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ABSTRACT

This report documents the collaborative efforts of faculty and students in the School of Education at Virginia Commonwealth University to revise the regular program for elementary teachers so that teachers will be adequately prepared to meet the demands of mainstreaming. This two-year effort focused on developing skills in providing relevant instruction for exceptional children in regular classrooms. The project was organized into two components. First, a small teams/big team design focused on changes for the elementary program. Second, support activities were organized to extend project efforts beyond the elementary program and generate new teacher education materials. The organizing structure featured a series of small mainstreaming development teams. Each team was comprised of a faculty member from special education, two from general education, and a graduate assistant. Each team was responsible for the design, development, and field evaluation of a series of learning activities to be incorporated directly into the present preservice elementary teacher education program. These teams, together with other key personnel, combined to form an overall project team for curriculum planning and development. The teaming arrangement provided a useful mechanism for general and special education faculty to learn from each other. A significant number of instructional materials were developed and are in use in elementary education courses. (JD)

Toward Preparation Programs Responsive to the Educational Needs of Handicapped Children

The

Final Report

of the

Dean's Grant Project on Mainstreaming, 1978-80
(OEG G007801524)

School of Education

Virginia Commonwealth University

Richmond, Virginia

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with assistance of
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October 1980

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Acknowledgments

This report documents the collaborative efforts of faculty and students in the School of Education to revise the regular education preparation program for elementary educators. Their contributions, too numerous to list, are documented throughout this report.

The project was served by three able graduate student administrative assistants: Debbie Farmer, Trudi Sloan, and Candy Chester. Their assistance and support in the conduct of this project and in the preparation of this report is gratefully acknowledged.

Charles Ruch

INTRODUCTION

> *...a plan for the revision or reform of the regular education preparation programs in terms of responsiveness to the educational needs of handicapped children. Such revisions must extend beyond the addition of one or two required courses to include significant practica experiences, and should provide the teacher with skills and experiences necessary to feel competent to face the individual challenges of children who vary from "average" behavior. Innovative approaches to this curriculum revision task are welcomed. (Dr. Edward Martin's announcement of National Dean's Grant Program, July 29, 1974.)*

Recent special education legislation and litigation demand significant changes in the initial preparation of teachers. The Education for All Handicapped Children Act (P.L. 94-142) requires that all educational personnel be adequately prepared to meet the educational needs of handicapped children. The particular requirements of P.L. 94-142, its emphasis on due process requirements, educational diagnosis, and individually planned programs, place particular challenges on the regular educator to provide meaningful educational experiences for all children--competencies that are only currently being developed as a significant part of Virginia Commonwealth University's teacher education programs.

A recognition of the need for modification of training programs for all educational personnel to meet the demands of exceptionality is reflected in revised state certification standards. As a requirement for program

re-approval, each preparation program must demonstrate that its graduates possess those skills, attitudes, and knowledge necessary to implement the identification, individualization, procedural and referral requirements of the state and federal legislation regarding exceptional children. In Virginia, it is mandated that "information about, experiences with, and knowledge of special education, in order to deal with exceptionalities and the proper referral of these cases, be a part of every teacher preparation program" (Virginia Department of Education, 1976b).

The realities of the educational workplace require increasing competencies on the part of all educators to deal with handicapped children. During the 1978-79 school year 81,329 handicapped children were identified and served by the public schools in the Commonwealth of Virginia. This constituted 6.09 percent of the school-aged population that year. During the same year, the number of unserved (or potentially served) children was estimated at 59,792 (an additional 2.18%). Of those children served during that year 47,110 or 57.9% were provided services in regular classes (DHEW, 1979). The provision of educational services to handicapped children has now become a task of the general educator. While efforts at in-service training are directed at existing educational personnel, no longer can new educational personnel be trained without such skills. Changes in each training program must be instituted.

This report describes a two-year effort to facilitate such changes in the training program for elementary teachers at Virginia Commonwealth University. Consistent with the National Dean's Grant program, this project was designed and conducted as a planning and development effort, not a personnel

preparation activity, per se. Its target audience was the education faculty and pre-service program they deliver; the indirect benefactors, current and future pre-service trainees.

GOALS AND OBJECTIVES

As will be reported below, efforts were underway prior to the start of this project to introduce modifications to the elementary education program. In the midst of these curriculum change efforts there arose a concern over the inclusion of competencies needed for regular educators to deal with exceptional children in regular classrooms. This project was designed to focus and hasten this process.

Goals

At the outset, the Dean's Grant on Mainstreaming proposed three interrelated goals.

1. To design, develop, and implement modifications to the pre-service training program for elementary education majors, designed to develop their skills in providing relevant instruction for exceptional children in regular classrooms.
2. To design, develop, and conduct professional development activities for regular School of Education faculty members, designed to increase their awareness, skills, and knowledge with respect to mainstreaming activities.
3. To design, develop, and initiate the use of three training materials and activities, the emphasis of which is integration of university- and field-based resources to assist pre-service elementary teachers in developing mainstreaming skills.

Objectives

To achieve these project goals, it was planned during Year One (1978-79) to:

1. Establish three inter-departmental Mainstreaming Development Teams (MDT's) to design, develop, field-test, and implement appropriate module/learning experiences to assist pre-service elementary teachers in achieving mainstreaming competencies;

2. Conduct one major conference bringing together students, university faculty, and public school/agency personnel to extend the awareness of mainstreaming (local support); and

3. Conduct, if appropriate, two follow-up workshops, organized by role, to further explore the implications of mainstreaming on each role (local support).

During Year Two (1979-80) it was planned to:

1. Establish three additional inter-departmental Mainstreaming Development Teams (MDT's) to design, develop, field-test, and implement appropriate module/learning experiences to assist pre-service elementary teachers in achieving mainstreaming competencies;

2. Conduct one major conference bringing together students, university faculty, and public school/agency personnel to extend the awareness of mainstreaming (local support); and

3. Conduct, if appropriate, two follow-up workshops, organized by role, to further explore the implications of mainstreaming on each role (local support).

As the literature on Dean's Grants illustrates (Grosenick & Reynolds, 1978; NSSP, 1980; Reynolds & Birch, 1978) the nature of the "innovation" being introduced into the program is usually complex. Mainstreaming is a generic term. Reynolds & Birch (1978) state:

> It signifies the enlargement of the stream of regular education--the ordinary classrooms and schools of the community--to accommodate children who present special needs. The process involves new functions for regular teachers and the preparation of such teachers for their expanded roles. It involves new forms of support and collaboration by and with specialized teachers and other school personnel, such as school psychologists and social workers. (page 1)

Some (NSSP, 1980) argue that needed competencies for teachers form the basis for a total reconceptualization of teacher education.

As a point of departure, this project addressed the need to modify pre-service preparation of elementary teachers to respond to this broadened role for the elementary teacher. New teachers must be able to provide the necessary instructional strategies to educate exceptional children appropriately placed in regular classrooms. The entry level teacher of the 1980's must possess those skills, knowledge, attitudes, and experiences to effectively provide instruction for exceptional children in regular classes. In general, these include expanded competencies in:

1. Educational diagnostic procedures,
2. Group and individual instructional procedures,
3. Abilities to implement aspects of P.L. 94-142
   - i. individual education program (IEP)
   - ii. least restrictive environment
   - iii. alternative environments
   - iv. procedural safeguards
   - v. surrogate parent involvement
   - vi. served and unserved priorities
   - vii. non-discriminatory testing,
4. Understanding of medical aspects of exceptionality, and an
5. Understanding of characteristics of exceptionality by category.

While there is a growing knowledge-base supporting each of the above-competency categories, unaminity of faculty opinion was absent regarding what knowledge, skills, and attitudes should be introduced in which order into the curriculum. Much of the project was devoted to an analysis of this problem.

RATIONALE

A Dean's Grant project in its design and conduct presents an opportunity to conceptualize strategies for faculty development and institutional change. The unusual complexity of the proposed change itself, the nature of faculty development, and the characteristics of change in schools (both public and higher education) argue for studied analysis and planning. The fact that the dean is the project director serves both to facilitate and complicate project design and implementation. Fortunately, there is a developing body of literature on staff and organizational development in general, as well as their applications to schools of education. An attempt to synthesize some of this literature into a conceptual scheme and operational plan has been one agenda of this project, particularly for the director. This aspect of the project started with pre-proposal activities. Subsequent applications for funding permitted the sharpening of the conceptual base and strategy. This report provides yet another opportunity to articulate the project strategy and provide an action-research critique.

Rationale for Planned Change

The agenda of a Dean's Grant project is clear: to change the way in which teachers are prepared so that a wider range of exceptional children can be educated in regular classrooms. The apparent simplicity of this

task is deceptive. The nature of mainstreaming is complex. Teacher education faculty, whether university- or school-based, are often in need of new skills and knowledge. Furthermore, teachers are trained in often unclear programs of questionable potency. The training program, itself, set in a university context, requires modification. All changes are interdependent and, thus, require coordination.

The conceptual framework undergirding this Dean's Grant project is based on three lines of inquiry. The first conceptualizes planned change as a non-linear process of adaption, rather than a linear process of adoption. The second examines the process management issues necessary to facilitate adaptive outcomes. The third investigates characteristics of the structural components necessary for project success.

Adaptive Change Mode. From the literature on planned change generated over the past decade, at least two models have emerged. The Adoption Model proposes a linear link between research and development activities which originates with an innovation and its use (adoption) by the practitioner (Goodlad, 1975; Rogers and Shoemaker, 1971). Emphasis is upon strategies which assist this process. The contrasting model, Adaption, suggests a modification of the innovation by the practitioner upon use. The change process is conceptualized as a non-linear sequence. A preponderance of evidence (Berman & McLaughlin, 1974; Havelock, 1971; Lindquist, 1979; Morris, 1979) reports that during an innovation's initiation, modification usually occurs. In many cases, both the user and the innovation are changed--mutually adapted. Larsen & Agarwala-Rogers (1977) report that innovations that are institutionalized by way of adaption find greater

levels of usage than those that are adopted unchanged. This appears particularly true if the innovation is complex and process-oriented (Zaltman & Florio, 1977).

Implications of these findings appear germane when one considers the nature of a Dean's Grant project. Since the dean must be the actual or nominal project leader, activities take on all the characteristics of "top-down" dissemination (adoption). Project design considerations need to maximize the impact of the key academic officer in facilitating the change without developing faculty resistance to intrusion into curriculum matters, which are viewed as their prerogative. A project design that emphasizes adaption, rather than the adoption of a pre-designed package, appears consistent with these findings and the nature of the mainstreaming innovation.

Process Management. The literature on small group process (Yalem, and adult socialization (Brim & Wheeler, 1966) suggest two necessary and complementary group processes which should enchance the adaptation dynamic. A third more comprehensive process suggests that planned change follows a developmental sequence. These findings, when reviewed and synthesized, form a guideline for project process management.

Activities which assist the user in working directly with some aspect of the innovation, as opposed to reading about it, talking with others about it, or learning about it in some other vicarious manner, are critically important. Such activities intensify experiences with the innovation. It is argued that without actual "hands-on experience" with some aspect of the innovation, little adaptation will take place.

Activities which are designed only for "awareness" limit the acceptance by the potential adopter and do not create enough tension (anxiety) to facilitate change. If new behaviors, skills, attitudes regarding mainstreaming are to be learned, a "powerful environment" must be created. Task involvement is one way to create such a learning environment.

The complementary process of extension also contributes to the adaptation. Activities which link a person working on the innovation to others engaged in similar activities can perform this function. Materials which describe alternative strategies and uses with the innovation also assist in extensification. These new situations provide support, motivation, and an "audience of evaluation" which interact with the intensive activities to enhance adaptation.

When coupled, these two processes tend to be mutually reinforcing, and this contributes to the power of the environment. The intensification processes give the participant actual "hands-on" experience with the innovation, including the frustrations, problems, successes, and accomplishments. Links to others engaged in the same process--both within the institution and without--create a sense of support and encouragement. They also provide opportunities to broaden perspective and understanding of the innovation. It is argued that one without the other is much less effective.

The adoption of any innovation can be viewed as a developmental process. Hall, et al. (1979, 1978a, 1978b) have demonstrated that there is a series of stages an individual moves through in the course of the adoption/adaption process. The assumptions of the concerns-based adoption model (CBAM) are that change (a) is a process and not an event, (b) is made by

individuals first, then institutions, (c) is a highly personal experience, and (d) entails developmental growth, feelings, and skills which are acknowledged as critical processes that must be attended to over the life of any given project. Project activities and expectations should be planned to attend to the needs of each stage.

While acknowledging the major tenets of the CBAM, this project differed in two important respects. First, the project design sought to maximize the adaptive acceptance of the innovation instead of "mechanistic" adoption. While the line between the two is not sharp, the project valued the instillation of a response to the mainstreaming concept compatable with local needs and resources. In accordance with this, individual faculty activities were encouraged. Second, project intervention, while responsive to CBAM stages, focused on innovation-related topics which maximized either extensive or intensive processes with the goal of increasing project potency. This strategy was a contrast to the CBAM literature which suggests that interventions be focused on resolving the individual concerns characteristic of the stage of development.

Structural Components. Three components need be involved in any teacher education reform effort. These include opportunities for the people to change (faculty development), for the place to be modified (program development), and for new instructional resources to be added (materials development). Redesign efforts called for in a Dean's Grant necessitate the coordinated modification of each of these components.

Changes called for in responding to the mainstreaming concept necessitate opportunities for faculty development. Occasions are needed for

faculty to learn by themselves, or with colleagues, about the implications of their instruction and its impact on students. Faculty need opportunities to reassess course content, teaching styles, and instructional processes. If a new content, emphasis, or strategy, such as mainstreaming, is to be introduced into a curriculum, faculty need to learn, in depth and breadth, about the innovation if they are to identify and include appropriate aspects (adaptation) into courses, practica, and other instructional activities.

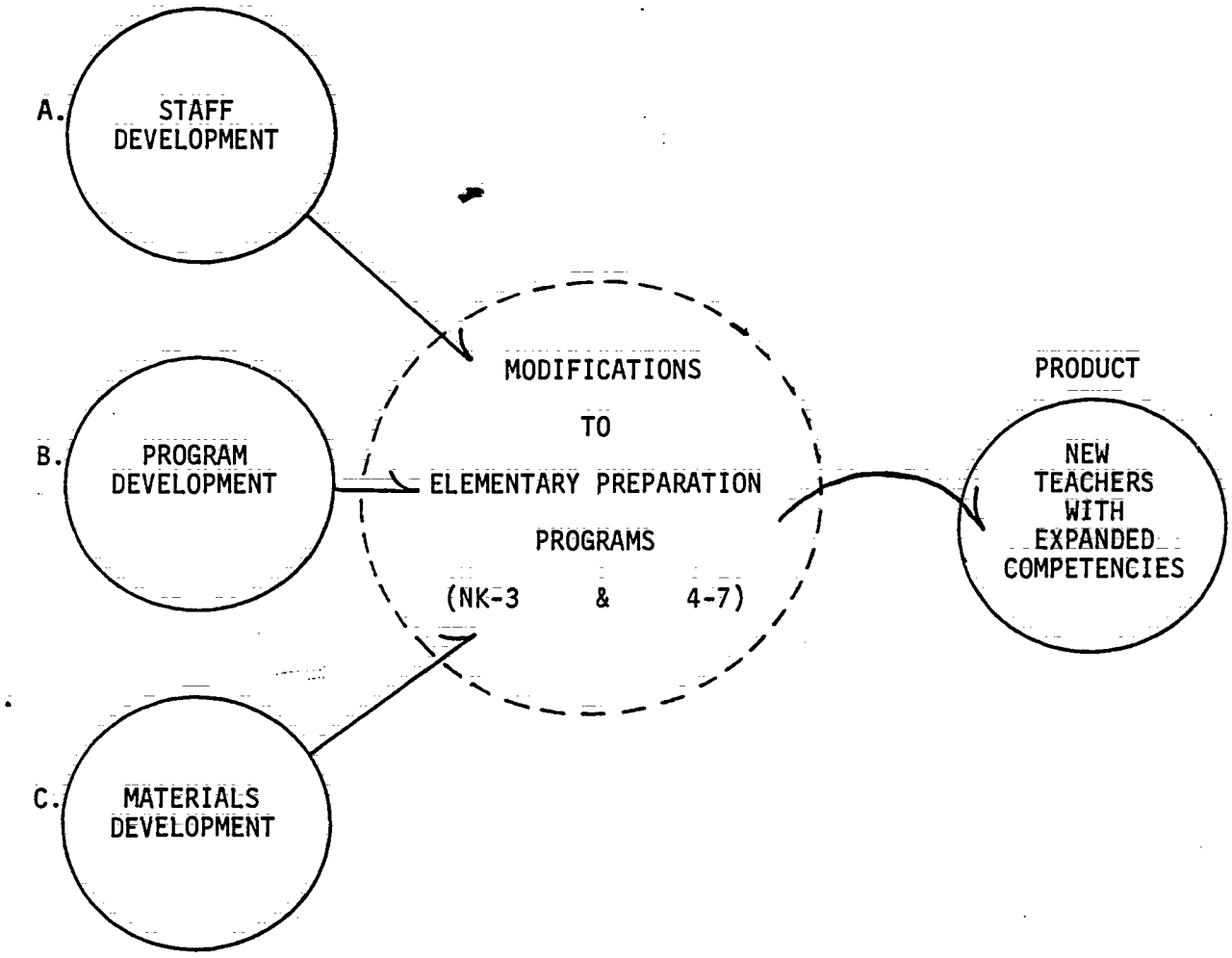
Change implies modification to existing programs. Program development requires faculty proposing curricular or instructional changes. Such changes need to be tried and evaluated. Appropriate feedback would then follow. The mainstreaming concept challenges course and program requirements, inter-relationships among activities within a course, and sequencing of courses within a program. The institutionalization of these changes, which transcends individual faculty actions, provides an on-going flow of activities which result in program modification and improvement.

