUs which is to provide a means for the trial and evaluation of experimental curricular and instructional programs.

Projects were also reviewed on the basis of funding by occupational program for FY 1966-1972. As indicated in Table V-3, R and D projects concerned with preparation for specific occupations accounted for funding of $856,310 (16.3 percent of total DVTE funding). Principal occupational program areas funded were health occupations ($272,581), aerospace ($177,888), agriculture ($115,025), data processing and business ($73,033), homemaking and home economics ($69,145), automotive ($57,038), engineering and technical ($42,100), and public service ($29,136).

TAI Comment: The allocation of project funds for development of occupational programs in the areas cited above have been satisfactory during the period FY 1966-1972. However, future funding priorities established by the RDU should reflect consideration of the 15 occupational clusters developed and promoted by the USOE. In addition, the RDU needs to promote research which will determine the need for the educational programs it funds to prepare youths and adults for specific occupations.

Table V-2

DVTE FUNDING OF RESEARCH AND DEVELOPMENT BY AREA OF EMPHASIS, FISCAL YEARS 1966-1972 (THOUSANDS OF DOLLARS)

Area of Emphasis	Amount	Percent of Total
Vocational programs	$1,522	29.0%
Curriculum	1,503	28.7
Guidance and counseling	986	18.8
Instructional	611	11.7
Job market analysis	327	6.2
Administration and management	292	5.6
Total	$5,241	100.0%

Source: Compiled by TAI from RDU records.

Table V-3

DVTE FUNDING OF RESEARCH AND DEVELOPMENT IN SPECIFIC OCCUPATIONS
FISCAL YEARS 1966-1972

Occupation	Amount Funded	
Nursing	$170,598	
Other health occupations	101,983	
Total health occupations		$272,581
Aerospace		177,888
Horticulture	55,494	
Other agriculture occupations	59,531	
Total agriculture occupations		115,025
Data processing	56,163	
Other business occupations	16,870	
Total business occupations		73,033
Homemaking and home economics		69,145
Automotive		57,038
Engineering and technical		42,100
Public service		29,136
Graphic arts		12,744
Ecology and conservation		6,428
Food service		3,192
Total		$856,310

Source: Compiled by TAI from RDU records.

Level of Project Funding

During the 1966-1972 period as DVTE total funding has increased, the size of projects have increased. As shown in Table V-4, the average size of project (total funds divided by number of projects) has increased from $15,751 in FY 1966 to $42,745 in FY 1972. The median (amount of that project which falls at the midpoint between the smallest and largest project) has increased from $7,547 to around $20,000.

Projects funded in the range of $10,000-$24,999 have accounted for 35 percent of total projects, followed by projects under $5,000 (24 percent), projects in the range of $5,000-$9,999 and $25,000-$49,999 (each 16 percent), projects in the $50,000-$99,999 range (6 percent), and projects over $100,000 (4 percent).

During the seven year period prior to FY 1972, projects in amounts under $5,000 have declined from a high of 44 percent of total number of projects in 1966 to 10 percent and less in FY 1971 and 1972. The percent of projects in the three largest ranges has increased by 2.5 times--i.e., from 7 percent to 19 percent in the $25,000-$49,999 range and from 4 percent to 10 percent in both the $50,000-$99,999 range and over $100,000.

Characteristics of Large Projects. The ten largest projects funded during the period 1966-1972 as shown in Table V-5, accounted for $2.5 million (46.7 percent) of total funding. They possess certain characteristics:

1. Funding has been geographically dispersed
2. Functional emphasis has been diverse (vocational program, guidance and counseling, curriculum, and job market analysis)
3. Projects have been performed by both secondary ($1.6 million) and post-secondary ($0.8 million) institutions
4. Funding has been spread over all fiscal years--1966 (8.3 percent of the total for 10 largest projects), 1967 (13.1 percent), 1968 (13.5 percent), 1969 (9.5 percent), 1970 (10.0 percent), 1971 (19.5 percent) and 1972 (26.1 percent).

Table V-4

DISTRIBUTION OF DVTE RESEARCH AND DEVELOPMENT PROJECTS,
BY SIZE OF PROJECT AND YEAR
1966-1972

Fiscal Year	No. of Projects	Under $5,000		$5,000-9,999		$10,000-24,999		$25,000-49,999		$50,000-99,999		Over $100,000		Project Size	
		N	%	N	%	N	%	N	%	N	%	N	%	Average	Median
1966	27	12	44%	3	11%	8	29%	2	7%	1	4%	1	4%	$15,751	$ 7,547
1967	36	14	39	6	17	9	25	5	14	--	--	2	5	19,951	8,820
1968	39	9	23	6	15	13	33	7	18	3	8	1	3	19,663	12,217
1969	35	7	20	7	20	14	40	3	9	4	11	--	--	19,492	10,442
1970	36	7	19	5	14	15	42	7	19	1	3	1	3	21,380	17,200
1971	23	1	4	3	13	9	39	6	26	2	9	2	9	42,677	20,350
1972	21	2	10	4	19	7	33	4	19	2	10	2	10	42,745	19,915
7-year Total	217 1/	52	24%	34	16%	75	35%	34	16%	13	6%	9	4%		

Note: N = Number.
% = Percent.

1/ Total number of projects shown on this table differs from total shown in Table V-1 because this table includes three projects that were funded under more than one Part of the Vocational Education Act of 1968.

Source: Compiled by TAI from RDU published and unpublished records.

Table V-5

TEN LARGEST RESEARCH AND DEVELOPMENT PROJECTS
AND DVTE FUNDING BY YEAR, 1966-1972

Project and Location	Fiscal Years of Funding	1st Year	2nd Year	3rd Year	Beyond 3rd Year	Total 10 Project DVTE Funding	Percent of 7 Year Total DVTE
Computerized Vocational Information System (CVIS) Villa Park	1967-72	$ 10,497	$104,085	$151,801	$360,987[a/]	$ 627,370	12.0%
World of Work Curriculum of the Elementary School (ABLE) Northern Illinois University De Kalb	1971-72	108,812	258,895[a/]	--	--	367,707	7.0
Cooperative Work Training Chicago	1966-67	101,481	183,958	--	--	285,439	5.4
Career Development for Children Southern Illinois University Carbondale	1970-72	9,581	43,008	148,105[a/]	--	200,694	3.8
Work Orientation Program Mt. Prospect	1966-69	25,488	64,362	100,761	4,558	195,169	3.7
Career Development Program Barrington	1968-70	59,151	96,403	37,856	--	193,410	3.7

a/ Includes amount budgeted for FY 1972.

