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ABSTRACT

The final report describes the 3-year project, "Functional Mainstreaming for Success," designed to develop a model for instructional mainstreaming of 162 handicapped children (3-6 years old) in community settings. The major feature of the project was development of a full reverse mainstreamed preschool program, which included children with and without handicaps in the same class at a 50:50 ratio. The project developed and implemented materials to teach necessary skills to administrators; regular, preschool, and special education teachers; and related personnel. Activities included assessment, inservice training, provision of materials, technical assistance, and direct support. Attitudes of parents, normal children, and school personnel toward handicapped children became more positive as a result of project activities. The progress of the handicapped children in the total reverse mainstream classrooms generally surpassed that of similar children in partial mainstream classrooms, and was very similar to that of normal children in the mainstream classroom. Social interaction of children in the total mainstreamed classrooms was similar to that of peers who were not handicapped. (Author/DB)

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Abstract

Functional Mainstreaming for Success Project (FMS)

A Handicapped Children's Early Education Project

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The project **Functional Mainstreaming for Success** was designed to develop and demonstrate a model for instructional and social mainstreaming of children with and without handicaps in community settings, such as preschools. During its three years of development, the project involved children, ages 3 to 6 years, whose handicapping conditions ranged from moderately to severely multiply handicapped, including mental retardation, emotional, physical, motor, and sensory impairments, and children without handicaps within the same age range.

The goals, components and activities of the FMS project focused on:

1. The identification and development of assessment procedures for determining the type of integration activities appropriate for each child, selecting the most appropriate integration alternative from those available, and using this information in training and/or matching students to teacher expectations.
2. The development of activities for functional, effective grouping of children with and without handicaps.
3. The development of procedures for preparing children without handicaps, their parents, and educational staff for mainstreaming of children with handicaps.
4. The development of procedures for preparing children with handicaps and their families for mainstreaming.
5. The development of procedures for determining the providing the support services needed by regular teachers when children with handicaps are integrated into the regular classroom.

The FMS project developed and implemented materials to teach administrators; regular, preschool, and special education teachers; and related support personnel the skills needed to provide services to children with handicaps in integrated settings. This was accomplished through a process of assessment, inservice training, availability of materials, technical assistance, and direct support. The major feature of this project was the development of a full reverse mainstreamed preschool program, which included children with and without handicaps in the same class at a 50:50 ratio. Through project activities, the attitudes of parents, normal children, and school personnel as reported on written feedback forms, became more positive toward children with handicaps after involvement in the project. The rate of progress of children with handicaps in total reverse mainstream

classrooms generally surpassed the progress of similar children in partial mainstream classrooms and was very similar to that of normal children in the mainstream classrooms. The level of social interaction of children in total mainstreamed classrooms was similar to that of peers who were not handicapped.

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Why FMS was Developed

The integration of preschool children who have handicaps into community preschools has been a major focus of early intervention programs in recent years (Guralnick, 1983; Striefel & Killoran, 1984; Weisenstein & Pelz, 1986). Integration attempts have ranged from placing children in physical proximity with non-handicapped peers, to full-time placement of children with severe handicaps into normal day care (Rule, Killoran, Stowitschek, Innocenti, Striefel, & Boswell, 1985; Guralnick, 1983). The importance of providing early intervention in least restrictive settings for children who have handicaps was emphasized by the passage of P.L. 99-457, the extension of P.L. 94-142 to the age of three (Congressional Records, 1986) which mandates least restrictive services; and by the commitment demonstrated by the U.S. Office of Special Education and Rehabilitative Services in prioritizing early childhood intervention and least restrictive environments as their high priority goals (Bellamy, 1986).