Finally, substantial changes to programs require appropriate materials, technology, and clinical settings. Faculty and program development activities create a need for new materials. Resources for materials development, either through acquisition of commercial materials or through the preparation of new materials, need to be provided. In the case of a project which highlights the instruction of exceptional children in regular classrooms, the need is great.

This project seeks to coordinate these three components--staff, program, and materials development--in a fashion that will permit interaction. Project goals, therefore, focus on the adaptation of responses to mainstreaming. These inter-relationships are illustrated in Figure 1.

Figure 1

Components of Redesign Strategy



In summation, this project involves the orchestration of activities whereby an innovation (the introduction of mainstreaming competencies into the elementary curriculum) can be facilitated. This can be enhanced through the process of adaptation, which involves modification to meet ones own needs, as is a specific curriculum, course, or text. The project seeks to accomplish this through the development of both faculty and program, reinforced with the production, acquisition, and utilization of appropriate materials. Project processes encourage the intensive involvement with an aspect of the innovation, coordinated with extensive links to others working on similar aspects. Attention is given to the developmental nature of adoption/adaption process while keeping a focus on project goals.

Team Design. A team design is utilized in this project. The organizing structure features a series of small mainstreaming development teams (MDT's). Each team is comprised of a faculty member from special education, two from general education, and a graduate assistant. Each team is responsible for the design, development, and field evaluation of a series of learning activities to be incorporated directly into the present pre-service elementary teacher education preparation program. These teams, together with other key personnel, combine to form an overall project team for curriculum planning and development.

The team approach appears to have several strengths. First, teaming provides a viable mode of interaction among faculty from separate divisions and specializations. It is within this structure that two faculty groups

who frequently operate separately from one another, can come together.

Second, teaming provides a model of general education and special education faculty working cooperatively together, which should be a useful reinforcer for the pre-service students. One of the most critical aspects of the mainstreaming movement is its impact on staff relationships in the schools. Collaborative planning and delivery of instruction is now required. Reynolds & Birch (1977) note:

> In the past, regular class teachers had the responsibility only for their own interactions with pupils. That responsibility now extends to the coordination of the activities of a resource teacher and other pupils with (exceptional) pupils in the class. (pp. 236-7)

Initial study of various aspects of such in-school teams conducted by Fenton (1976, 1977, N.d.) argue for cooperative training.

Third, teaming provides the idea of collaborative and peer involvement in solving real educational problems, i.e., that of introducing "mainstreaming" into the curriculum. The fact that a university team is working on the same educational problem--though on a different level than their public school colleagues--gives creditibility and some measure of transfer to trainees who will observe teaming in the university and later participate as team members in the schools.

By design, the team notion provides a vehicle for (a) university faculty re-training, (b) curriculum development for a pre-service program, and (c) modeling what is believed to be a necessary staffing pattern (special education and general education faculty working together cooperatively) that is transferable to the public schools.

There is a growing body of literature supporting teaming as a structure

for planned change. Boyer & Crochett (1973) report the successful utilization of teaming in higher education change projects. Sikes, Schlesinger, and Seashore (1974) describe a series of campus-based teams who were responsible for curriculum development projects. The Western Interstate Consortium of Higher Education (WICHE) project on Student Services also utilized campus-based teams (Moore & Delworth, 1976). Finally, Spillane & Levinson (1977) described a series of projects designed to modify teacher education curriculum using a team structure.

More recently, Lindquist (1978) describes experiences with faculty and administrative teams in curriculum development projects. Three successful FIPSE projects: the PIRIT project on faculty development (Gaff, 1976), the SREB project on faculty evaluation and projection (O'Conner, 1978), and the General Education Models project (Gaff, 1979), all utilize faculty, administrator, and student teams. Lastly, throughout the case studies and reports presented in Teacher Education: Renegotiating Roles for Mainstreaming (Grosenich & Reynolds, 1978), the power of a team strategy is documented.

At the public school level, the work of the University of Oregon Research and Development Center (Arends & Arends, 1977; Charters, Jr., 1973; Runkel et al., 1979; Schwartz, Steefel & Schmvch, 1976; and Theory in Practice, 1979) report successful staff, program, and curriculum development based on the team model.

In addition to the conceptual and experiential rationale for the team concept, there are strong situational characteristics that tend to reinforce this choice. During the period of the project, the School of

Education has undergone a major reorganization from a department format to a division/core faculty structure. Undergirding this transition is the creation of core faculties, small teams of faculty with the responsibility for one or more components for a training program. Core faculties, by necessity, must build links with other cores; hence, the MDT becomes one viable model for building these inter-relationships. Furthermore, the presence of reorganization and curriculum development activities in the school permit these teams to have maximum impact on the redesign of the pre-service training program.

The use of teams is designed to facilitate the intensive exploration necessary for effective staff and materials development, while permiting the extension of contact to other project personnel that strengthens program development possibilities. Suggested relationships among the conceptual elements and project design is presented in Figure 2. Intensive processes are facilitated by small teams working on specific courses/modules and developing specific materials. Large team meetings, conferences, program activities, and bibliographies of available materials serve to extend the participants' views of mainstreaming. The adaptive approach to the innovation and the inductive style of project management more effectively respond to the developmental nature of change.

Figure 2

Project Rational, Design and Activities

Processes	Components		
	Faculty Development	Program Development	Materials Development
Intensive	Small teams	Small team projects (modules/courses)	Team make/purchase materials
Extensive	Large team Reports to/from others in school University Conferences	Large team views impact on program	Bibliographies Library Acquisition
Developmental	Inductive Style Teams design individual tasks, strategies	Teams tied to Core Faculties Large team tied to faculty	Teams select needed materials

DESIGN

To operationalize the stated strategy, the project was organized into two components. First, a small teams/big team design focused on changes for the elementary program. Second, support activities were organized to extend project efforts beyond the elementary program.

Small Teams/Big Team Design

The small teams were created during 1978-79. Three additional teams were created during 1979-80. Each team was comprised of three faculty members (two general education and one special education) and a graduate assistant. Special education faculty served as a resource to the total project. These faculty members were identified from each of the special education categories at Virginia Commonwealth University: Emotionally Disturbed, Mentally Retarded, and Learning Disabilities. These faculty could work across teams, bringing categorical expertise to each small team.

The general small teams model is illustrated in Figure 3.

The second aspect of this design brought together the small teams in a monthly meeting chaired by the Dean. This group (big team) enhanced the inter-relationship of the teams and provided for a common exchange of ideas, problems, and successes. It served as a vehicle for the involvement of other administrators and faculty with project activities. The project work flow followed the following cycle:

Figure 3

Mainstreaming Development Team Model

Mainstreaming Development Team	Modual/Learning Activities In the Areas of	
Design Develop Field Test Implement	1. Educational diagnostic procedures 2. Group and individual instructional procedures 3. Implementation aspects of P.L. 94-142 i. individual education program (IEP) ii. least restrictive environment iii. alternative environments iv. procedural safeguards v. surrogate parent involvement vi. served and unserved priorities vii. nondiscriminatory testing 4. Medical aspects of exceptionality 5. Characteristics of exceptionality by category	for inclusion in pre-service training programs for Elementary Educatic majors

Project Work Flow Cycle

Week 1	*Project Staff Meeting (Big Team)*	*All teams and visitors*
Week 2	*Teams Meetings (Small Teams)*	*Concurrently*
Week 3	*Teams Meetings*	*Concurrently*
Week 4	*Teams Meetings*	*Concurrently*
Week 5	*Project Staff Meeting*	*(repeat cycle)*

This work flow also provided for the monitoring of project work. In preparation for each meeting of the project staff, each team prepared a brief up-dated planning survey. These were shared at the big team meeting.

Relationship of Teams to Program

The curriculum for elementary teachers at Virginia Commonwealth University is evolving. The block-phase programs as outlined in the original proposal (October 1977) underwent several modifications and revisions during the 1978-80 period. The changing nature of our urban student population (more transfer students; balance of part-time/full-time students; decrease in enrollment) as well as over two years' experience with the total program suggests the need for additional refinement. The presence of this project provided interaction among regular and special education faculty during this period.

As it emerged in Fall 1979, the elementary education curriculum combined four required and sequenced blocks (6-15 hours, team-taught, on- and off-campus components) with a number of courses which could be taken in any order. The program is viewed as a sequenced and integrated set of experiences.

Program effectiveness increases when all courses are thus integrated to form an organized training sequence. The introduction of mainstreaming concepts is needed i each of the program's stages. The project recognized this need and was designed accordingly.

The selection of six MDT's over the two years of the project was designed to incorporate all critical elements of this curriculum. The relationships among the six MDT's and the revised elementary curriculum is presented in Figure 4.

A primary focus of the project is the construction, evaluation, and implementation of a variety of modules/learning activities to acquaint the pre-service elementary teacher with the particular skills, knowledge, attitudes, and values necessary to accommodate a wider range of exceptionalities in their classrooms. It was argued that the acquisition of these skills, attitudes, and experiences should be developed sequentially and reinforced in different aspects of the training program. Therefore, a number of modifications to the total curriculum, rather than a new single course, were planned.

Support Activities

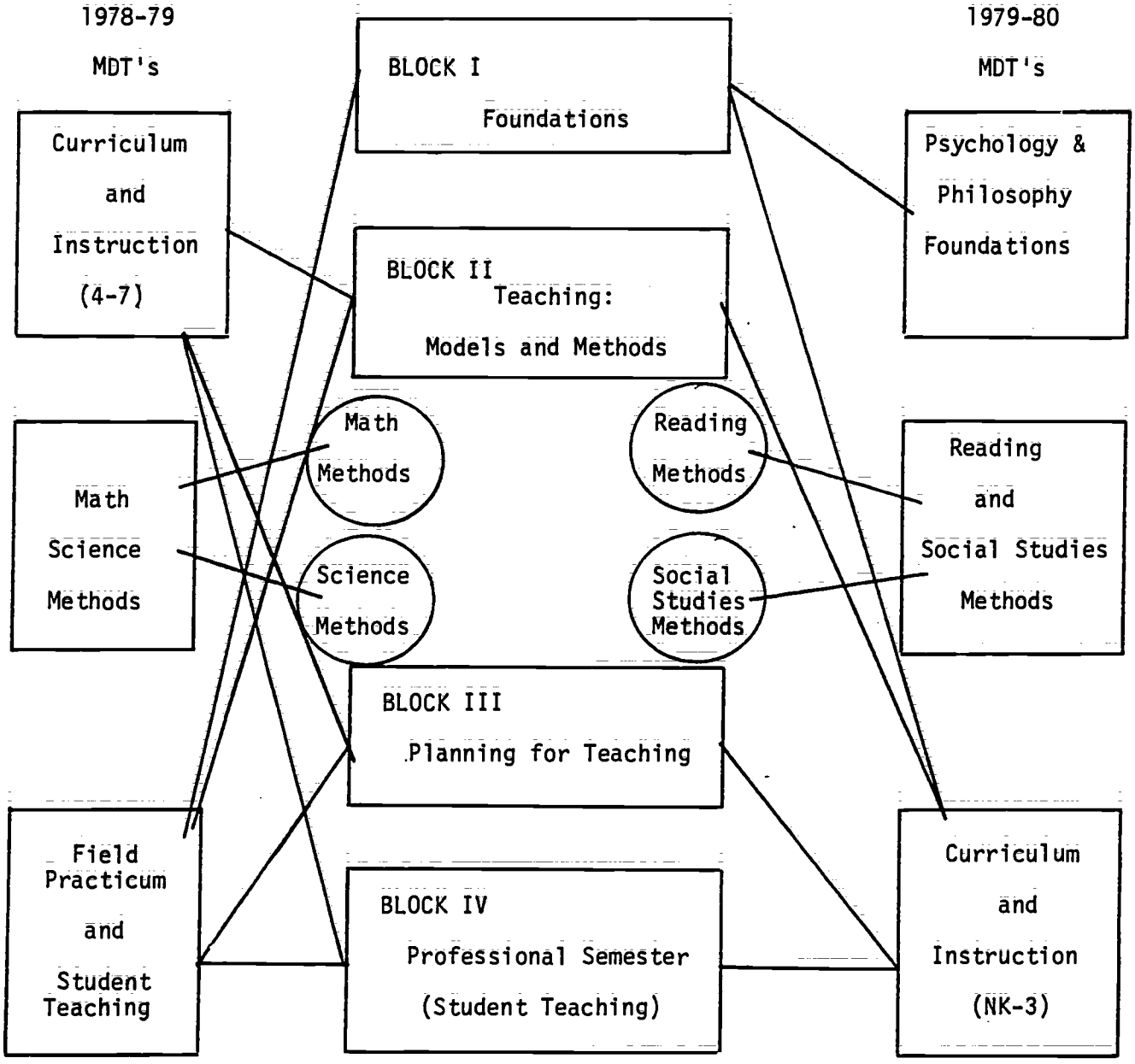
The second aspect of the project was the conduct of a variety of support activities. Each was designed to extend and link the project with other similar on-going activities and projects within the school or community. Three kinds of support activities were planned.

The project proposal called for the conduct of a number of short-term conferences and workshops, designed to extend to faculty, student, and practicing professional an awareness of activities in the mainstreaming arena.

Figure 4

RELATIONSHIPS AMONG
MAINSTREAMING DEVELOPMENT TEAMS AND TARGET CURRICULUM

Elementary Education Curriculum



A mainstreaming "resource center" was established within the school's Teacher Resource Workshop (TRW). The workshop comprises about one-third of the third floor of the School of Education building (Oliver Hall). It is equipped with a wide variety of media and classroom construction equipment and supplies. The workshop's function is to assist pre-service and in-service teachers in the design and construction of classroom curriculum materials. The establishment of a "center" designed specifically to assist faculty and students in designing and constructing curriculum materials for handicapped children in regular classrooms served as a resource for the project activities and as a means of disseminating project materials to the entire faculty.

A bibliography of materials from the university's James Branch Cabell Library was developed to augment the school's resources.

ACCOMPLISHMENTS

Descriptions and examples of project accomplishments are presented in this chapter. They are organized around the three project goals:

Faculty development,

Materials development, and

Program development.