Source: Compiled by TAI from RDU records.

Table V-5 continued

Project and Location	Fiscal Years of Funding	1st Year	2nd Year	3rd Year	Beyond 3rd Year	Total 10 Project DVTE Funding	Percent of 7 Year Total DVTE
Survey of Nurses Aides Chicago	1966-68	$ 52,868	$ 40,733	$ 82,669	--	$ 176,270	3.4%
Illinois Occupational Curriculum Joliet Jr. College	1970-72	10,740	52,172	90,503[a/]	--	153,415	2.9
Program for Wage Earning Classes Champaign	1966-68	21,788	32,626	78,651	--	133,065	2.5
Delinquency Intervention Southern Illinois University Carbondale	1969-71	26,966	35,230	55,876	--	118,072	2.3
Total						$2,450,611	46.7%

a/ Includes amount budgeted for FY 1972.

Source: Compiled by TAI from RDU records.

Except for the Work Orientation Program (1966-1969), the Survey of Nurses Aides (1966-1968), and the Program for Wage Earning Classes (1966-1968), TAI included all of the ten largest projects in their on-site visits.

TAI Comment: Three of the projects (Computerized Vocational Information System, Career Development for Children, and Illinois Occupational Curriculum) show the typical funding pattern for large R and D projects--small first year funding (around $10,000) followed by substantially larger second and third year funding.

New Project Funding. For the period 1967-1972, funding of $1.5 million for new projects has averaged 32.0 percent of total DVTE funding of R and D projects. Except for 1967, when funds of $105,232 for 17 new projects accounted for only 14.7 percent of total DVTE funds for R and D, the ratio of funding between new and continuing projects has been consistent. Table V-6 indicates a range between 14.7 percent in FY 1967 and 39.8 percent in FY 1971.

Project Duration

The average duration of 93 R and D projects completed during the fiscal years 1966-1970 was 1.9 years. As indicated in Table V-7 of the 93 projects completed, 44 (47.3 percent) were of one year duration, 26 (28.0 percent) were of two years' duration, 15 (16.1 percent) were of three years' duration, 6 (6.5 percent) were of four years' duration, and 2 (2.1 percent) were of five years' duration.

The average length of the period of project performance has declined during the period. The average duration of the 26 projects initiated in FY 1966 was 2.3 years compared with an average duration of 1.4 years for the 18 completed projects initiated in FY 1970.

Project Performance in Meeting Objectives

The information for this section of the chapter was obtained from the responses of project directors to the TAI questionnaire. The question on project objectives is cited below followed by the pattern of responses and comments for each.

Table V-6

FUNDS FOR NEW PROJECTS AS A PERCENTAGE OF TOTAL DVTE FUNDING BY YEAR 1967-1972

Fiscal Year	New Projects Funded		
	No.	Amount	Percent of Total Funds
1967	17	$ 105,232	14.7%
1968	21	274,096	35.7
1969	12	182,656	26.7
1970	19	276,592	35.9
1971	16	390,416	39.8
1972	14	313,758	35.0
Six-year Total	99	$1,542,750	32.0%

Note: Refer to Table V-1 for individual year total DVTE funding for R and D.

Source: Compiled by TAI from RDU records.

Table V-7

DURATION OF COMPLETED DVTE RESEARCH AND DEVELOPMENT PROJECTS
ORIGINATED DURING THE FISCAL YEARS 1966-1970

Fiscal Year	Completed Projects	1 Year	2 Years	3 Years	4 Years	5 Years	Average Duration of Projects (Years)
1966	26[a/]	8	8	5	4	1	2.3
1967	17	9	3	3	1	1	1.9
1968	20	7	8	5	--	--	1.9
1969	12	7	4	--	1	--	1.5
1970	18	13	3	2	--	--	1.4
Totals	93	44	26	15	6	2	1.9
Percent of Total	100.0%	47.3%	28.0%	16.1%	6.5%	2.1%	

a/ Excludes Cooperative Work Training (CWT) project completed prior to 1966.

Source: Compiled by TAI from RDU records.

Were all project objectives met? (Question 7)

Response	Number of Responses
Yes	47
No	15
No answer	4

Project objectives reflect the level of expectations by project personnel (including project directors). Once determined and stated in writing they become the guide for determining the allocation of available resources and contribute to the criteria for evaluating the processes used and the end results of project activities.

Of the 66 respondents to the TAI questionnaire, 15 stated that for various reasons all of their project objectives were not met. This represents 23 percent of the total respondents.

In these 15 cases, project directors were asked to comment on what went wrong. Examples of their comments are as follows.

a. What went wrong? (Question 9)

> The format of the questionnaire (used in the project that was funded) was evidently not clear or at least was misinterpreted by those responding. Also, it was evident that some teachers did not make the effort to give accurate information, and some did not really know what was going on in their school.
>
> The . . . public school system would not cooperate in this study.
>
> Unrealistic expectations for number of staff involved and amount of time allocated. Qualifications of one person were not adequate to fulfill the assignment.
>
> Teachers expected too much of trainees. New teachers resented the presence of aide trainees. Insufficient inservice training time.
>
> So much time was spent on making (TV) tapes that we did not have time to show them.

TAI also asked project directors what they thought could have been done to help make their projects more successful.

b. What would be needed for success? (Question 9)

Administration (local) support; commitment to develop technical vocational program on a par with academic program--a job entry curriculum.

Some changes in instrument would have helped to clarify (the objectives of the study)--a more detailed pilot study would have helped.

Additional funds.

Permission to enter the schools.

More staff, more time and more adequately qualified personnel.

Operational Problems Encountered by Projects

Although an individual analysis of the performance of each project visited by TAI was not within the scope of this report, the general characteristics of operating difficulties encountered on projects were analyzed by TAI.

Project directors were asked to state the principal problems they experienced during the course of their projects. The pattern of responses received by TAI indicates that operational problems fell generally into three categories:

- Lack of technical expertise on project staff, which was either not available or forthcoming from the RDU
- Difficulty of obtaining sufficient staff and/or qualified staff for projects
- Inability to obtain institutional support for the project or to gain acceptance of teachers, parents, students, employers, or others affected by the project.

The following comments by project directors support each of the above categories of need.

Lack of Technical Expertise:

Lack of time to develop a useful manpower survey instrument.

Had difficulty setting objectives in a new area.

Amount of time needed to de-bug the developed computer program was more than anticipated.

Inaccurate, contradictory and incomplete data from DVTE, Illinois Junior College Board and local Junior Colleges.

Had difficulty preparing reports to meet deadlines.

Too few valid and reliable instruments relevant to disadvantaged adult students (welfare recipients) were available to study team.

Not enough time to complete everything we wanted to do.

Difficulty of Staffing:

Identification of experts for consultation.

Insufficient staff for designing the system and developing data banks.

Difficulty of finding assistants with the requisite knowledge of curriculum development tools and strategies.

Finding qualified personnel.

Inability to Obtain Support for Projects:

Convincing businessmen that the students enrolled in the Cooperative Work Training Program would be productive and be an asset to their organization.

Some labor unions refused to let their employees participate in the survey.

Enlisting the help and cooperation of the parents.

Getting cooperation of the school districts.

Acceptance of the program by teachers. On-the-job cooperation.

TAI Comment: The operational difficulties outlined in this chapter which have been encountered on projects indicate the need for closer monitoring of projects once they are funded by the RDU. It is apparent that many of the operational problems are related to a lack of administrative experience on the part of project directors. This is not to be unexpected because the professional competence needed to conduct research is not necessarily the same as that needed to direct and administer a research project.

Aside from the problems that arise from lack of sufficient funds or the timing of the receipt of funds, the three major project problem categories determined by TAI indicate that the RDU must place more emphasis on assisting project personnel to plan for and to obtain necessary technical expertise when it is needed on any given project. The RDU should make certain that as part of its screening and selection criteria, every project be adequately staffed by the number and type of personnel needed to reach the stated performance objectives.

Gaining support for projects from school districts, teachers, students, employers, and others often requires public relations efforts which some educational researchers shun or reject as antithetical to pure research. The RDU needs to help projects gain the support they need via visits, letters, personal contacts, and meetings insofar as feasible. More importantly, the RDU should help project directors develop and implement their own plan for obtaining the support they need to help assure the success of their projects.

The net effect of the type of project difficulties discovered and analyzed by TAI points to the need for closer personal contacts between the RDU and project personnel and a more adequate reporting relationship in which small operating difficulties can be discovered and resolved before they become major.

VI IMPACT OF DVTE RESEARCH AND DEVELOPMENT SUPPORT IN ILLINOIS

In this chapter an assessment is made of the impact of DVTE R and D support in Illinois. Information for this analysis was obtained from (1) on-site visits by the TAI team to sample R and D projects, (2) responses of project directors to the TAI questionnaire, and (3) data obtained from published and unpublished RDU records.

Project Director Perceptions of R and D Impact

Project directors were asked whether or not they thought the R and D projects supported by the RDU were addressing various vocational and technical education needs in Illinois. Responses to this question are summarized below.

In your opinion, is R&D for vocational and technical education in Illinois addressing itself to the following? (Question 14)

	Yes	No	Don't Know
1. Manpower needs of the state?	38	9	19
2. Manpower needs of your community?	35	13	18
3. Needs of your school/school district?	39	12	15
4. Student needs?	41	11	14
5. Teacher needs?	41	10	15

As can be seen from the foregoing pattern of responses from project directors, there is a general belief that R and D research supported by the RDU has had a positive effect on the manpower needs of the State and community. The positive impact of R and D in meeting the needs of schools, students, and teachers is perceived as slightly more effective than the benefits derived by the State and local communities. However, it is also obvious from the number of "no" and "don't know" responses to the question

cited above that there is no clear consensus in the minds of some responding project directors that R and D has had a significant impact in solving major educational problems and meeting needs.

> TAI Comment: When "don't know" responses are viewed more carefully, the answers range from 28 percent to 22 percent of the number of project directors responding to various parts of the question, with an average "don't know" response of 25 percent. This indicates that project directors need to be made more aware of the research being developed through R and D funding. To have 25 percent of the project directors unaware of what has been done to meet the needs of various factions outside of their own project area could result in duplication of effort and/or a lack of concern in areas of pressing need.

TAI attempted to analyze the responses of project directors and the information gathered during field visits to sample projects in order to assess the impact of R and D on each of the five areas listed above. Each is discussed below.

Impact on State

Little hard data were available from which to adequately assess the real impact of R and D in meeting the needs of the State. One would have to concede that the expenditure of over $5 million on research and development projects in the past seven years has had some overall benefit on the State in meeting educational needs. However, this concession does little to help quantify the impact beyond the actual dollars spent. Nor do dollar expenditures themselves allow an accurate comparison with benefits that could have been derived from R and D had the funds been devoted to other projects or research activities.

Comments from project leaders who were not completely satisfied with the extent of the impact of R and D on statewide educational problems illustrate the latter point.

> The Board determines priorities, (RDU) staff issues RFPs, researchers respond to these. Truly creative proposals cannot be funded.

I think some areas have been slighted. For example, we desperately need manpower studies . . .

R and D is contracting with the Universities to do the research and it is not relevant to big city problems and consequently not to the entire State of Illinois.

There is a need for organization and programs at the State level which will de-emphasize the vocational training concept in favor of Career Education.