While this organizational plan follows the project design, it is somewhat artificial. Where specific faculty development activities end and program development activities begin are lines not easily drawn. Consequently, attempt will be made to articulate the inter-relationships among the various project outcomes.

Faculty Development

The essence of a Dean's Grant project is to provide regular teacher education faculty opportunities to "retool" themselves. The intermediate goal is to bring about modifications to the pre-service training programs for regular educators, to the end that new teachers can provide appropriate instruction for exceptional children who might be appropriately placed in regular classrooms. A typical model for Dean's Grant projects is one where a project coordinator (usually with a background in special education) plans and provides a variety of faculty activities (Hall, 1978a). The project director (Dean) supports or provides activities to facilitate the adoption

of materials and competencies.

This project differed in design from the usual model in that small teams were utilized. Each team went to work designing their own "re-education activity," as well as developing meaningful products and initiating modifications to the courses which they teach. Within this structure and the nature of the mainstreaming innovation, each team was free to develop its own modus operandi. Three project "ground rules" were agreed upon:

1. Existing courses would be modified, rather than creating new courses,
2. The development of appropriate revisions would take place in the small team setting; and
3. The faculty would be willing to try out revisions with students and receive feedback before institutionalization.

During the first year of project participation, general education faculty members received 1/8th release-time from their teaching responsibilities (one course) and special education faculty received 1/4th-time (two courses). A graduate student was assigned for each team for 20 hours per week. Each team was given a materials budget and support services.

During the second year of participation, faculty members were not given release-time, but each team was assigned a graduate assistant, materials budget, and support systems.

Names, academic background, and team composition constitutes Appendix I.

Project Meetings and Workshops (Big Team). The project design called for a project meeting (project director and all team members) once a month.

The chronology of major project activities and attendance figures constitutes Table 1. During Year I of the project, 10 total project meetings were held with an average attendance of 79%. During Year II, 7 total project meetings were held with an average attendance of 68%. Overall, for the two-year period, attendance at total project meetings averaged 75%. In general, attendance at large project meetings was lower during the second year. This was partially attributable to the doubling of the size of the project personnel, making the selection of an ideal time for meetings virtually impossible. The meetings served to coordinate project activities and kept everyone informed of general project accomplishments, concerns to-date, etc. Agenda were prepared in advance and minutes were kept and distributed following each meeting. General project concerns were discussed. Each MDT reported on activities and concerns and new information was shared.

The first semester of the project, general education faculty members requested presentations from special education members on various topics related to exceptional children, P.L. 94-142, and mainstreaming instructional strategies. This provided an excellent exchange, self-help format. It also provided for mutual reinforcement, the sharing of resources, and an opportunity to gain overall support. During the second semester of the project, initial curriculum drafts and team projects were shared across teams for reactions.

A major project activity was a transitional workshop the summer between Year I and Year II. The purpose of this workshop was to bring the nine new faculty members into the project while, at the same time, reviewing the accomplishments and activities of the first year. Copies of the

TABLE 1

CHRONOLOGY & ATTENDANCE
Project Team Activities

Year I

Date	Activity	Attendance	
July 6, 1978	Open Workshop	7/10	70%
August 30, 1978	Project Team Meeting	8/10	80%
September 20, 1978	Project Team Meeting	12/13	92%
October 4, 1978	Project Team Meeting	13/14	93%
November 1, 1978	Project Team Meeting	13/15	87%
December 13, 1978	Project Team Meeting	12/14	86%
January 31, 1979	Project Team Meeting	11/14	79%
March 14, 1979	Project Team Meeting	12/14	86%
April 4, 1979	Project Team Meeting	8/14	57%
May 2, 1979	Project Team Meeting	9/14	64%
		Mean Year I	79%

Year II

July 11, 1979	Transitional Workshop	18/24	75%
September 17, 1979	Project Team Meeting	19/24	79%
October 22, 1979	Project Team Meeting	20/24	83%
November 26, 1979	Project Team Meeting	18/26	69%
January 22, 1980	Project Team Meeting	11/26	42%
March 17, 1980	Project Team Meeting	16/27	59%
May 21, 1980	Project Critique	18/27	67%
		Mean Year II	68%
		Project Mean	75%

project materials, the first year's report, the project design, and other relevant materials were developed by the administrative team into a 40-page notebook. These materials served as the focal point for the workshop. In addition, personnel from the five (5) other special education projects in the school were invited to share information. A copy of the workshop agenda constitutes Appendix II.

Project meetings during the third semester (first semester, Year II) were difficult to manage because of the increased heterogeneity of the group. Through the second year the large project meetings took less of the staff development flavor and more of an information sharing/coordination/ program development direction. In retrospect, this change was advantageous. Through coordinated efforts the project participants began to view the total training for elementary teachers, paying special attention to areas where topics relating to mainstreaming might best be introduced. This shift permitted the teams to share with one another the kinds of materials and emphases that were in progress in various parts of the project.

The change was not without its disadvantages. The first year teams (now in their second year) were more sophisticated about issues, problems, and the project agenda than were the new teams joining the project. The new teams were struggling with issues that the continuing teams had dealt with the year before. Consequently, there was an increased level of frustration. This also may account for attendance drop. However, no differences in attendance were found between first- and second-year project members.

The project meetings during the fourth semester were characterized as focused on finishing projects and institutionalizing course modifications.

The final project meeting included both sharing of products and a critique of the project.

Mainstreaming Development Teams (Small Teams). The critical setting for faculty development was the small mainstreaming development teams (MDT's). Each team provided for a close working relationship among faculty members who normally do not work together. The task of working on a common problem identified by the team served to direct their activities. All the issues which usually emerge when discrepant groups of people come together did emerge (Francis & Young, 1979). Issues of professional values and strategies, issues of leadership and followership, issues of learning style and manner, issues of process vs. product orientation--all arose. In spite of this, the efforts of cooperation were reasonably successful. Each year each team was asked to develop goal statements-for-the-year, accompanied by strategies for reaching those goals, and products or processes which might result. Each team was bound only by the content and focus of the general education faculty assignments. They were free to explore, in their own styles and modes, the way in which they would attack the problem.

Graduate assistants were asked to keep minutes of team meetings to be submitted to the project's administrative assistant. This gave some indication of frequency of meetings and topics addressed. The task was only modestly successful, as the data reports in Table 2. In the first year, 23 sets of minutes were collected; during the second year, 44 sets were collected, for a total of 68 for the project. A variety of factors suggest that meeting minutes became monthly progress reports. They often coincided with materials prepared for project meetings. The minutes do indicate that

TABLE 2

MAINSTREAMING DEVELOPMENT TEAMS
Meeting Minutes

Team	Year I	Year II	Total
A	10	9	19
B	6	3	9
C	7	8	15
D		6	6
E		7	7
F		12	12
Total	23	45	68
Average per Team	7.7	7.5	

each team met periodically. Given the usual ebb and flow of graduate assistants, the low priority which minute-taking was given, and some issues around leadership to be discussed below, minimal (rather than maximum) attention was given to minutes. There is some evidence to suggest that they do not reflect the total amount of time or effort that team members gave to the project, either individually or collectively.

In addition, each team submitted semester progress reports during the first year and, then, a semester-and-total-project report during the second year. The mid-semester reports, both Year I and Year II, served as a basis for a project interim report, which was shared with the total teacher education faculty.

A review of the 68 sets of minutes indicates that teams engaged in the following activities as a part of their own development and understanding of mainstreaming:

Conducted ERIC searches on selected topics;

Read, exchanged, and discussed various articles, chapters, and papers;

Wrote classroom materials, had them critiqued by their colleagues;

Visited agencies (for exceptional children);

Visited each others' classes, making presentations;

Read textbooks and articles;

Visited with representatives of the State Department of Education;

Visited local school divisions;

Tried out new instructional materials with students and received feedback;

Reviewed films, film strips, and television tapes;

Ordered materials, critiqued them; kept some, returned others;

Visited the Council for Exceptional Children;

Made a special point of attending sessions on mainstreaming topics at professional meetings;

Argued, taught, exchanged views; planned together; worked alone.

Evidence from MDT minutes indicates that the individual faculty members explored indepth the issues surrounding mainstreaming and its application to their particular specialization.

Materials Development

A critical element in any teacher preparation program is the availability of appropriate instructional materials. Evidence suggests that the instructional materials most often used are those which are designed and/or selected training materials appropriate to their needs. To facilitate materials development, the School of Education's Teacher Resource Workshop (TRW) and the Word Processing Center were made available to each team, as well as the resources of the university's James Branch Cabell Library.

As a result of small team activities, 13 training packages were developed over the two-year period. The nature of these materials, their relationship to the team and other data is presented in Figure 5, Mainstreaming Development Teams: Training Materials Summary. A copy of each constitutes Appendix V of this report.*

In summary, the following materials were developed:

- Six specific bibliographies, a self-instructional module on task analysis, a handbook on individual educational plans, an

* Or, is available from the project office

Figure 5

Mainstreaming Development Teams

Training Materials Summary

Team	Training Materials	Number Pages	Target Audience
Curriculum & Instruction NK-3	Nurturing Total Development via Environmental Planning	24	Students Early Childhood Education Early Childhood Handicapped
Educational Studies	Teacher Attitudes Toward Children with Special Needs - A Selected Bibliography	4	All Teacher Educatio Students
	History of Mainstreaming (Script for slide/tape presentation)	7	All Teacher Educatio Students
Practicum/Field Settings	Available Resources for Individuals with Special Needs: A Guide to Richmond Metro Area	28	Students, Faculty, School personnel
	A Guideline for the Systematic Observation of Handicapping Conditions Designed to Aid the Elementary Education Student	41	Practicum Student Teachers

	Training Materials	Number Pages	Target Audience
Reading/Social Studies	Teaching Reading and Social Studies to Handicapped Students: A Handbook	107	Pre Service Students
Math/Science	Elementary Math Materials Guide	4	Pre Service Students
	Math and the Handicapped: An Annotated Bibilography of Selected Literature	5	Students, Faculty
	Science and the Handicapped: An Annotated Bibliography of Selected Literature	11	Students, Faculty
	An Introduction to Task Analysis for Basic Skills in Science and Math Education	24	Students
	IEP Self Instruction Module	55	Students, Faculty
Curriculum and Methods 4-7	Behavior Management Ideas and Strategies for Serving Handicapped and Non-Handicapped Students in Regular Classrooms	19	All Teacher Education Students
	Curriculum Materials 4-7	14	Teacher Education Students
	Strategies Handbook (underway)		

instruction handbook, a series of instructional packets (short bibliography, selected articles, and discussion questions), and four student handbooks: one for Reading and Social Studies, one for early childhood education, one for practicum/student teaching, and an area resource guide.

In addition, a number of overhead transparencies and a script for a slide/tape presentation on the history of mainstreaming was prepared. The actual slide/tape show is being developed with local resources.

Each product was the result of individual teams working intensively on one aspect of the mainstreaming concept as it applied to their specific area.

Two additional strategies were used to provide supplementary instructional resources to members of the MDT's, as well as to teacher education faculty not working on the grant but interested in making modifications to courses or programs.

First, each team was given a materials budget of approximately $200 each year. The team was free to use this budget, both to support its own development activities, i.e., provide photocopies of articles, inexpensive materials, etc., as well as to order commercially available materials appropriate to their aspect of the mainstreaming concept. Purchased materials (once project faculty were finished with them) were placed in the school's TRW "Mainstreaming Center." In addition, materials supplied through the National Support System Project and other dean's grant projects were deposited in this "center." Over the two-year period, the collection grew; now it has approximately 140 holdings. Each semester the project's administrative assistant provided an up-dated bibliography of the resources

available in the "Mainstreaming Center" to all teacher education faculty.

Second, the university's James Branch Cabell Library staff was asked to develop a bibliography of holdings related to mainstreaming. This bibliography was organized around several aspects of the mainstreaming concept and was completed halfway through the project (September 1979). The bibliography was duplicated and made available to all teacher education faculty.

Program Development

The third goal for the project was to influence major modifications to the training program for elementary teachers. Modifications were to include knowledge, skills, and practicum experiences so that the program graduate would have those professional competencies necessary to function effectively as a teacher in an elementary classroom with exceptional children. At the end of this two-year period, the project has made several significant efforts in this direction, although program development activities are far from completed.

The strategy for program influence and modification was as follows:

1. To acquaint as many of the elementary faculty with the realities of P.L. 94-142 and its impact on the training program.
2. To develop a nucleus of faculty who have intensive experience with the innovation and had made modifications to their courses.
3. To interject mainstreaming concepts as the program itself tried to develop a more sequenced training approach.
4. To develop and articulate explicit expectations with respect to the mainstreaming concept.

Activities to date have moved the faculty through the first two phases of this strategy. For example,

Faculty working on the project have all made some modifications to the courses they teach; and

Students are now placed in practicum and student teaching settings where the mainstreaming of exceptional children is the accepted practice--though not all classrooms have exceptional children.

A recent self-study report to the State Board of Education for program re-accreditation highlighted explicit experiences related to the mainstreaming concepts in (a) the beginning foundations block, (b) all the methods classes, and (c) the practicum and student teaching requirements.

Support Activities

Paralleling the above intensive activities were a number of activities designed to extend the involvement of project participants in other aspects of mainstreaming activities. These included presentations at professional meetings, participation in NSSP conferences, and the sponsoring of workshops. A listing of these activities constitutes Figure 6.

Ten (10) project participants participated in nine (9) conferences. Over six (6) presentations were made by project faculty. The School of Education sponsored (via local funds) one (1) major conference and at least two (2) related workshops.

Figure 6

Project Related Activities
and Participation

A. N.S.S.P. Sponsored Activities

	Activity	Participant(s)	Function
(1)	New BEH Dean's Grant Meeting (Sept. 11-12, 1978)	C. Ruch	Participant
(2)	N.E. Region Meeting (Mar. 29-30, 1979)	C. Ruch	Panelist
		A. Hill	Participant
		M. Kopit	Participant
		D. Meinberg	Participant
(3)	Directors Meeting	C. Ruch	Discussion Leader
(4)	S.E. Region Meeting	C. Ruch	Participant
		D. Busby	Participant
		M. Brittain	Participant
(5)	Directors Meeting	P. Duncan	Presenter
		D. Busby	Presenter

B. Other Conferences, Workshops

	Activity	Participant(s)	Function
(1)	Evaluation Workshop I (October 1978)	D. Reed	Participant
		A. Hill	Participant
(2)	LINK Workshop (Jan. 23-24, 1980)	R. Lambie	Participant
(3)	First Virginia Institute for Higher	W. Judd	Participant
		A. McLeod	Participant
		D. Reed	Participant
		W. Bost	Participant
(4)	Second Virginia Institute for Higher	C. Ruch	Presenter
		M. Brittain	Presenter
		D. Reed	Presenter
		W. Judd	Participant
		W. Bost	Participant

C. School of Education Sponsored Workshops, Conferences

Title	Date	Number of Participants
Effective Instructional Strategies for Mainstreamed Students	Feb. 4, 1980	17
Methods and Techniques for Special Education Teachers to Use in Working with Classroom Teachers	Sept. 1979	20
Mainstreaming Implementation Conference	Nov. 17, 1979	173

Evaluation and Documentation

Evaluation and/or documentation activities increased over the course of the project. The original proposal anticipated the employment of an external evaluation expert to chart the progress of the project. Negotiations leading to the grant's Plan of Operation resulted in the exclusion of this component. Consequently, project evaluation was conducted by an advanced graduate student and the project director in consultation with the project's other participants.

The discrepancy model (Provus, 1971) served as a general format for evaluation efforts, although the developmental nature of the project prevented the establishment of specific standards or levels of significance.

Constant attempts were made to improve the quality of evaluation data collected. The services of the Evaluation Training Consortium (ETC) were utilized. Two project members attended a Type I Evaluation Workshop. The first year evaluation design was critiqued by staff of the ETC and modifications were incorporated into the second year plan. The project created evaluation instruments which were also reviewed by ETC staff. All evaluation data was shared with project participants as it was gathered; this was done for critique and reaction purposes and emphasized the formative nature of the process.