TAI Comment: Based on the available information, TAI believes that the RDU has made considerable progress in addressing itself to the needs of the State during the period between FY 1966-1972. Additional work needs to be done in the area of job market analysis, development of Career Education, and implementation of project results. However, the full impact of R and D cannot be determined until the results of present and past research efforts have been made operational in more schools in the State. This effort will not only require increased emphasis by the RDU but by other units within the DVTE and other State level institutions responsible for improved education at all levels.

Impact on Communities

Although the impact of R and D on the State as a whole is difficult to assess in quantitative terms, considerable more information is available with which to judge its influence on communities. For purposes of this analysis, communities were defined as counties unless otherwise stated by TAI.

The DVTE has funded R and D projects in 28 of Illinois' 102 counties. Table VI-1 indicates the principal recipient counties. Cook County, with 24.4 percent of total DVTE funding since 1966, has received the largest percent followed by Champaign County (15.8 percent), Du Page County (12.4 percent), Jackson County (8.5 percent), and De Kalb County (7.8 percent). The three counties receiving the highest level of funding (Cook, Champaign, and Du Page) account for 52.6 percent of total DVTE funding of R and D projects. By adding three more counties (Jackson, De Kalb, and Lake) this accounts for 74.0 percent of the total funding.

The sum total of funding given to projects located in the six county Chicago Standard Metropolitan Statistical Area (SMSA) represents 49.0 percent of the R and D funds allocated by the RDU between 1966 and 1972.

Table VI-1

DVTE FUNDING OF RESEARCH AND DEVELOPMENT PROJECTS
BY PRINCIPAL COUNTIES
1966-1972

County	Percent of Total Funding
Cook[1/]	24.4%
Champaign[1/]	15.8
Du Page	12.4
Jackson[1/]	8.5
De Kalb[1/]	7.8
Lake	5.1
Will[1/]	4.2
St. Clair	3.1
Peoria	2.9
Coles[1/]	2.4
McHenry	2.1
Whiteside	1.6
Alexander	1.6
Hancock	1.1
Kane	0.8
Jo Daviess	0.8
Mason	0.7
Williamson	0.6
La Salle	0.5
McDonough	0.5
Other	3.1
Total	100.0%

1/ Includes post-secondary institutions as contractors.

Source: Compiled by TAI from RDU records.

In 1970, these six counties had 63.6 percent of the State enrollment in elementary schools and 62.6 percent of the high school enrollment. Thus, the proportion of funds devoted to R and D in the Chicago SMSA seems reasonable.

The location of projects funded by the RDU in the State between 1966 and 1972 is shown in Figure VI-1. Distribution of funds on a statewide basis appears to be diversified at this point in time as illustrated by the figure. The individual cities and towns within Illinois where a major proportion of R and D funds were allocated for projects are listed in Table VI-2. The distribution of R and D funds to communities where post-secondary schools are located (as noted in Tables VI-1 and VI-2) warranted individual analysis by TAI. This appears in the following section.

Impact on Post-Secondary Institutions. The financial impact of DVTE support ($1.7 million during 1966-1972) on community and junior colleges, four year colleges, and universities in Illinois has been significant. As indicated in Table VI-3, post-secondary institutions in Illinois have received 33.8 percent of the total DVTE funding of R and D projects since 1966. As total DVTE funds for R and D have increased, post-secondary institutions have received an increasing percent of the total amount. From 10.9 percent of total funds in FY 1966, the percentage has increased each year to 69.1 percent in FY 1972.

As shown in Table VI-4, principal recipients of DVTE support for R and D since FY 1966 have been the University of Illinois (UI) with 22.5 percent of total funding to post-secondary institutions; Northern Illinois University (NIU), 21.6 percent; Southern Illinois University (SIU), 19.9 percent; Parkland College, 10.3 percent; and Joliet Junior College, 8.8 percent.

During the seven year period between 1966 and 1972, a shift in the funding pattern for R and D at the major universities in Illinois has occurred. Prior to 1969, the University of Illinois received the major share (66.7 percent) of R and D funds going to post-secondary institutions. Between 1970 and 1972, its portion decreased dramatically (7.2 percent).