The relationships between project goals and data collection are summarized in the Project Evaluation Schedule, Figure 7. Each is discussed below.

Figure 7

Project Evaluation Schedule

Project Goal	Data Collected		
	Instrument	Population	Collection Schedule
I. Faculty Development	Structured Interview	M.D.T. Members	Spring 1979
	Schein Group Effective Scale	M.D.T. Members	Spring 1979 Spring 1980
	Mainstreaming Reaction Scale	Teacher Education Faculty	Spring 1980
II. Materials Development	Project List of Mainstreaming Topics	Training Materials	Spring 1980
III. Program Development	Course Outlines Self-Study Materials	Elementary Education Program	Spring 1980
IV. Impact on Students	Student Teacher Survey	Seniors-Elementary Education Program	Fall 1978, Spring 1979 Fall 1979, Spring 1980
	Rucker-Gable Programming Scale	Seniors-Elementary Education Program	Fall 1978, Spring 1979 Fall 1979, Spring 1980
		Freshman-Elemetary Education Program	Fall 1978

Faculty Development

Attempts were made to assess both the process and content of faculty development efforts. Evidences of small teams/big team effectiveness were gathered independently of content data.

Team Effectiveness. A formative evaluation of the project's major processes was conducted at the conclusion of the first year. A graduate student (Farmer, 1979) designed an assessment of the teaming process, in conjunction with a course in evaluation. The study sought to provide data regarding the question:

> *According to the project team members, how effective is the team model with regard to goals, roles, and project design?*

Each project participant was interviewed using a structured interview and each completed the Schein Group Effectiveness Scale (1969). Each respondent completed the scale for both their small team and the big (project) team. The Group Effectiveness Scale (GES) assessed group functioning on a ten point Likert scale across eight variables: Goals, Participation, Feelings, Diagnoses, Leadership, Decisions, Trust, and Creativity and Growth. Although its psychometric properties are unknown, the scale is frequently reported in the small group and the organizational development literature. A copy of this scale constitutes Appendix III.

Farmer's (1979) analysis of the strengths and weaknesses of the project were summarized and discussed with the teams at the transition workshop between Year I and Year II.

The Group Effectiveness Scale was re-administered to the total project staff at the conclusion of the second year. Again, each participant was

asked to evaluate the effectiveness of their MDT and the project team across the eight dimensions.

Table 3 presents the mean level of Group Effectiveness for the MDT's across the eight dimensions for the two years of the project. Usable data was collected from all teams Year I, and from 5 of 6 teams, Year II. Analysis for differences in Level of Function between the two years was made. The resulting Mann-Whitney U was 24.5 ($p = .287$), suggesting the teams rated themselves as effective during Year I, as Year II. Examination of individual team data reveals variability among the teams. Each year there was at least one team that "didn't quite get it together," and one that really "clicked." It is interesting also to note that of the three original teams (functioning over two years), one came together the second year with improved levels of functioning, while another, effective during Year I, "came apart" during Year II.

Of some importance is the fact that leadership was rated lowest both years. Each team selected its leadership annually. While this strategy was consistent with the project rationale, it made the leadership issue critical and, hence, perhaps more sensitive to criticism.

Similar data for the project (big) team functions is presented in Table 4.

The resulting Mann-Whitney U of 6.15 was found to be highly significant ($p = .002$). The project team received higher ratings for effectiveness the second year. As reported above, the nature of the project team function shifted from a staff development emphasis to a project/program emphasis the second year. This perceived improvement is interesting when contrasted

TABLE 3

Mean Level of Effectiveness
for MDT's

	Year I (3 teams, N = 9)	Year II (5 teams, N = 19)
Goals	7.2	7.5
Participation	7.6	7.0
Feelings	8.4	8.7
Diagnosis	7.6	6.8
Leadership	7.1	6.8
Decisions	7.7	7.5
Trust	8.5	8.3
Creativity & Growth	7.5	7.7
Average	7.7	7.5

Mann-Whitney U = 24.5

Significance = 0.287

TABLE 4

Mean Level of Effectiveness
Project Team Activities

	Year I (N = 9)	Year II (N = 19)
Goals	6.3	7.0
Participation	7.4	7.2
Feelings	7.7	8.4
Diagnosis	6.6	8.3
Leadership	7.1	7.5
Decisions	7.7	7.5
Trust	6.9	7.6
Creativity & Growth	7.2	7.7
Average	7.2	7.6

Mann-Whitney U = 6.15

Significance = 0.002

with the project's increased size and the slightly lower meeting attendance figures.

This data suggests that overall the small teams/big team model functioned effectively.

Team Effectiveness: Content. A second line of investigation dealt with faculty understanding of the mainstreaming issues. Data from a questionnaire study of the total School of Education faculty completed during the last month of the project was analyzed. A Mainstreaming Reaction Sheet (MRS) was adapted from the needs assessment materials developed by the Dean's Task Force on Personnel Preparation in Ohio (Dean's Task Force, no date). No psychometric properties are known. A copy constitutes Appendix IV.

The cover letter distributed to the faculty with the MRS indicated continued funding for the Dean's Grant project into a second funding period and asked faculty to assess their activities to-date with respect to the mainstreaming concept. Desired resources were also to be indicated. Returns were anomynous, but faculty were asked to identify whether they served on the Dean's Grant project during 1978-80, and to which division and core they were assigned in VCU's School of Education.

The questionnaire was distributed during the last two weeks of the semester--not an ideal time for faculty. Forty-one usable returns were obtained; a 46% return rate. Three groups were identified for analysis: Dean's Grant project members (N = 15), non-Dean's Grant project members but members in the same cores as Dean's Grant members (N = 12), and other divisions/cores (N = 14). The data was analyzed using the SPSS Cross Tab

program (SPSS, 1975). The analysis was run twice, once for the three groups and once for two groups (uniting the two non-member groups), grant vs. non-grant.

Awareness. Question One asked the respondents if they felt P.L. 94-142 had implications which required additional preparation on their part. Question Two asked whether they felt knowledgeable concerning the changes in teacher preparation necessitated by P.L. 94-142. These data are presented in Table 5. Slightly over 60% of the respondents indicated an awareness that the recent federal legislation has implications which require additional preparation on their part and felt knowledgeable about changes necessitated in teacher preparation programs. Approximately one third of the faculty responding, neither felt knowledgeable of P.L. 94-142, nor felt that it has programatic implications. Little difference in response patterns across the three groups was found. However, the grant vs. non-grant analysis suggests that grant members were generally more knowledgeable about needed program changes than non-grant members (Chi Square = 5.59, p = 0.061).

Course Modifications. The next item asked to what extent faculty had made modifications to courses regarding knowledge or skills required for prospective teachers needed under P.L. 94-142. The data are presented in Table 6 (page 51). The responses are particularly gratifying, both in view of the extent to which all faculty are making some modifications to their courses (82.9%) and the high percent of grant members who indicated they had made a moderate or major change to their courses. Percentages of

TABLE 5

Implications for Faculty Development and Program Modifications

Q_1 Faculty Development:

	Yes	No	No Answer
Grant	9	6	0
Non-Member in Core	7	5	0
All Others	9	4	1
	25	15	1

Chi Square = 2.34 Significance - 0.6720

Q_2 Program Modifications:

	Yes	No	No Answer
Grant Participants	13	2	0
Non-Member in Core	7	5	0
Other Faculty	6	7	1
	26	14	1

Chi Square = 7.32 Significance = 0.1198

non-grant participants in the same core making course modifications were considerably less; and percentages were even less for the general faculty who had neither direct nor indirect involvement with the project. The analysis suggests that participation in the project did have an effect on the extent to which course modifications were made.

Table 6

Degree of Course Modification

	To No Extent	Minor Extent	Moderate Extent	Major Extent	N/A
Grant	1	6	2	4	2
Non-member in Core	0	5	5	2	0
Others	3	2	8	0	1
Total	4	13	15	6	3

Chi Square = 14.419 Significance = 0.072

Useful Resources. On the next series of items, the extent to which the respondent used selected resources in learning about mainstreaming concepts or in making modifications to courses was assessed. The first four items concerned usage of media resources:

a. Bibliography of materials available within the School of Education's TRW,

b. Bibliography of materials available in the main campus library,

c. The actual teachers resource center which included multi-media materials, and

d. An area resource guide of special education facilities where tools made available to all were teacher educator faculty.

No particular patterns of differences were found among the three groups. The data are presented in Table 7.

Additional questions asked about the degree and type of collegial resources utilized. Colleagues within the core, colleagues within the same division, colleagues with identified expertise (i.e., special education), planned discussions or presentations at core or division meetings. A final item had to do with resources or materials gathered by one's self. As the data presented in Table 8 suggests, no pattern was found. Apparently different faculty members respond to different sources of assistance in faculty development activities.

In summary, faculty members appear idiosyncratic in terms of what resources tend to influence their selection of materials for instructional use and course revision. Some tend to work from print or media materials, some from resources in the community, others from colleagues, whereas some work strictly on their own. Clearly, for maximum project success, a variety of resources should be provided.

TABLE 7

Faculty Usage of Print/Media Resources

Library Bibliography	Extent of Usage					
	No	Minor	Moderate	Major	N/A	
Grant Participant	7	4	0	2	2	Chi Square = 12.04
Non-Participant Same Core	8	2	1	0	1	Significance = 0.15
Others	13	0	0	0	1	
TRW Bibliography						
Grant	6	3	4	1	1	Chi Square = 6.08
Non-Participant Same Core	3	5	3	0	1	Significance = 0.64
Others	8	4	2	0	0	
TRW Resource Center						
Grant	3	4	4	3	1	Chi Square = 6.50
Non-Participant Same Core	5	2	3	1	1	Significance = 0.59
Others	8	3	2	0	1	
AREA Resource Guide						
Grant	9	3	1	1	1	Chi Square = 5.84
Non-Participant Same Core	10	0	1	0	1	Significance = 0.66
Others	10	3	1	0	0	

TABLE 8

Faculty Use of Colleagial & Personal Resources
(N = 41)

	Extent of Usage					
	No	Minor	Moderate	Major	N/A	
CORE Colleagues						
Grant	4	5	5	0	1	Chi Square = 5.13
Non-Grant Same Core	2	6	3	0	1	Significance = 0.74
Other	3	5	3	2	1	
Division Colleagues						
Grant	3	4	5	2	1	Chi Square = 3.16
Non-Grant Same Core	4	5	1	1	1	Significance = 0.92
Other	3	5	3	2	1	
Special Ed Colleagues						
Grant	3	3	4	4	1	Chi Square = 1.87
Non-Grant Same Core	3	3	4	2	0	Significance = 0.98
Other	4	3	4	2	1	
Discussions at Meetings						
Grant	7	6	1	0	1	Chi Square = 4.37
Non-Grant Same Core	5	4	1	0	2	Significance = 0.63
Other	9	5	0	0	0	
Own Resources						
Grant	0	2	5	8	0	Chi Square = 6.91
Non-Grant Same Core	1	2	2	6	1	Significance = 0.55
Other	2	1	6	5	0	

Information Needs. The last series of items asked faculty to indicate knowledge areas where additional information was desired. These data are presented for all three groups in Table 9.

Project respondents indicated little need for additional information about child identification, due process issues, least restrictive environments, and parent involvement. Additional resources were requested in the area of diagnostic prescriptive instruction and non-discriminatory testing by all faculty.

Materials Development

Since many of the training materials were completed toward the end of the project period, little systematic evaluation was possible. However, two evaluative activities were conducted.

Training Materials/Mainstreaming Concept Matrix. Since each team was responsible for designing their own training materials, topics were identified on the basis of individual needs and experiences. It is possible that significant aspects of the mainstreaming concept would be omitted, even with considerable project team review and discussion In order to evaluate the relationship between the content of the materials and those concepts thought critical to the mainstreaming innovation, a content analysis was conducted. An independent reviewer read the training materials against the mainstreaming concepts identified at the outset of the project (page 6). The reviewer rated each product as to a major or minor emphasis for each of the concepts. This matrix constitutes Figure 8 (a and b).

TABLE 9

Areas and Frequency of Needed Information-Faculty
(N = 41)

	Grant Participants (15)	Non-Participant Same Core (12)	Others (14)
I.E.P.'s	6	8	8
Child Identity	1	5	4
Due Process Requirements	2	3	8
Non-Discriminatory Testing	6	6	4
Confidentiality	1	2	2
Least Restrictive Environment	3	4	3
Parent Involvement	5	2	7

0 Minor Emphasis

Figure 8a

Team Products/Mainstreaming Concepts

Matrix

Mainstreaming Concepts	Early Childhood Team Handbook	Foundations Team Attitude Biblio	Foundations Team Slide Tape	Practicum/Field Team Observation Handbook	Practicum/Field Team Richmond Resource Guide	Reading/Soc. Studies Handbook
1. educational diagnostic procedures				*	0	*
2. group & individual instruction procedures		0		*		*
3. implementation aspects of P.L. 94-142 i. IEP's				0	0	0
ii. least restrictive environments	*	*	*	0	0	0
iii. alternate environments	*			0		0
iv. procedural safeguards				0		
v. surrogate parent involvement						
vi. served & unserved priorities						
vii. non-discriminatory testing		0				0
4. medical aspects of exceptionality	0			0		
5. characteristics of exceptionality by category	0			*	0	*
6. referral procedures & community resources					*	
7. counseling/guidance Resources & Career Education		0			*	

Emphasis
Emphasis

Figure 8b

Team Products/Mainstreaming Concepts

Matrix

nstreaming Concepts	Math/Science Team Task Analysis Module	IEP Handbook	Math Bib.	Science Bib.	Curriculum & Instruction (4-7) Instructional Materials	
					Garner	Kopit
cational diagnostic rocedures	0		0		0	
up & individual nstruction procedures	*		*	*	*	*
lementation aspects f P.L. 94-142 . IEP's		*	0	0		
. least restrictive environments				0		0
. alternate environments						
. procedural safeguards						
surrogate parent involvement						
served & unserved priorities						
non-discriminatory testing						
cal aspects of ceptionality						
acteristics of ceptionality by tegory			0	0		0
rral procedures & mmunity resources						
seling/guidance sources & Career ucation				0		

58

3

69

A review of the Training Materials/Mainstreaming Concept Matrix indicates that most of the major mainstreaming concepts received major attention in one or more of the materials with the exception of non-discriminatory testing. Attention will need to be given to this concept as program modifications continue.

Major attention in the training materials is directed at educational diagnostic procedures, group and individual instructional procedures, IEP's, least restrictive environments, and categories of exceptionality. The medical aspects of exceptionality and nondescriminatory testing, surrogate parent involvement, and served and unserved priorities were omitted or received lesser emphasis on the training materials.

Evaluation of Individual Training Packets. Many of the training materials were not completed until late in the project, so that their tryout and refinement will continue after the conclusion of the project. A first draft of the Richmond Area Resource Guide was circulated at the end of the first year of the project. Several weeks after its distribution, a brief followup questionnaire was distributed. The results of this followup study were gathered and were incorporated into a second revision.

The Guide has been a popular project product. Requests for additional copies have come from area schools, agencies, and other university personnel.

Program Development

Three evidences of program modification were collected.

Course Modification, Self Report. The first is data from the Mainstreaming Reaction Survey reported above. As noted from Table 6 (pages 40-41), over 50% of the faculty respondents indicated moderate or major modifications to their courses have been completed or are underway. Ten of the thirteen project members reported such changes.

Course Modification, Outlines. A review of all course outlines in the elementary education program was conducted for reference to mainstreaming topics. Outlines for Fall 1979 were used--the third semester of the project. Explicit references to mainstreaming concepts were found in sections of 11 of 14 required professional sequence courses (79%). However, not every section of the courses modified necessarily gives the same emphasis to mainstreaming concepts. In general, those working on the project had a more extensive and explicit course content and greater expectations in this regard than non-participants.