Figure VI-1

LOCATION OF COMMUNITIES IN ILLINOIS
RECEIVING R AND D PROJECT FUNDS FROM THE DVTE

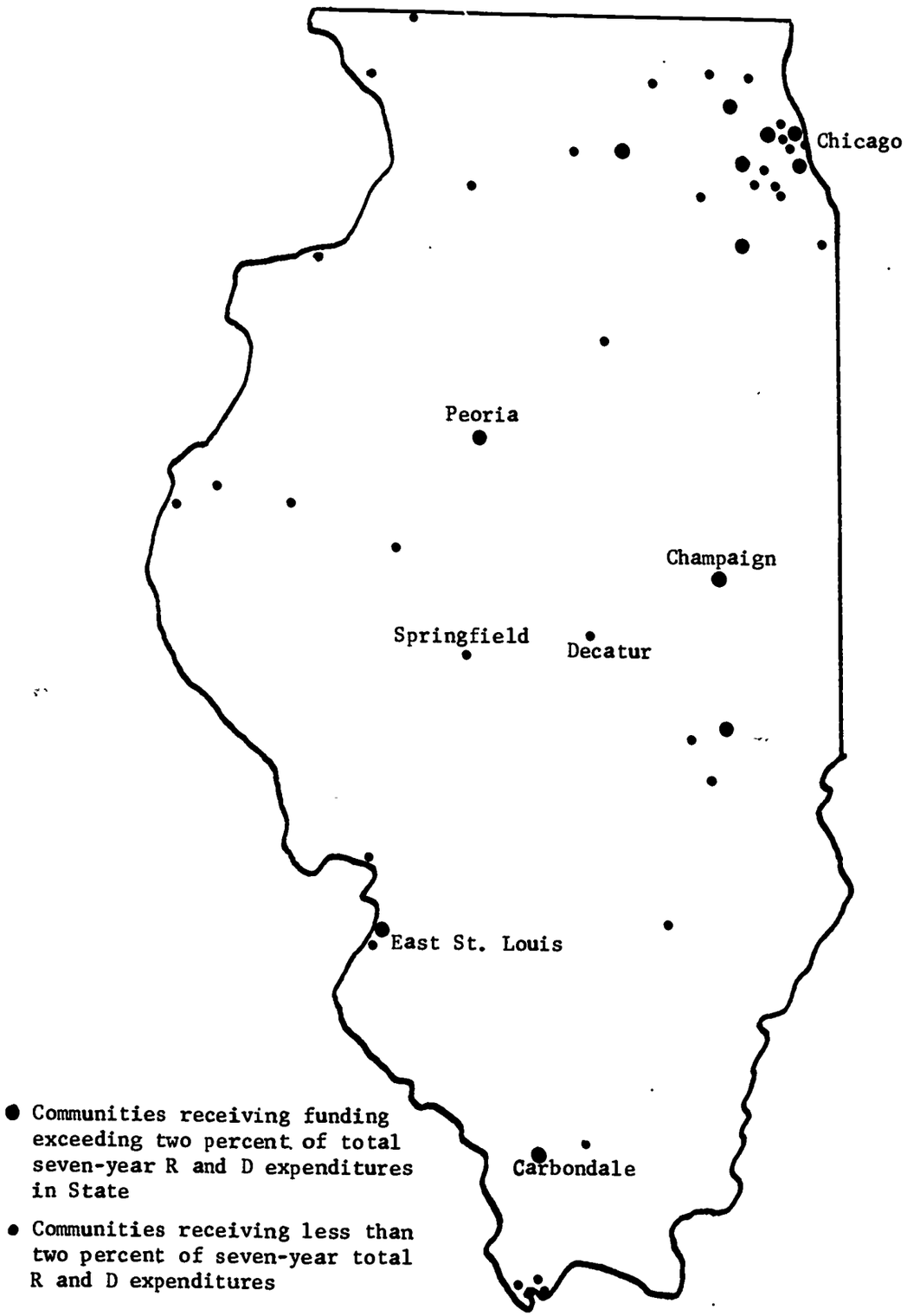


Table VI-2

INDIVIDUAL COMMUNITIES RECEIVING A MAJOR PROPORTION OF R AND D FUNDS DURING THE PERIOD 1966-1972

Individual Communities Receiving R and D Funds 1966-1972[1]	Percent of Total R and D Funds Received
Chicago SMSA	(49.0%)
Chicago[2]	13.6
Villa Park	12.3
Joliet[2]	4.2
Mt. Prospect	3.8
Barrington	3.8
(14) Other Communities in Chicago SMSA	11.3
Champaign-Urbana[2]	15.8
Carbondale[2]	8.5
De Kalb[2]	7.8
Peoria	2.9
East St. Louis-Cahokia	2.9
All Other Communities in State (except Chicago SMSA)	13.1

1/ Communities defined as cities and towns in which projects were funded by RDU.

2/ Location of post-secondary institutions.

Source: Compiled by TAI from data obtained from RDU records and files.

Table VI-3

DVTE FUNDING OF RESEARCH AND DEVELOPMENT PROJECTS
WITH POST-SECONDARY INSTITUTIONS

Fiscal Year	Percent of Total R&D Funding
1966	10.9%
1967	14.5
1968	16.7
1969	22.0
1970	29.1
1971	48.0
1972	69.1
Seven-year Average	33.8%

Source: Compiled by TAI from RDU records.

Table VI-4

DVTE RESEARCH AND DEVELOPMENT FUNDING
TO POST-SECONDARY INSTITUTIONS
1966-1972

Institution	Amount	Percent of Total Funding	
		Post-Secondary Institutions	DVTE
University of Illinois	$ 391,035	22.5%	7.6%
Northern Illinois University (NIU)	374,720	21.6	7.3
Southern Illinois University (SIU)	344,817	19.9	6.7
Parkland College	179,276	10.3	3.5
Joliet Jr. College	153,415	8.8	3.0
Chicago City College	119,064	6.9	2.3
Eastern Illinois University (EIU)	96,655	5.6	1.9
Moraine Valley Community College	38,502	2.2	0.8
Western Illinois University (WIU)	26,237	1.5	0.5
Black Hawk College	10,87[c]	0.6	0.2
Lakeland College	2,272	0.1	0.0
Totals	$1,736,872	100.0%	33.8%

Source: Compiled by TAI from RDU records.

See Table VI-5. Northern Illinois University did not receive any R and D project funds prior to 1969, but since then it has received 29.1 percent of the total post-secondary share. Southern Illinois University increased its share of R and D funds from 7.7 percent prior to 1969 to 24.1 percent during the 1970-72 period. Thus, a heavy reliance upon one major university (UI) for R and D prior to 1969 has shifted to a more diversified and balanced funding pattern among the universities and other post-secondary institutions in the State.

Impact on Schools and School Districts

The impact that DVTE funding of R and D projects has made on the schools and school districts which have participated in performing research is indicated by the increasing amount of local financial support being provided. As indicated in Table VI-6, local support of R and D projects has increased from 28.3 percent of the total of R and D project budgets ($168,000) in FY 1966 to 42.4 percent ($724,000) in FY 1971.

TAI Comment: Local support consists of a number of elements which can be quantified financially. Teacher salaries, use of space, equipment, materials, clerical support, etc., all constitute items used by local districts and schools as financial support for R and D projects. The important trend established during the past seven years is that R and D projects have increasingly involved local financial support.

Impact on Students

The direct impact of R and D projects on students at any level of education in the State has been limited, except in those instances where students have been involved with experimental or demonstration programs. Several notable examples of these exist. Among them is the Cooperative Work Training (CWT) program in Chicago where approximately 800 high school students were involved with the experimental program in 1966-67. Since that time, the CWT program has been implemented as an ongoing program and other students have benefited from the program. No records were available, however, for TAI to gauge the number of students involved since 1967.