Institutional and Program Statements. There are evidences in both the catalogue statements and program self-study reports from the elementary education program that indicate a commitment to and a provision for training experiences for all elementary students with respect to the mainstreaming issue. It is clear that total program reconceptualization has not been accomplished during the two years of this project. Additional effort is needed to assure complete institutionalization of mainstreaming concepts in the elementary training program.

Impact on Students

As conceptualized and conducted, this dean's grant was a planning and development project, not a training project. The original proposal did not call for any evaluation or assessment of the impact of project activities on students. However, at the first project meeting many of the faculty involved suggested we should begin gathering data to track, even in a tentative way, the possible impact of project activities on pre-service students. Two specific instruments were used to gather student impact data.

Student Teacher Survey. A survey was designed by Drs. Garner and Reed to gather self-report data from student teachers. It was administered midway through the student teaching semester. The instrument was administered four times: once during each of the four semesters of the project. At the time of the first administration (Fall, 1978) the project had been in operation less than a semester. By the final administration (Spring, 1980) the project was in its fourth full semester. Some, but not all, student teachers had been in classes taught by faculty who had worked on the project. Overall, 163 student teachers responded. As a project-designed instrument, its psychometric properties are unknown. A copy constitutes Appendix V.

The Student Teacher Survey was composed of several parts. The first two survey items concerned questions of awareness. Responses to Item One, "Are you aware of the implications of Public Law 94-142 for the education of Handicapped Children?" are presented in Table 10. An analysis of the

data indicates a clear trend of increasing awareness of the implications of P.L. 94-142 for the education of exceptional children on the part of program graduates.

Table 10

Student Teacher

Awareness of Implications of P.L. 94-142

	Fall 1978 N = 44		Spring 1979 N = 53		Fall 1979 N = 35		Spring 1980 N = 31		Sub-Total
	f	%	f	%	f	%	f	%	
Yes	37	84	42	79	32	91	31	100	142
No	7	16	5	10	3	8	0	-	15
N/A	0	-	6	11	0	-	0	-	6
Total	44		53		35		31		163

Chi Square = 18.56 Significance = 0.005 N/A = Not Answered

Item Two asked student teachers if they felt the need for more detailed understanding of how regular classroom teachers may be affected by the law. Data are presented in Table 11. The majority of student teachers continue to indicate a need for additional detailed understanding of the impact mainstreaming has on their classroom practice. However, a slightly larger percentage of second year respondents indicated no such need, suggesting positive project impact.

Table 11

Student Teacher

Need for More Detailed Information

	Fall 1978 N = 44		Spring 1979 N = 53		Fall 1979 N = 35		Spring 1980 N = 31		Sub-Total
	f	%	f	%	f	%	f	%	
Yes	35	80	40	75	24	69	24	77	123
No	8	18	8	15	10	28	7	23	33
N/A	1	2	5	10	1	3	0	-	7
Total	44		53		35		31		163

Chi Square = 7.58 Significance = 0.27

Items 3 through 5 provided data about the extent of mainstreaming in classrooms where student teachers were placed. The extent of handicapped children in these classrooms is reflected in Table 12.

Table 12

Student Teacher

Presence of Handicapped in Classroom

	Fall 1978 N = 44		Spring 1979 N = 53		Fall 1979 N = 35		Spring 1980 N = 31		Sub-Total
	f	%	f	%	f	%	f	%	
Yes	20	46	23	43	15	43	16	52	74
No	23	52	30	57	20	57	14	45	87
N/A	1	2	0	-	0	-	1	3	2
Total	44		53		35		31		163

Chi Square = 3.44 Significance = 0.75

A consistent trend over the four semesters indicates that about half the student teachers at Virginia Commonwealth University can expect to find one or more exceptional children in the classroom. If coupled with the data regarding the placement of gifted, Table 13, the percentage increases dramatically.

Table 13

Student Teacher

Presence of Gifted in Classroom

	Fall 1978 N = 44		Spring 1979 N = 53		Fall 1979 N = 35		Spring 1980 N = 31		Sub-Total
	f	%	f	%	f	%	f	%	
Yes	16	36	28	53	14	40	16	52	74
No	28	64	24	45	20	57	15	48	87
N/A	0	-	1	2	1	3	0	-	2
Total	44		53		35		31		163

Chi Square = 5.55 Significance = 0.48

Data describing the frequency of children with handicapping conditions, by category, which student teachers found in their classrooms are reported in Table 14. Over the four semesters, Emotionally Disturbed and Learning Disabilities were the high incident handicapping conditions found "mainstreamed" in local school divisions.

Table 14

Student Teacher

Frequency of Handicapped Children in Classroom*
By Category

	Fall 1978	Spring 1979	Fall 1979	Spring 1980
Trainable Mentally Retarded	0	0	0	1
Educable Mentally Retarded	1	5	2	3
Emotionally Disturbed	4	12	7	7
Learning Disabled	30	39	12	24
Deaf/Hard of Hearing	2	7	3	6
Visually Impaired	2	4	4	4
Physically Handicapped	2	3	2	2

* Actual Survey Question: "How many of each of the following handicapping conditions do your students have?"

Items 6 and 7 provide an additional picture of the awareness and experiences of student teachers with respect to exceptional children in their school. Each semester about 20% of the student teachers have additional contact with one or more exceptional children (Table 15). Student teacher awareness of other classes for handicapped children in their school increased over the course of the project.

Table 15

Student Teacher

Additional Contact with Exceptional Children

	Fall 1978 N = 44		Spring 1979 N = 53		Fall 1979 N = 35		Spring 1980 N = 31		Sub-Total
	f	%	f	%	f	%	f	%	
Yes	9	20	10	19	4	11	7	23	30
No	32	73	42	79	31	89	24	77	129
N/A	3	7	1	2	0	-	0	-	4
Total	44		53		35		31		163

Chi Square = 7.06 Significance = 0.32

The final series of questions asked student teachers to comment on the adequacy of training they received in regard to exceptional students. Data are presented in Table 16. The analysis of these data suggest a trend toward an improved sense of adequate preparation on the part of student teachers over the course of the project. However, this item was catagorized by evaluation consultants as being very ambiguous. During the first semester of the project, only 32% of student teachers felt they were adequately or well-prepared to work with handicapped children in regular classrooms. During the last semester, 43% indicated adequacy or well-preparedness. However, about two-thirds thought their preparation needed strengthening, a finding not too dissimilar from teachers in the field.

Table 16

Student Teacher

Assessment of Adequacy of Training

	Fall 1978 N = 44		Spring 1979 N = 61		Fall 1979 N = 32		Spring 1980 N = 31		Sub-Total
	f	%	f	%	f	%	f	%	
Well	1	2	0	-	0	-	3	10	4
Adequate	13	30	17	32	15	43	10	32	55
Inadequate	20	46	31	58	3	8	8	26	62
Poor	5	11	13	24	11	31	7	23	36
N/A	5	11	0	-	3	8	3	10	11
Total	44		61		32		31		168

Chi Square = 32.28 Significance = 0.001

A final item asked for the identification of specific topics needing additional emphasis. In all cases, the percentage of responses for needed training was lower for the seniors completing in Spring 1980, than at the beginning of the project. These data are presented in Table 17.

The number of students checking "None," indicating no particular need for additional training, began increasing through the second year of the project. Approximately half of the students continued to indicate a desire for additional training in (a) the selection of curriculum content, (b) methods and materials, (c) behavior management techniques, (d) understanding diagnostic testing and procedures, and (e) understanding the nature and limitations of the handicapped. These student-designated needs are very similar to the requests of faculty for more information and those of teachers on the job, for more in-service (pp. 56 & 68).

Rucker-Gable Educational Programming Scale (RGEPS). The second instrument used to gather student data was the Rucker-Gable Educational Programming Scale. The manual states "the instrument measures attitudes toward and knowledge of appropriate program placements for handicapped children" (RGEPS, 1973, p. 2). The scale provides responses for the disability areas of (a) mental retardation, (b) emotional disturbance, and (c) learning disabilities, and for the disability levels of (d) mild, (e) moderate, and (f) severely handicapped. Total attitudes and knowledge scales are included.

> Knowledge in the RGEPS is defined as a respondent's agreement with a group of 35 experts in special education. (p. 6)

> Attitude scores are calculated directly from the respondents' placement choices...(and) can be thought of as a measure of the social distance a teacher wants to maintain between herself or himself and a variety of types and degrees of handicapping conditions. Attitude scores can also be regarded as a measure of the respondent's willingness to move handicapped children closer to the mainstream of education. (pp. 4-5)

TABLE 17

Areas & Frequency of Needs
by Student Teachers

Topic	Fall 78 (N=44) f	%	Spring 79 (N=53) f	%	Fall 80 (N=35) f	%	Spring 80 (N=31) f	%
Nature & Limitations of Each Handicap	25	57	35	66	13	37	16	52
Diagnostic & Test Process	28	64	36	68	18	51	15	48
Behavior-Management Techniques	22	50	37	70	17	48	15	48
Helping Normal Children Understand & Accept Children with Handicaps	4	13	11	31	22	42	16	36
Communication with Special Ed. & Support Personnel	18	41	30	57	12	34	4	13
Selection of Curriculum Content, Methods & Materials	33	73	40	75	17	48	16	52
Communication with Parents of Handicapped Children	17	38	28	53	11	31	4	13
Checked None	0	-	0	-	9	26	9	29

Scale reliabilities (internal consistency) range from 0.81 to 0.95. A copy constitutes Appendix VI.

Over the course of the project, data was gathered from five independent samples. The first consisted of first semester freshmen enrolled in the elementary teacher education program, Fall 1978. It was hoped that this group might serve as a base-line, since these students had no particular experience with or knowledge of professional education and/or mainstreaming. Groups 2 - 5 represented student teachers completing their teacher preparation program during each of the four semesters of the project. In total, data was collected from 189 elementary education students.

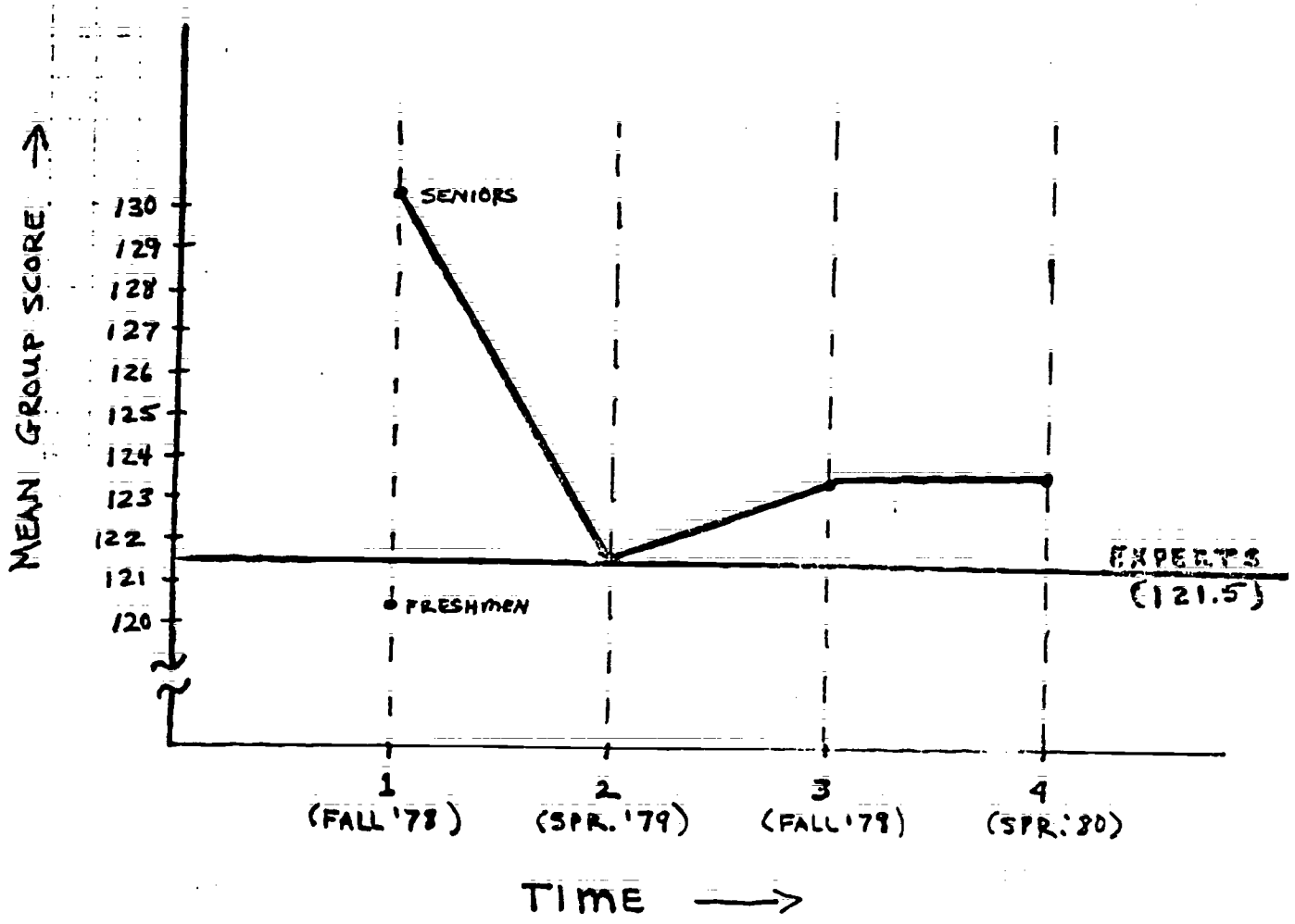
An analysis of variance and Duncan's Multiple Range Test were performed across the eight scales of the Rucker-Gable Educational Programming Scale using a SPSS (1979) package. These data are presented in Appendix VII. A brief discussion and graphic display of the data follows.

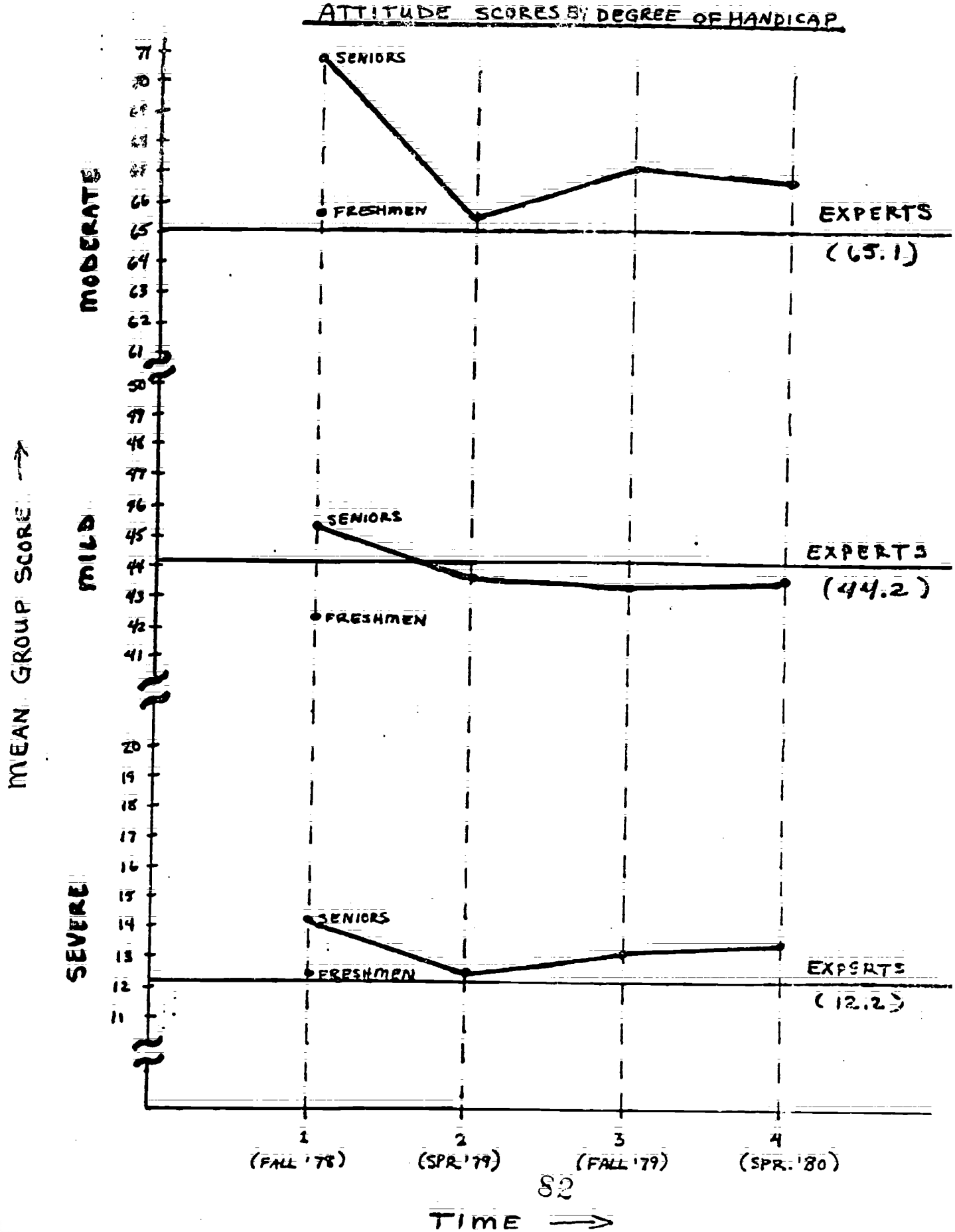
Changes in Attitude. The RGEPS manual notes, "In the case of regular class teachers, attitude is probably the more important area." (p. 8) An interesting and significant shift in student attitude was found. At the outset of the project, freshmen were slightly negative in their placement attitudes; seniors, idealistically positive. As the project developed, attitudes dropped dramatically (Spring 1979). During the second year, attitude scale scores tended to level off, reaching a plateau slightly above "expert" scores. These are presented in the following materials.

GRAPH I

RUCKER-GABLE

TOTAL ATTITUDE SCORES

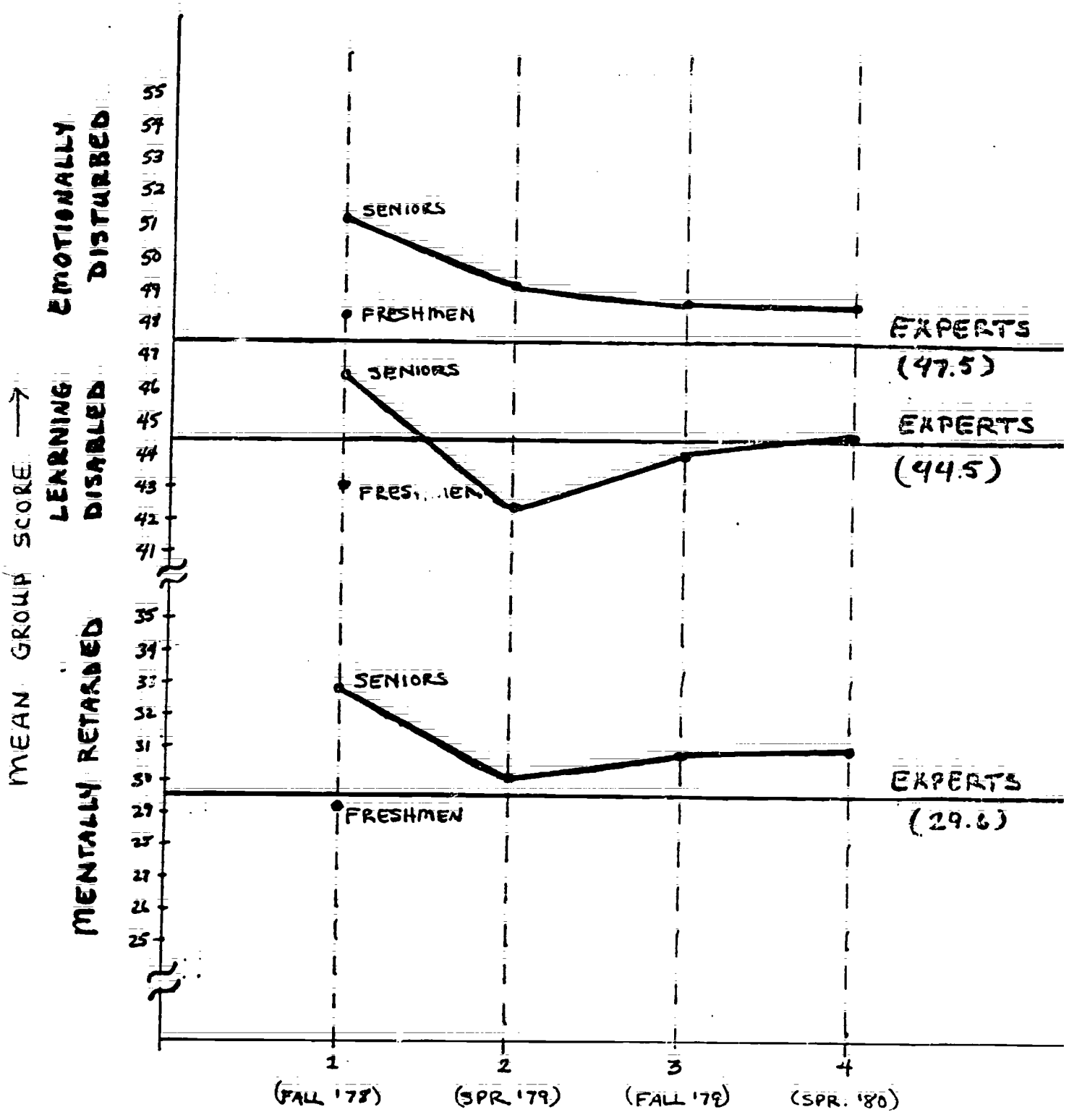



ATTITUDE SCORES BY DEGREE OF HANDICAP
MODERATE
MILD
SEVERE
MEAN GROUP SCORE →
SENIORS
FRESHMEN
EXPERTS
(65.1)
SENIORS
FRESHMEN
EXPERTS
(44.2)
SENIORS
FRESHMEN
EXPERTS
(12.2)
1 (FALL '78)
2 (SPR '79)
3 (FALL '79)
4 (SPR. '80)
TIME →

GRAPH III

RUCKER -GABLE

ATTITUDE SCORES BY TYPE OF HANDICAP



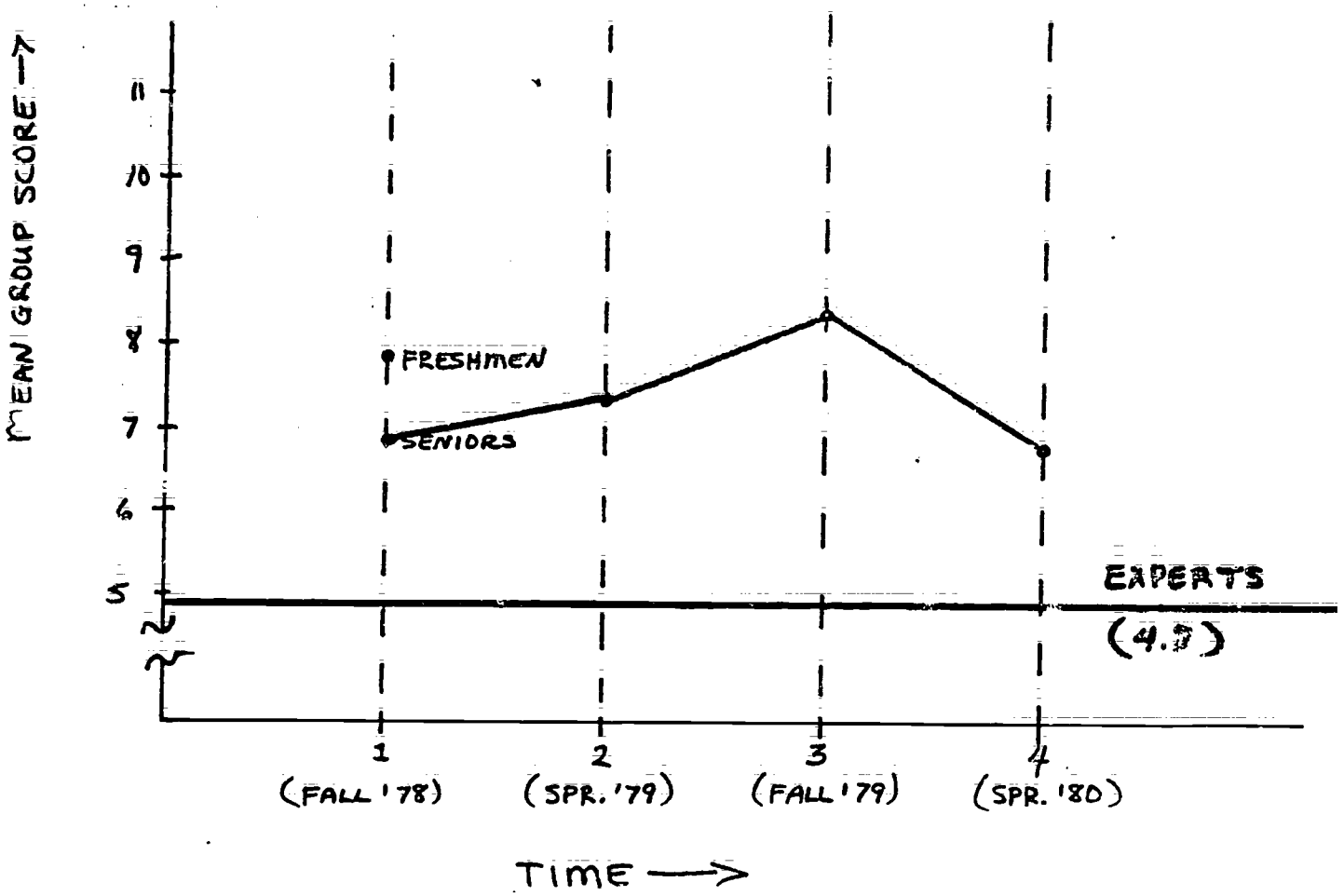
The statistical analysis suggested these same trends. Significant differences were found among several of the groups. For the total attitude score, the third and fourth semesters' data was significantly different than second semester project data.

Changes in Knowledge. As discussed abov knowledge scores reflect the difference between the respondents' and experts' placement decisions. At the start of the project, seniors made placement decisions closer to the experts than did freshmen. As illustrated in the following graphs (IV, V, and VI) and supported in the statistical analyses presented in Appendix VIII, the project had little or no effect on RGEPS knowledge scores. No differences were found among the several scales or between scale scores and the mean for the "experts."