Table VI-5

COMPARISON OF DVTE R AND D FUNDING,
BY POST-SECONDARY INSTITUTION,
1966-69 AND 1970-72

Post-Secondary Institution	1966-69		1970-72	
	$(000)	Percent	$(000)	Percent
University of Illinois	$298.9	66.7%	$ 92.2	7.2%
Northern Illinois University	--	--	374.7	29.1
Southern Illinois University	34.4	7.7	310.4	24.1
All Others	114.5	25.6	511.8	39.6
Total	$447.8	100.0%	$1,289.1	100.0%

Source: Compiled by TAI from data obtained from RDU records.

Table VI-6

LOCAL SUPPORT FOR RESEARCH AND DEVELOPMENT
PROJECTS FUNDED BY DVTE
FY 1966-1971
(Dollars in thousands)

Fiscal Year	Amount of Local Support	Total R and D Project Budgets[1/]	Local Support as Percent Total Budget
1966	$168	$ 593	28.3%
1967	282	1,000	28.2
1968	359	1,126	31.9
1969	334	1,016	32.9
1970	492	1,262	39.0
1971	724	1,706	42.4

1/ Includes DVTE funding, which is the difference between the total R and D project budget and local support.

Source: Compiled by TAI from RDU records.

Another example of direct impact on students occurred in the funding of the Computerized Vocational Information System (CVIS) where students in the pilot secondary schools voluntarily used the computerized career information and guidance system. No records were available, but counselors estimated that the system was used 2,200 times by students during the 1971 and 1972 school years.

Other examples of the direct benefit of R and D were cited by project directors of projects which had reduced dropout rates, increased job placements and increased college entrance rates; however, these benefits were based on project director estimates rather than carefully maintained records.

The impact of past R and D on students below the secondary level has been even more limited than at the secondary school levels. The future influence on elementary level students is expected to increase as more emphasis is placed on the development of the Career Education concept in which curriculum for lower grades is implemented (e.g., Facilitating Career Development at the Elementary Level, SIU; and The World of Work as an Organizing Center for the Curriculum of the Elementary School, Project ABLE, NIU).

> TAI Comment: On the whole, the extent to which students have actually been affected by R and D projects is small compared with the potential number of students who could be reached if recent project findings and experimental program experiences resulted in implementation. This emphasizes the need for increased effort by the DVTE to aid in the transition of research results into operational programs in the schools.

Impact on Teachers

Teacher responses to the TAI questionnaire and personal interviews conducted during on-site visits indicated that a positive impact was being made on teachers in a number of projects. The results affecting teachers most often mentioned in the questionnaire responses were:

Better instructional techniques

Improved guidance and counseling techniques

Development of new curricula

Improved attitudes and better understanding of students.

However, one teacher believed that the impact of R and D would be greater if there were more meaningful and realistic communication between the State office (DVTE) and the local high schools. Another teacher commented that teachers or other disciplines should be involved with R and D projects to investigate and demonstrate the relationship of occupational information to their respective fields.

On the whole, the impact of R and D on teachers is similar to the impact on students--the potential is greater than past performance would indicate. One teacher pointed this out and then went on to explain how the impact on teachers could be improved.

> Greater emphasis should be placed on the development of how-to-do manuals versus the conduct of workshops. Unfortunately, teachers are a difficult group to get together at any one time, so manuals (based on the results of research) should be developed and used by school districts for their own inservice education.

The use of demonstration centers for training school personnel (administrators as well as teachers and counselors) is another approach which could be used by the DVTE to increase the impact on teachers in Illinois and thereby obtain greater results for more students in the State.

APPENDIX A

COPY OF THE COVER LETTER AND DATA COLLECTION INSTRUMENT

State of Illinois

Office of the Superintendent of Public Instruction

DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION

1035 OUTER PARK DRIVE, SUITE 201

SPRINGFIELD 62706

AREA CODE 217 · 525-4871

MICHAEL J. BAKALIS, EXECUTIVE OFFICER
SUPERINTENDENT OF PUBLIC INSTRUCTION

SHERWOOD DEES, DIRECTOR
TELEPHONE: 525-4870

Re:

Dear

The Research and Development Unit has contracted with Tadlock Associates, Inc. (TAI), a California educational consulting firm with clients throughout the country:

(1) to evaluate the research and development (R and D) activities which have been supported by the Division of Vocational and Technical Education; and

(2) to assess their influence on occupational education in Illinois.

Enclosed is a short questionnaire being sent to all principal investigators of R and D projects supported by this unit since its inception in 196). Please complete the questionnaire at your early convenience (by May 5) and return it to TAI in the enclosed self-addressed envelope. Inasmuch as your answers will not come to this office, feel free to be candid. Your answers to specific questions will not be identified by TAI without first contacting you. If you have questions, please contact me or members of my staff with whom you have had contact.

Subsequently to their review of the answers to the questions, TAI will make on-site visits in May and June to discuss a number of projects with the principal investigators. If your project is selected for an on-site visit, you will be contacted by the end of April to arrange a time and place for the visit by either Fred Carvell or Kirk Draheim, who some of you met in Peoria last month.

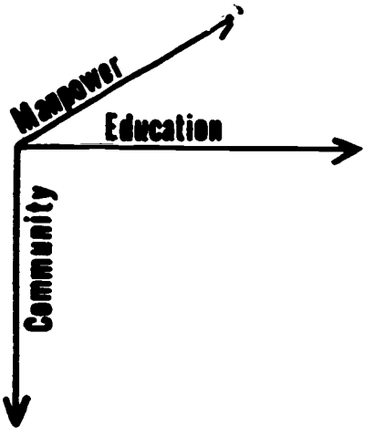
As you may know, I am leaving the Division of Vocational and Technical Education as of May 1, 1972. I have accepted a position as Research Director with the Governor's Advisory Council on Vocational Education. I would like to take this opportunity to express my thanks for your cooperation during my tenure with the Division.

Thank you for your cooperation in this evaluation. Findings will be made available later in the year.

Sincerely,

Robert K. Gray

Robert K. Gray, Coordinator
Research and Development Unit



Tadlock Associates Inc.

QUESTIONNAIRE FOR
ILLINOIS RESEARCH AND DEVELOPMENT (R&D)
PROJECT DIRECTORS

Note to respondents: If space is insufficient for your answer, or you wish to make additional comments, please use the reverse side or a separate sheet.

1. Title of project:_____
2. Director of project:_____
3. Institution:_____
4. Year project was first funded by R&D Unit (RDU):_____
5. Amount of RDU funding to date:_____
6. Month and year of completion or expected completion:_____
7. Were all project objectives met? Yes____ No____
8. If answer is "yes" on 7, how do you measure this in such terms as number of job placements, new curriculum, instructional techniques, etc.:_____
9. If answer is "no" on 7:
   a. What went wrong?_____
   b. What would be needed for success?_____

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10. How have results of the project been used (or are to be used)--when, where (name of schools), number of students, number of teachers, effect upon employment, etc.:_____

_____

_____

11. Do you believe there are significant findings from your project which have not been properly exploited? Yes____ No____

a. What are they?_____

_____

_____

b. How do you propose they be implemented?_____

_____

_____

12. What were the principal problems experienced?_____

_____

_____

13. As to the support you received from the State R&D Unit (RDU):

a. Were funds sufficient? Yes____ No____

If "no," estimated amount insufficient: $_____

b. Was there undue difficulty in receiving project approval?

Yes____ No____

If "yes," please explain:_____

_____

c. After project approval, was sufficient assistance received from RDU to meet operational difficulties? Yes____ No____

If "no," please explain:_____

_____

d. Upon completion of project, were there difficulties in closure with RDU (such as submission and publication of report, payment, etc.)? Yes____ No____

If "yes," please explain:_____

_____

e. All things considered, how do you rate the performance of RDU?

Good____ Average____ Poor____

f. What procedural changes would you recommend?_____

_____

_____

14. In your opinion, is R&D for vocational and technical education in Illinois addressing itself to the following:

a. Manpower needs of the state? Yes____ No____

b. Manpower needs of your community? Yes____ No____

c. Needs of your school/school district? Yes____ No____

d. Student needs? Yes____ No____

e. Teacher needs? Yes____ No____

f. If your answer is "no" to any of the above, please explain:

_____

_____

15. From your experience, what would you recommend to be done differently?

_____

_____

_____

_____

APPENDIX B

QUESTIONNAIRE RESPONSES FROM PROJECT LEADERS OF DVTE RESEARCH AND DEVELOPMENT PROJECTS

APPENDIX B

QUESTIONNAIRE RESPONSES FROM PROJECT LEADERS
OF DVTE RESEARCH AND DEVELOPMENT PROJECTS

Project Number	Project Description and Location	Fiscal Years of Funding	DVTE Funding
01-C7	Lake County Engineering Technician Need Study University of Illinois	1965-1967	$ 20,456
17-C8	Evaluation of Illinois Post-High School Educational Programs in Agriculture Southern Illinois University	1966-1968	6,798
18-A6	A Study of the Developments, Trends, and Current Status of Practical Nursing in Illinois University of Illinois	1967	4,293
25-A7	Development of Curriculum Guides for Integrated Programs of Home Economics at the Secondary Level University of Illinois	1967	15,078
29-A7	Black Hawk College Occupational Survey Moline	1967	3,750
31-A7[1/]	Computerization of Vocational Information for Guidance Use Villa Park	1967-1972	627,370
32-B9	Vocational Horticulture Specialty Programs for Secondary Students University of Illinois	1968-1969	19,019
36-B9	The Use of Portable Video Tape Recorders and Micro-teaching Techniques to Improve Instruction in Vocational-Technical Programs in Illinois University of Illinois	1968-1969	87,206

1/ Project is also referred to by other project numbers in RDU files.

Project Number	Project Description and Location	Fiscal Years of Funding	DVTE Funding
37-A8	Feasibility Study on an Area-Wide Vocational Education Facility Bremen High School	1968-1969	$ 33,442
38-A8	Educational Data Processing Planning Study Bremen High School	1969	39,908
39-A9	Structured Occupational Internship for Experienced Vocational Teachers	1969	9,194
42-A9	An Innovative Graduate Education Program for Women in Vocational Home Economics Education Eastern Illinois University	1969	2,854
44-A0	Surveys of Counselor Educators and Secondary School Counselors Concerning Graduate Preparation in Vocational Guidance and Guidance Information Services Southern Illinois University	1970-1971	16,121
45-A0	Vocational-Technical Training Study for Industry in the St. Louis Metropolitan Region Southern Illinois University	1970	1,000
46-A0	Manpower and Training Survey Mattoon	1970	2,272
47-A0[1/]	Preparedness Program Champaign	1970-1972	101,838
00023-C7	Experimental Program in CWT Chicago	1966-1967	285,439
00024-D8	Survey of Currently Employed Nurses Aides in Chicago Chicago	1966-1968	176,270
00058-D9	A Work Orientation Program Mt. Prospect	1966-1969	195,169

1/ Project is also referred to by other project numbers in RDU files.

Project Number	Project Description and Location	Fiscal Years of Funding	DVTE Funding
00060-E0	Vocational and Guidance Information through Television Sterling	1967-1970	$ 66,457
00062-D9	Alexander County Adult Experimental Counseling and Guidance Program for the Disadvantaged Cairo	1967-1969	47,548
00063-C8	Experimental Program in Electronic Data Processing Evanston	1967-1968	46,788
00067-B7	An Experimental Program in Vocational Education Springfield	1967	4,111
00068-C9	A Specific Program to Motivate Vocationally Oriented Students to Complete their High School Education Carbondale	1967-1969	21,624
00069-D0	Programs to Reach and Motivate Potential Dropouts Peoria	1967-1970	66,267
00070-D9	Urbana Experimental Vocational Program Urbana Senior High School	1966-1969	75,559
00072-C9	A Vocational Aerospace Studies Program Dupo	1967-1969	8,939
00075-A8	Work Experience Program for Dropout-prone Students Quincy	1968	8,518
00077-B9	Teacher Aide-Trainee Coop Teaching Program Chicago	1968-1969	36,343
00078-C0	Career Development Program Barrington	1968-1970	193,410
00083-C0	Experimental Program in Vocational Education Havana	1968-1970	35,462