GRAPH IV

RUCKER-GABLE

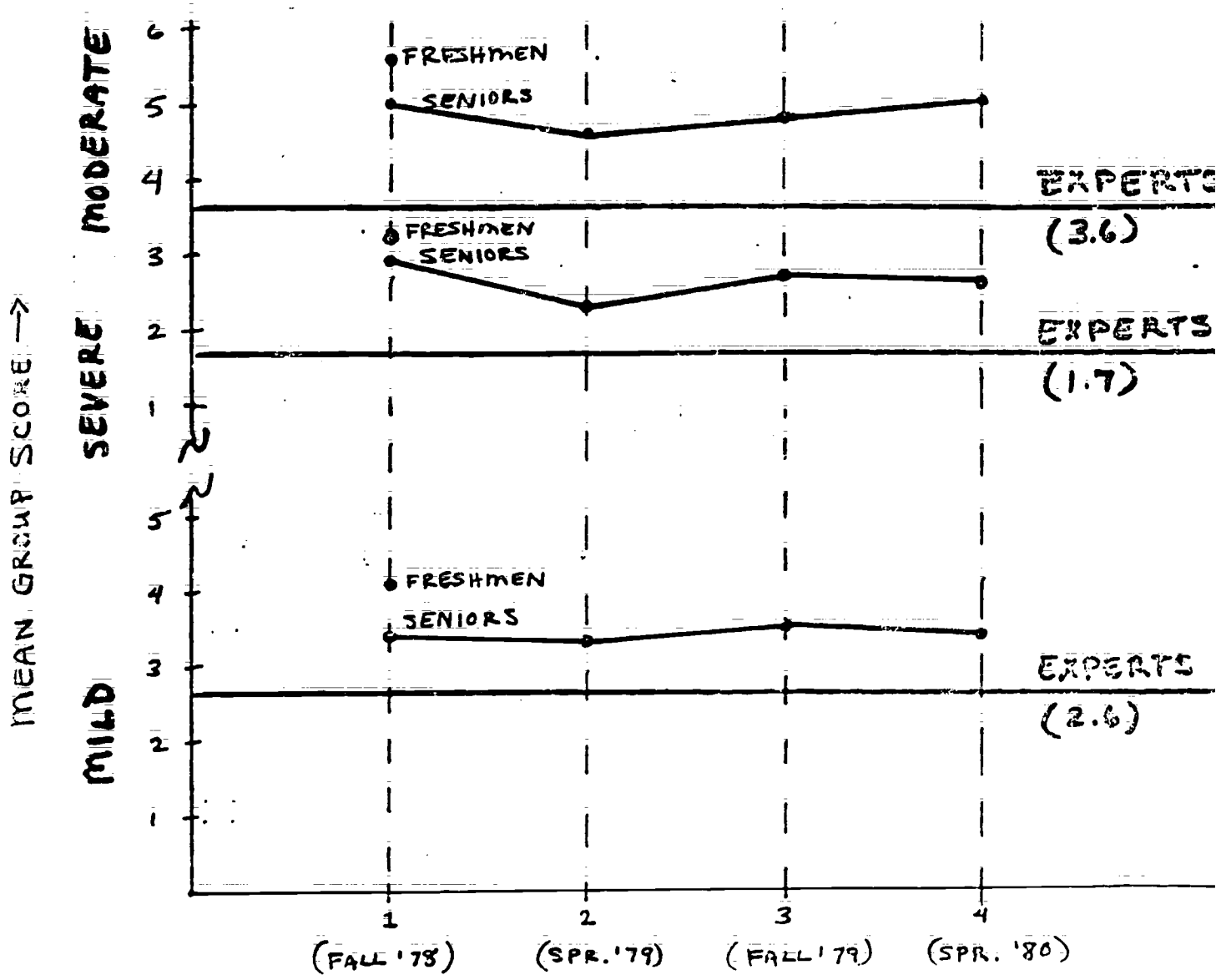
TOTAL KNOWLEDGE SCORES



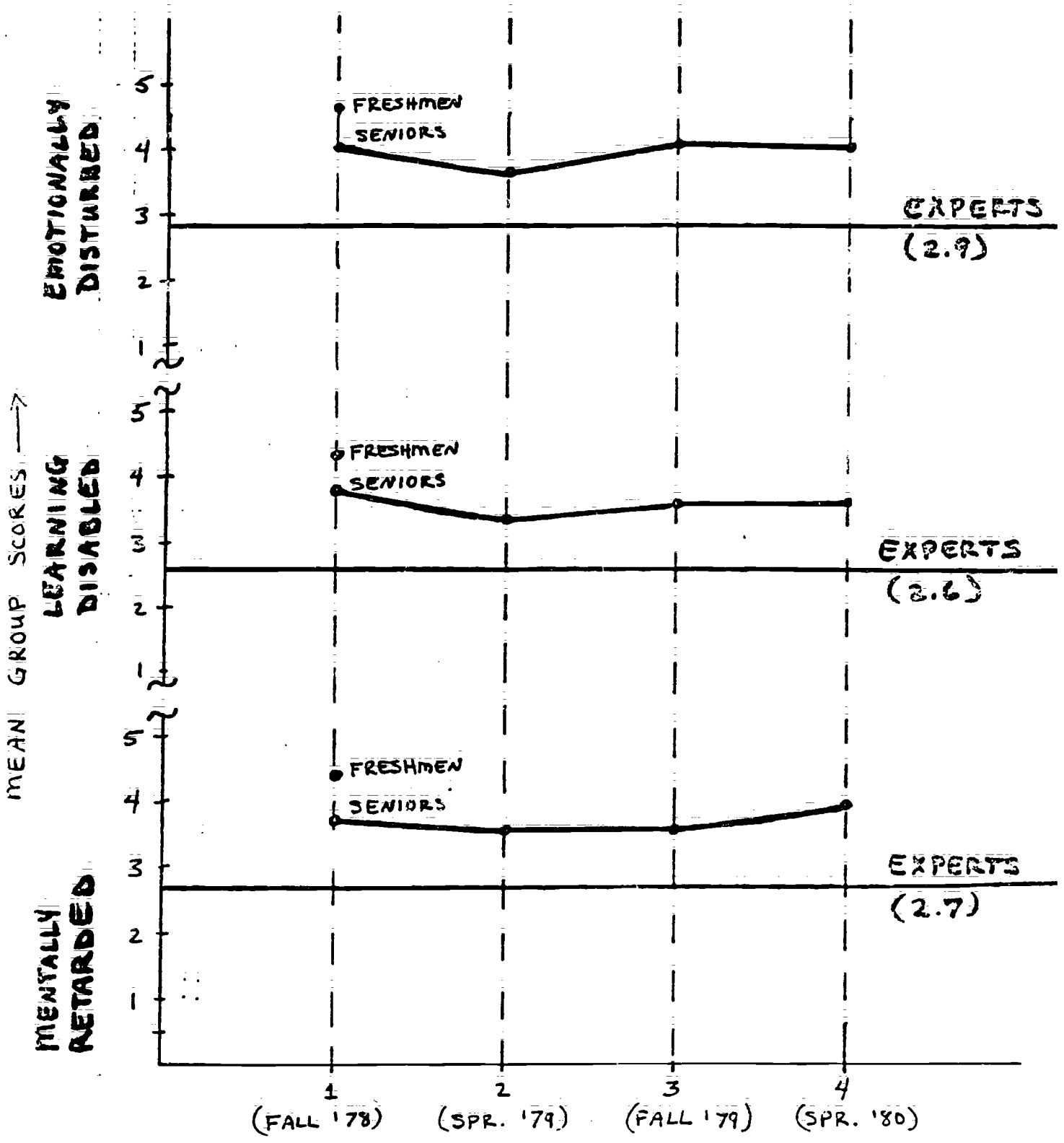
GRAPH V

RUCKER-GABLE

KNOWLEDGE SCORES BY DEGREE OF HANDICAP



KNOWLEDGE SCORES BY TYPE OF HANDICAP



SUMMARY AND RECOMMENDATIONS

By most yardsticks, this project has been an effective vehicle to introduce "mainstreaming concepts" into the elementary education program. The teaming arrangement provided a useful mechanism for general and special education faculty to learn from each other. A significant number of instructional materials were developed and are in use in elementary education courses. Several are on their way to professional journals or are being shared with colleagues around the Commonwealth. Efforts are underway to institutionalize expectations in terms of competencies to be developed in specific courses. Program modification is underway but not accomplished. In general, the awareness of the school's responsibility to training teachers with expanded skills and competencies is heightened.

As the project continues into a second funding period, attention will be given to:

a. Strengthening the content in the educational studies courses as a basis for competency development.

b. Identifying where in the curriculum testing competencies will be developed, and

c. Continuing dialogue with schools regarding practicum and student teaching settings with exceptional children in regular classes.

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APPENDIX I

Participants

MAINSTREAMING DEVELOPMENT TEAMS

Virginia Commonwealth University
School of Education

Dean's Grant Project

(1978-1980)

Director

Charles P. Ruch

Graduate Administrative Assistants

Candace W. Chester
(1979-80)

Gertrude Sloan
(Summer 1979)

Deborah Farmer
(1978-79)

MAINSTREAMING DEVELOPMENT TEAMS

Virginia Commonwealth University
School of Education

Dean's Grant Project

Curriculum and Instruction Team (4-7) (1978-79)

Joan Fulton *
Marvin Kopit
Howard Garner
Roberta Clark, Graduate Assistant (1979-80)
Tim Virden, Graduate Assistant (1978-79)

Math/Science Methods Team (1978-79)

Richard Rezba *
John Van de Walle
Maureen Larkin
Barbara McCreary, Graduate Assistant (1979-80)
Eleanor Stergis, Graduate Assistant (1978-79)

Practicum/Field Settings Team (1978-79)

Daisy Reed
Warren Strandberg
Ada Hill *
Jane Talbot, Graduate Assistant (1979-80, and 1978-79)

Curriculum and Instruction Team (Early Childhood Education) (1979-80)

Alice Pieper *
Doris Busby
Carol Beers
Michele Myers, Graduate Assistant (1979-80)

Reading/Social Studies Methods Team (1979-80)

Mary Brittain
James Hodges
Rosemary Lambie *
Betty Neale, Graduate Assistant (1979-80)

Philosophy/History/Psychology/Foundations (1979-80)

Howard Ozmon
Fredric Linder
Brenda Kauffman *
Carter White, Graduate Assistant (1979-80)

* Designates Team Leader

APPENDIX II

Transition Workshop

DEAN'S GRANT PROJECT WORKSHOP

Virginia Commonwealth University
Richmond, Virginia

July 11, 1979

AGENDA

12:00 • *Luncheon*

• *Overview of Project*
Goals, Strategies, Resources

• *Overview of Elementary Education/Teacher Education Program*

• *Review of First Year Achievements*

- *Curriculum and Instruction Team with Early Childhood Education Team*

- *Math/Science Methods Team with Reading/Social Studies Team*

- *Practicum/Student Teaching Team with Educational Studies Team*

• *Questions, Plans for August/September*

4:00 • *Adjournment*

MAINSTREAMING DEVELOPMENT TEAMS

Virginia Commonwealth University
School of Education

Dean's Grant

1979-80

Curriculum and Instruction Team

J. Fulton
M. Kopit
H. Garner

Early Childhood Team

A. Pieper
D. Busby
C. Beers

Math/Science Methods Team

D. Rezba
J. Van de Walle
M. Larkin

Reading/Social Studies Methods Team

J. Hodges
M. Brittain
R. Lambie

Practicum/Student Teaching Team

D. Reed
W. Strandberg
A. Hill

Educational Studies Team

F. Linder
H. Ozmon
- T.B.A.

Resource Personnel

R. Davis and N. Megginson - Adaptive Physical Educators Project
P. Wehman - Adult and High School Severely/Profoundly Handicapped Project
J. Filler - Early Childhood Severely/Profoundly Handicapped Project
R. Welch - T.A.C. Early Childhood Handicapped
A. Schwieder and K. Maitland - Teachers Resource Workshop

Administration/Support/Evaluation

C. Ruch - Director
T. Sloan - Administrative Assistant

APPENDIX III

Schein Group Effectiveness Scale

Rating Group Effectiveness

A: Goals

Poor 1 2 3 4 5 6 7 8 9 10 Good

Confused; diverse; conflicting; indifferent; little interest.

Clear to all; shared by all; all care about the goals, feel involved.

B: Participation

Poor 1 2 3 4 5 6 7 8 9 10 Good

Few dominate; some passive; some not listened to; several talk at once or interrupt.

All get in; all are really listened to.

C: Feelings

Poor 1 2 3 4 5 6 7 8 9 10 Good

Unexpected; ignored or criticized.

Freely expressed; empathic responses.

D: Diagnosis of group problems

Poor 1 2 3 4 5 6 7 8 9 10 Good

Jump directly to remedial proposals; treat symptoms rather than basic causes.

When problems arise the situation is carefully diagnosed before action is proposed; remedies attack basic causes.

E: Leadership

Poor 1 2 3 4 5 6 7 8 9 10 Good

Group needs for leadership not met; group depends too much on single person or on a few persons.

As needs for leadership arise various members meet them ("distributed leadership"); anyone feels free to volunteer as he sees a group need.

F: Decisions

Poor 1 2 3 4 5 6 7 8 9 10 Good

Needed decisions don't get made; decision made by part of group; others uncommitted.

Consensus sought and tested; deviates appreciated and used to improve decision; decisions when made are fully supported.

G: Trust

Poor 1 2 3 4 5 6 7 8 9 10 Good

Members distrust one another; are polite, careful, closed, guarded; they listen superficially but inwardly reject what others say; are afraid to criticize or to be criticized.

Members trust one another; they reveal to group what they would be reluctant to expose to others; they respect and use the responses they get; they can freely express negative reactions without fearing reprisal.

H: Creativity and growth

Poor 1 2 3 4 5 6 7 8 9 10 Good

Members and group in a rut; operate routinely; persons stereotyped and rigid in their roles; no progress.

Group flexible, seeks new and better ways; individuals changing and growing; creative; individually supported.

APPENDIX IV

Mainstreaming Reaction Sheet (MRS)

MAINSTREAMING REACTION SHEET

Division: _____ Core: _____

Dean's Grant Team Member (circle one) Yes No

(circle one)

yes no Do you feel P.L. 94-142 (mainstreaming requirements) has implications which require additional preparation on your part?

yes no In general, do you feel knowledgeable concerning the changes in teacher preparation necessitated by P.L. 94-142?

(check one)

To no extent	To a minor extent	To a moderate extent	To a major extent	
1	2	3	4	A. Over the past two years, have you made modifications to current course offerings regarding knowledge/skills required for prospective teachers under P.L. 94-142?
				B. To what extent have you used the following resources relating to any P.L. 94-142 modifications to courses you teach?
1	2	3	4	Cabell Library bibliography on Mainstreaming
1	2	3	4	Teachers Resource Workshop bibliography on Mainstreaming
1	2	3	4	Teachers Resource Workshop resources center on Mainstreaming
1	2	3	4	Special Education Richmond Area Resource Guide
1	2	3	4	Colleagues within my core
1	2	3	4	Colleagues within my division
1	2	3	4	Colleagues from special education
1	2	3	4	Planned discussions at core/division meetings
1	2	3	4	Other matarials/resources gathered on my own

C. In the future, I would appreciate additional resources on the following knowledge areas (check priority items only--leave blank if no need exists):

___ Individual education plan (IEPs)
___ Child identification
___ Due process procedures
___ Non-discriminating testing
___ Confidentiality
___ Least restrictive environment
___ Diagnostic prescriptive instruction
___ Parent involvement

Please return to Ms. Candy Chester, Dean's Office, 2090 Oliver Hall 5/80

APPENDIX V

Student Teaching Survey

H. Garner
D. Reed

SURVEY OF STUDENT TEACHERS IN

THE DIVISION OF TEACHER EDUCATION

1) Are you aware of the implications of Public Law 94-142 for the education of Handicapped Children?

Yes_____ No_____ U.A._____

2) Do you feel a need for a more detailed understanding of how regular classroom teachers may be affected by the law?

Yes_____ No_____ U.A._____

3) Are there any handicapped children being served in your classroom?

Yes_____ No_____ U.A._____

4) How many of each of the following handicapping conditions do your students have?

_____Trainable Mentally Retarded
_____Educable Mentally Retarded
_____Emotionally Disturbed
_____Learning Disabled
_____Deaf and Hard of Hearing
_____Visually Impaired
_____Physically Handicapped

5) Are there any gifted children in your class?

Yes_____ No_____ U.A._____

How many?_____

6) Are there other handicapped children in your school that you come in contact with or work with routinely?

Yes_____ No_____ U.A._____

How many?_____

What types of handicapping conditions? List:

U.A.=Unanswered a)= b)= c)=

7) Are there classes for handicapped children in your school that you may be aware of but do not work with directly yourself?

Yes_____ No_____ U.A._____

How many?_____

What types of handicapping conditions? List:

8) Do you feel adequately prepared to work with the handicapped children in your classroom?

Well Prepared_____
Adequately Prepared_____
Inadequately Prepared_____
Poorly Prepared_____

9) If not, which of the following areas do you feel or need for additional training?
Check as many as appropriate:

_____ Understanding the nature of & limitations of each handicap
_____ Understanding diagnostic procedures & tests for identifying these children
_____ Behavior-management techniques
_____ Helping normal children to understand & accept children with handicaps
_____ Selection of curriculum content, methods and materials
_____ Communication with special education & support personnel
_____ Communication with parents of handicapped children
_____ Checked none

10) How adequate do you feel your teacher training program was in preparing you in the above areas?

Good-adequate_____
Inadequate_____
Unanswered_____
Commented Further_____

APPENDIX VI

Rucker-Gable Educational

Programming Scale

RUCKER-GABLE EDUCATIONAL

PROGRAMMING SCALE

Form A

Chauncy N. Rucker
University of Connecticut

Robert K. Gable
University of Connecticut

Name _____ Date _____

Present position _____

Years teaching experience _____

DIRECTIONS

Teachers are ordinarily faced with a wide variety of problems arising from the many different kinds of students they work with each day. On the following pages are brief descriptions of children actually referred for special education services. For each student you are to indicate what you feel would be the best educational setting at this time.

You would actually need more information before placing most of the students, but please make your best judgements based on the information provided. Assume that all of the programs are available and competently staffed. Also assume that placements within the continuum are flexible and that it is possible for a student to be moved up or down the scale after treatment.

GO ON TO PAGE TWO

PLACE EACH STUDENT IN ONE OF THE SEVEN PROGRAMS FROM THE CONTINUUM BELOW

REGULAR CLASSROOM - with no basic change in teaching procedures.

CONSULTATION - regular classroom with specialists available for consultation with teacher (or parent) whenever needed.

CONSULTATION & DIRECT SERVICES - regular classroom with specialists available in the school to consult with teacher and provide short-term direct services to student.

RESOURCE ROOM - regular classroom with resource room services (special education teacher providing supplemental instruction) provided on a continuing basis in which the student can participate for as much as two hours each day.

PART-TIME SPECIAL CLASS - student enrolled in a special class for the majority of each day, but enters regular classroom for certain subjects.

FULL-TIME SPECIAL CLASS - student assigned to a self-contained special class on a full-time basis.

NOT - student placed in a residential school, hospital program, treatment center, etc. because he or she cannot reasonably be handled within the context of regular or special public education.

If you choose:	RC	CON	CON&DS	RR	PTSC	FTSC	Not
Regular Classroom, circle number seven	(7)	6	5	4	3	2	1
Consultation, circle number six	7	(6)	5	4	3	2	1
Consultation & Direct Services, circle number five	7	6	(5)	4	3	2	1
Resource Room, circle number four	7	6	5	(4)	3	2	1
Part-Time Special Class, circle number three	7	6	5	4	(3)	2	1
Full-Time Special Class, circle number two	7	6	5	4	3	(2)	1
Not for public education, circle number one	7	6	5	4	3	2	(1)

PLEASE RESPOND TO EVERY ITEM

	RC	CON	CON&DS	RR	PTSC	FTSC	Not
1.	7	6	5	4	3	2	1
2.	7	6	5	4	3	2	1
3.	7	6	5	4	3	2	1
4.	7	6	5	4	3	2	1
5.	7	6	5	4	3	2	1
6.	7	6	5	4	3	2	1
7.	7	6	5	4	3	2	1
8.	7	6	5	4	3	2	1
9.	7	6	5	4	3	2	1
10.	7	6	5	4	3	2	1
11.	7	6	5	4	3	2	1
12.	7	6	5	4	3	2	1
13.	7	6	5	4	3	2	1
14.	7	6	5	4	3	2	1
15.	7	6	5	4	3	2	1
16.	7	6	5	4	3	2	1
17.	7	6	5	4	3	2	1

1. Nancy is a third grader who has difficulty keeping her place during oral reading. Her handwriting is labored, the letters are very large and irregular, and she cannot write on the lines. Her work is disorganized. She gives up easily and needs a lot of personal attention.

2. Jim's achievement is approximately two years below expectation for his age of nine. He has great difficulty understanding and following directions and forgets them quickly. He seems to lack any social skills.

3. Clifford, a nine year old, is very alert and imaginative; he is able to discuss a variety of topics intelligently, but he is unable to read.

4. Myron is a sixth grader who often becomes aggressive in class. His relationships with other children are usually quarrelsome and he is prone to get into trouble when left alone.

5. Ed repeated kindergarten because of his immaturity and is now having trouble doing his first grade work. If he is included in a group activity, he constantly teases the smaller children. He has to be watched constantly or he will destroy their work in a sadistic manner.

6. Jason, age six, occasionally prints letters backwards, writes from right to left, and is restless in class. His parents are concerned that he is still on reading readiness material rather than in a reading group like his classmates.

7. Herb has made a poor adjustment to his first grade class despite his capability for learning. He has difficulty participating in group functions because he is so mischievous. He often fails to respond to discipline.

8. Ray, age twelve, is a two time repeater with above average potential; he has great difficulty remembering material presented in a visual manner and, in spite of a great deal of remedial reading instruction, remains a non-reader.

9. Kenny is a ten year old with a history of late development. He sat up at age two, he had no recognizable speech until age seven, he learned to walk at age nine, and he is still not toilet trained.

10. Frank's achievement is below that of his fifth grade classmates. He is moody, and a loner who is continually seeking attention and testing adults to see if they like him. At home he has displayed physical violence, but never at school.

11. Leroy beat another first grader so severely that minor surgery was required. He has bitten a number of his classmates and has to be supervised constantly.

12. Charles is an eight year old who has not yet sat up, crawled, or walked. He is unable to communicate in any way. He has no bowel or bladder control, can't feed himself, and is very susceptible to upper respiratory infections.

13. José seems unable to perform the academic requirements of his fifth grade class, particularly in mathematics and language. He has a cheerful compliant personality. He works best on a concrete level.

14. Virginia is an eight year old who does little work in school. She is capable of verbal and physical attacks on anyone when angry. She doesn't seem to care about any school relationships and neither threats nor praise are effective in dealing with her.

15. Tom, age eight, doesn't seem to acquire new skills as quickly as most; he needs to have instructions repeated several times. He has difficulty working individually and needs a great deal of encouragement and supervision.

16. Annalou is new to her present fifth grade class. She seems anxious while she is in school, but is much calmer as soon as she leaves the school grounds. Her schoolwork is slightly below average, but she is quite responsive if encouraged.

17. Jesse, an eight year old, has difficulty keeping up with his class in all subjects. He is very large for his age and quite immature socially. He has a noticeable speech problem.

OPEN FOR REMAINING ITEMS

	RC	CON	CON&DS	RR	PTSC	FTSC	Not
1.	7	6	5	4	3	2	1
2.	7	6	5	4	3	2	1
3.	7	6	5	4	3	2	1
4.	7	6	5	4	3	2	1
5.	7	6	5	4	3	2	1
6.	7	6	5	4	3	2	1
7.	7	6	5	4	3	2	1
8.	7	6	5	4	3	2	1
9.	7	6	5	4	3	2	1
10.	7	6	5	4	3	2	1
11.	7	6	5	4	3	2	1
12.	7	6	5	4	3	2	1
13.	7	6	5	4	3	2	1
14.	7	6	5	4	3	2	1
15.	7	6	5	4	3	2	1
16.	7	6	5	4	3	2	1
17.	7	6	5	4	3	2	1

	RC	CON	CON&DS	RR	PTSC	FTSC	Not	
18.	7	6	5	4	3	2	1	18. Stan is a twelve year old of average ability who wants desperately to learn to read, but even though he has had remedial instruction, he is virtually a non-reader. He disturbs other children by humming to himself much of the time. Although he is frustrated in most academic endeavors, he does very well in experiments and class discussions in science and on all oral tests.
19.	7	6	5	4	3	2	1	19. Jerry is a seven year old who disrupts group tasks and refuses to go with his class to lunch or gym. At recess he plays with older children from other classes since his own classmates won't play with him. Although he seems to like his teacher and has above average potential, he seldom completes his work in a satisfactory manner.
20.	7	6	5	4	3	2	1	20. Dan is a six year old who is extremely immature in all areas. He is not able to do any of the tasks that are expected of a kindergartner. His speech is primarily limited to one or two word utterances. He has a negative approach to school.
21.	7	6	5	4	3	2	1	21. Paula is a soft spoken nine year old. She has trouble understanding even simple directions and often chooses to ignore them. She usually cannot do assigned work and reacts by crying or distracting other children.
22.	7	6	5	4	3	2	1	22. Noel is a second grader who was retained in first grade. His performance is low in all subjects, but he appears fairly capable. He is lethargic, passive, and non-reactive, seeming to lack emotional responsiveness. He still checks each letter when copying a word and often confuses letters and whole words.
23.	7	6	5	4	3	2	1	23. Bob is a third grader who wants friends, but his classmates continually make him a scapegoat. Although he is apparently bright, he is very forgetful and seems unaware of what is expected by his teacher.
24.	7	6	5	4	3	2	1	24. Vance, age seven, is a good student in all areas except mathematics which is a constant frustration to him; he is unable to deal successfully with the most basic arithmetic concepts.
25.	7	6	5	4	3	2	1	25. Bill is a very friendly ten year old who has recently learned to write his name. His speech skills are on a very immature level. He has mastered a few simple self-help skills.
26.	7	6	5	4	3	2	1	26. Mel continually disrupts his fifth grade class. He seems to be angry much of the time and often bullies other children. Although he is of average potential, he doesn't have much interest in his studies.
27.	7	6	5	4	3	2	1	27. Christopher is a very articulate second grader with many interests. He works very slowly, particularly in reading. He is weak in phonetic analysis, can't seem to retain reading skills, and any academic growth on his part depends on a great deal of drill.
28.	7	6	5	4	3	2	1	28. Don, age ten, is only slightly slower than his average classmates, but he is clumsy and other students have nicknamed him "Don the dunce".
29.	7	6	5	4	3	2	1	29. Jimmy Lee is an eight year old whose academic performance is well below what is expected for his age. He has difficulty feeding himself, he is not completely toilet trained, and he has very poor motor coordination.
30.	7	6	5	4	3	2	1	30. Fred is a ten year old fourth grader who was retained in first grade. His attention span is short and many of his interests are immature. His motivation for classroom work is very low, but improves markedly in a one-to-one relationship. He has difficulty with reading, spelling, and arithmetic concepts. His oral performance indicates that he is far more able than his written work would indicate.

APPENDIX VII

Rucker-Gable Statistical Data

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: TATT TOTAL ATTITUDE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	2162.14547155	540.53536789	2.35	0.0558	0.047630	12.2647
ERROR	188	43232.18613467	229.95843689		STD DEV		TATT MEAN
CORRECTED TOTAL	192	45394.33160622			15.16438053		123.64248705

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	2162.14547155	2.35	0.0558	4	2162.14547155	2.35	0.0558

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: TATT
TOTAL ATTITUDE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=188 MS=229.958

GROUPING	MEAN	N	ID
A	130.382353	34	2
A			
B A	123.806452	31	5
B A			
B A	123.611111	36	4
B			
B	121.566038	53	3
B			
B	120.487179	39	1

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: MILDA MILD ATTITUDE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	171.55882660	42.88970665	1.46	0.2172	0.030057	12.4312
ERROR	189	5536.18210604	29.44777716	STD DEV			MILDA MEAN
CORRECTED TOTAL	192	5707.74093264		5.42658061			43.65286974

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	171.55882660	1.46	0.2172	4	171.55882660	1.46	0.2172

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE MILDA
MILD ATTITUDE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=0.05 DF=188 MS=29.4478

GROUPING	MEAN	N	ID
A	45.352941	34	2
B A	43.754717	53	3
B A	43.580645	31	5
B A	43.416667	36	4
B	42.307692	39	1

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: MODA MODERATE ATTITUDE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	739.75262498	184.93815624	2.15	0.0758	0.043835	13.8340
ERROR	188	16136.06084652	85.83011089		STD DEV		MODA MEAN
CORRECTED TOTAL	192	16875.81347150			9.26445416		66.96991192

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	739.75262498	2.15	0.0758	4	739.75262498	2.15	0.0758

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: MODA
MODERATE ATTITUDE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=188 MS=85.8301

GROUPING	MEAN	N	ID
A	70.941176	34	2
A			
B A	67.111111	36	4
B A			
B A	66.806452	31	5
B			
B	65.717949	39	1
B			
B	65.339623	53	3

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: SEVA SEVERE ATTITUDE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	71.98356237	17.99589059	1.79	0.1318	0.036765	24.3248
ERROR	188	1885.93353608	10.03156136		STD DEV		SEVA MEAN
CORRECTED TOTAL	192	1957.91709845			3.16726402		13.02072539

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	71.98356237	1.79	0.1318	4	71.98356237	1.79	0.1318

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE SEVA
SEVERE ATTITUDE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=188 MS=10.0316

GROUPING	MEAN	N	ID
A	14.088235	34	2
A			
B A	13.419355	31	5
B A			
B A	13.083333	36	4
B			
B	12.471698	53	3
B			
B	12.461538	39	1

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: MRATT MENTALLY RETARDED ATTITUDE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	285.24654571	71.31163643	2.31	0.0597	0.046786	18.1291
ERROR	188	5811.53065636	30.91239711	STD DEV			MRATT MEAN
CORRECTED TOTAL	192	6096.77720207		5.55989183			30.66839378

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	285.24654571	2.31	0.0597	4	285.24654571	2.31	0.0597

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: MRATT
MENTALLY RETARDED ATTITUDE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=188 MS=30.9124

GROUPING	MEAN	N	ID
A	32.882353	34	2
A			
B A	30.967742	31	5
B A			
B A	30.916667	36	4
B			
B	30.037736	53	3
B			
B	29.128205	39	1

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: EDATT EMOTIONALLY DISTURBED ATTITUDE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	173.69512488	43.42378122	0.91	0.4510	0.018931	14.0932
ERROR	188	9001.43440880	47.87997026	STD DEV		EDATT MEAN	
CORRECTED TOTAL	192	9175.12953368		6.91953561		49.09944560	

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	173.69512488	0.91	0.4610	4	173.69512488	0.91	0.4610

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE EDATT
EMOTIONALLY DISTURBED ATTITUDE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=188 MS=47.88

GROUPING	MEAN	N	ID
A	51.058824	34	2
A	49.075472	53	3
A	48.694444	36	4
A	48.419355	31	5
A	46.333333	39	1

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: LDATT LEARNING DISABLED ATTITUDE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	368.97836956	92.24459239	2.85	0.0253	0.057126	12.9720
ERROR	188	6090.03717448	32.39381476	STD DEV		LDATT MEAN	
CORRECTED TOTAL	192	6459.01554404		5.69155544		43.87564757	

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	368.97836956	2.85	0.0253	4	368.97836956	2.85	0.0253

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: LDATT
LEARNING DISABLED ATTITUDE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=188 MS=32.3938

GROUPING	MEAN	N	ID
A	46.441176	34	2
B A	44.419355	31	5
B A	44.000000	36	4
B	43.025641	39	1
B	42.452830	53	3

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: TKNOW TOTAL KNOWLEDGE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	65.83762700	16.45940675	0.29	0.8839	0.006141	100.6458
ERROR	188	10654.37371881	56.67220063		STD DEV		TKNOW MEAN
CORRECTED TOTAL	192	10720.21134581			7.52809409		7.47979236

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	65.83762700	0.29	0.8839	4	65.83762700	0.29	0.8839

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE TKNOW
TOTAL KNOWLEDGE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=188 MS=56.6722

GROUPING	MEAN	N	ID
A	8.433333	36	4
A	7.874359	39	1
A	7.309434	53	3
A	6.873529	34	2
A	6.832258	31	5

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: MILDK MILD KNOWLEDGE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	16.78136958	4.19534240	0.87	0.4818	0.018216	62.3099
ERROR	188	904.46986184	4.81100990	STD DEV		MILDK MEAN	
CORRECTED TOTAL	192	921.25123143		2.19340145		3.52020689	

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	16.78136958	0.87	0.4818	4	16.78136958	0.87	0.4818

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE: MILDK
MILD KNOWLEDGE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=188 MS=4.81101

GROUPING	MEAN	N	ID
A	4.099743	39	1
A	3.500000	36	4
A	3.396774	31	5
A	3.350000	34	2
A	3.295226	53	3

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: MODK MODERATE KNOWLEDGE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	27.60776490	6.90194123	0.74	0.5663	0.015484	61.2450
ERROR	188	1755.33941345	9.33691177		STD DEV		MODK MEAN
CORRECTED TOTAL	192	1782.94717835			3.05563507		4.98911878

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	27.60776490	0.74	0.5663	4	27.60776490	0.74	0.5663

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE MODK
MODERATE KNOWLEDGE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=188 MS=9.33691

GROUPING	MEAN	N	ID
A	5.648718	39	1
A	5.051613	31	5
A	5.044117	34	2
A	4.758333	36	4
A	4.588679	53	3

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: SEVK SEVERE KNOWLEDGE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	25.44087520	6.36021880	1.00	0.4111	0.020750	92.9200
ERROR	188	1200.64431794	6.38640595	STD DEV		SEVK MEAN	
CORRECTED TOTAL	192	1226.08519314		2.52713394		2.71968878	

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	25.44087520	1.00	0.4111	4	25.44087520	1.00	0.4111

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE SEVK
SEVERE KNOWLEDGE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=188 MS=6.38641

GROUPING	MEAN	N	ID
A	3.292307	39	1
A	2.914706	34	2
A	2.680555	36	4
A	2.606451	31	5
A	2.266037	53	3

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: MRKNW MENTALLY RETARDED KNOWLEDGE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	21.37304638	5.34326160	0.62	0.6453	0.013122	75.0473
ERROR	188	1607.44480527	8.55023833	STD DEV		MRKNW MEAN	
CORRECTED TOTAL	192	1628.81785166		2.92407906		3.84507735	

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	21.37304638	0.62	0.6453	4	21.37304638	0.62	0.6453

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE MRKNW
MENTALLY RETARDED KNOWLEDGE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=188 MS=8.55024

GROUPING	MEAN	N	ID
A	4.430769	39	1
A	3.948387	31	5
A	3.847058	34	2
A	3.558333	36	4
A	3.547169	53	3

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: EDKNW EMOTIONALLY DISTURBED KNOWLEDGE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	21.59770715	5.39942679	0.83	0.5087	0.017316	62.7676
ERROR	188	1225.64315496	6.51937848		STD DEV		EDKNW MEAN
CORRECTED TOTAL	192	1247.24086210			2.55330736		4.06787529

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	21.59770715	0.83	0.5087	4	21.59770715	0.83	0.5087

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE EDKNW
EMOTIONALLY DISTURBED KNOWLEDGE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=188 MS=6.51938

GROUPING	MEAN	N	ID
A	4.646154	39	1
A	4.102777	36	4
A	4.029411	34	2
A	4.022580	31	5
A	3.669811	53	3

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: LDKNW LEARNING DISABLED KNOWLEDGE SCORE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	C.V.
MODEL	4	21.52953562	5.38238391	1.15	0.3358	0.023827	58.0545
ERROR	188	882.06395155	4.69182953	STD DEV		LDKNW MEAN	
CORRECTED TOTAL	192	903.59348717		2.16606314		3.73108773	

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE IV SS	F VALUE	PR > F
ID	4	21.52953562	1.15	0.3358	4	21.52953562	1.15	0.3358

GENERAL LINEAR MODELS PROCEDURE

DUNCAN'S MULTIPLE RANGE TEST FOR VARIABLE LDKNW
LEARNING DISABLED KNOWLEDGE SCORE

MEANS WITH THE SAME LETTER ARE NOT SIGNIFICANTLY DIFFERENT.

ALPHA LEVEL=.05 DF=188 MS=4.69183

GROUPING	MEAN	N	ID
A	4.328205	39	1
A	3.797058	34	2
A	3.641935	31	5
A	3.627777	36	4
A	3.371698	53	3