Project Number	Project Description and Location	Fiscal Years of Funding	DVTE Funding
00089-B0	Technical Mathematics Parkland College	1969-1970	$ 40,271
00092-B0	Joint Occupational Orientation Project Libertyville	1969-1970	39,097
00094-A9	Adjustment for Special Need Vocational Youth Marion	1969	12,114
00097-A0	A Pilot Study in Teacher Education for Inservice Industrial Teachers to Relate Contemporary Technological Practices to Industrial Education Content and Program De Kalb	1970	7,013
RDB-A0-002	A Research and Development Project in Occupational Education: The Development of Process Models for Decision Making in Curriculum Development and Evaluation Joliet Junior College	1970-1972	153,415
RDB-B1-003	Facilitating Career Development at the Elementary School Level Southern Illinois University	1970-1973	200,694
RDB-A0-004	Facilitating Career Development: An Annotated Bibliography Southern Illinois University	1970	3,112
RDB-A0-009	Development of an On-Line Pupil Data Bank Springfield Public Schools	1970	11,771
RDB-A0-011	The World of Work as an Organizing Center for the Curriculum of the Elementary School Northern Illinois University	1971-1972	367,707
RDB-A0-012	System for Individualizing Vocational Education Niles Township High School	1970-1971	20,826
RDD-A1-015	An Exemplary Program in Prosthetic-Orthotic Education Fenger Southeast College	1971	40,000

Project Number	Project Description and Location	Fiscal Years of Funding	DVTE Funding
RDB-A1-017[1/]	Delinquency Intervention Program in the Carbondale Community High School Southern Illinois University	1969-197'	$118,072
RDD-A1-018[1/]	Air Frame-Power Mechanics Program for Upper Classmen Cahokia	1967-1972	99,332
RDD-A1-024	Aviation Mechanics Program East St. Louis	1970-1972	40,548
RDB-A1-026	Technical Physics Parkland	1971-1972	37,167
RDB-A1-030	A Special Analysis of Vocational Education in the City of Chicago Chicago	1971	42,652
RDB-A1-034	Metropolitan Programs in Applied Biological and Agricultural Occupations: A Need and Attitude Study University of Illinois	1971	10,783
RDB-A1-035	State Survey of Home Economics Programs in Illinois Southern Illinois University	1971	3,948
RDB-A1-037	An Analysis of Secondary Area Vocational Centers in Illinois Illinois State University	1971	23,460
RDB-A1-039	Demonstration Center for A Comprehensive Home Economics Program in A Medium Sized High School Flora Township High School	1971	8,447
RDC-A1-043	The Development of a System Model(s) for the Collection, Processing, Summarization and Comparison of Course Cost, Enrollment and Reimbursement Data at the Community College University of Illinois	1971-1972	15,409

1/ Project is also referred to by other project numbers in RDU files.

Project Number	Project Description and Location	Fiscal Years of Funding	DVTE Funding
RDD-A2-049	An Exemplary Program in Technical Education Based on Integrated Measurably Stated Behavioral Objectives Moraine Valley Community College	1972	$ 38,502
RDC-A1-053	Follow-up Study of Illinois Home Economics Job Training Program Eastern Illinois University	1971	3,955
RDC-A2-056	Nuclear Radiation Technology Crystal Lake	1971-1973	21,809
RDD-A2-066 -067 -069 -073	Demonstration Centers for Horticulture Programs Rochelle, Naperville, Skokie, and Alton	1972	27,495
RDD-A2-070	Demonstration Center for a Comprehensive Vocational Home Economics Program Lyons Township High School	1972	18,682
RDD-A2-074	Demonstration Center, Elementary Career Education Program Joliet Public School	1972	14,900
RDD-A2-075	Vocational Information Project Thornton High School	1972	15,565
RDC-A2-079	Automated Follow-up of Vocational Education Graduate Eastern Illinois University	1972	50,004
RDD-A2- --	Career Education, 9-12 Peoria Public Schools	1972	85,200
	Total project funding		$3,830,453

APPENDIX C

ON-SITE VISITS OF RDU PROJECTS BY TAI

May and June 1972

Appendix C

ON-SITE VISITS OF RDU PROJECTS BY TAI
May and June 1972

Project Title and Location	Persons Interviewed	Project Duration	DVTE Funding
Computerized Vocational Information System (CVIS) Willowbrook High School, Villa Park	L. Foster E. Guintoli	1967-72	$627,370
Career Development Program Barrington Consolidated High School	F. Lentz E. Rueck	1967-70	193,410
Nuclear Radiation Technology Crystal Lake Community High School	W. Phelps W. Baldwin	1971-	21,809
The World of Work as an Organizing Center for the Curriculum of the Elementary School Northern Illinois University, De Kalb	W. Wernick	1970-73	367,707
Analysis of Vocational Education in Chicago C. Joseph Ehrenberg Assoc., Chicago	J. Ehrenberg	1970-71	42,652
Illinois Occupational Curriculum Project Joliet Junior College, Joliet	J. Borgen D. Davis D. Anderson U. Oen	1970-72	153,415
Preparedness Program Parkland Junior College, Champaign	T. Simpson C. Matz	1969-72	101,838
Technical Mathematics Parkland Junior College, Champaign	P. Thompson	1968-70	40,271
Aerospace Studies Air Frame-Power Mechanics Program Cahokia High School	E. Wirth D. Chapman	1967-70 1970-73	51,232 48,100
Aviation Mechanics Program East St. Louis High School	E. Blue B. Franklin	1970-73	40,584

Project Title and Location	Persons Interviewed	Project Duration	DVTE Funding
Delinquency Intervention Program Southern Illinois University, Carbondale	R. Pooley K. Haedrich	1968-71	$118,072
Career Development at the Elementary Level Southern Illinois University, Carbondale	L. Bailey K. Turner W. Van Ruoy	1970-73	200,694
Cooperative Work Training (CWT) Chicago Public Schools	B. Quigley	1964-67	285,439
Total			$2,292,593