Integration can appear difficult to achieve because children who have handicaps often require greater numbers of trials in order to learn a skill, smaller groups or individual attention during training, and procedures for specifically generalizing learned skills across different settings and trainers (Stokes & Baer, 1977; Brown, Nisbet, Ford, Sweet, Shiraga, York, & Loomis, 1983). Traditional teaching techniques used in normal preschool programs often lack the intensity and systematic components needed to teach a child who has handicaps (Dewulf, Stowitschek & Biery, 1986). These components: assessment, individualization, and progress monitoring, have been demonstrated to increase the effectiveness of instruction (Peters &

Hoyt, 1986;). Teachers, themselves, report their perceived lack of preparation and training for teaching children with handicaps (Stainback & Stainback, 1983). An innovative, alternate model of service delivery was needed which accommodates training to meet an individual child's needs, while still addressing the needs of the group.

Service Delivery Philosophy

The Functional Mainstreaming for Success (FMS) Project (Striefel & Killoran, 1984) has developed a model for preschool mainstreaming which is committed to the philosophy of providing services in totally integrated settings to preschoolers with handicaps. This philosophy is based on the premise that adults with handicaps who are expected to function within, and contribute to, normal community settings must learn as children to function within normal environments (Donder & York, 1986). However, exposure to a normal environment alone will not guarantee successful interaction in that environment (Brown, Bronston, Hamre-Nietupski, Johnson, Wilcox, & Grunewald, 1979; Gresham, 1981). Integration must go beyond physical integration, to the incorporation of instructional and social integration as major goals of a program (Nash & Boileau, 1980; Striefel & Killoran, 1984a; Striefel & Killoran, 1984b; Zigmond & Sansone, 1981).

Overview of the FMS Demonstration Project

With the passage of PL 99-457, the potential utility of the FMS Model is enhanced greatly. The law requires services to preschool children who have handicaps in the least restrictive setting. Since services are not mandated for children who are not handicapped, it is likely that most

programs in most states will initially be housed in self-contained classrooms or centers. The model of integrating children via reverse mainstreaming (total or partial, depending on child needs) should have tremendous appeal, since the model was developed for precisely these types of settings.

As an HCEEP model demonstration project (1984-87), the FMS Project focused on developing a model for providing preschool-age children who have handicaps, with normal experiences and intervention services in environments with normal preschoolers. In order to accomplish the social and instructional integration of the two groups of preschoolers (those with and those without handicaps), the FMS Project outlined the following five goals and fifteen objectives:

Goal 1 - To develop effective, replicable procedures for determining the type of integration activities appropriate for each child served and for selecting the most appropriate integration alternative from those available.

Objective 1.1. To develop or locate appropriate methods for assessing each handicapped child's: (a) social, (b) preacademic and academic, (c) language and communication, (d) self-help, and (e) cognitive skill levels for the purpose of determining the appropriate level of integration.

Goal 2 - To develop effective, replicable alternative activities for meaningful integration of handicapped children with nonhandicapped peers.

Objective 2.1 To develop and implement peer tutoring systems for assuring that appropriate peer models are available and that interaction between normal and handicapped children occurs.

Objective 2.2 To develop and implement a teaching group system so that normal and handicapped children are taught academic and related skills within the same small group

Objective 2.3 To develop and implement a buddy system to assure that each handicapped child has a "big brother" or "big sister" to help foster learning

Objective 2.4 To develop and implement a system to assure that normally occurring teaching opportunities throughout the day maximize handicapped and normal student interaction

Goal 3 - To develop effective, replicable procedures for generally preparing staff, normal children, and their parents for mainstreaming of handicapped children into a specific school or classroom.

Objective 3.1 To determine the impact of puppet shows and simulation activities as methods for preparing teachers, parents, and normal children for mainstreaming

Objective 3.2 To determine what other methods are available to prepare teachers, parents, and children for mainstreaming and to develop and implement such procedures as necessary

Goal 4.0 - To develop effective, replicable procedures for preparing handicapped children and their families for integration of the child with nonhandicapped peers.

Objective 4.1 To develop and implement for parents of handicapped children a system of two-way communication, education, and decision making about mainstreaming

Objective 4.2 To develop and implement a system that prepares children to achieve entry skills for identified mainstream settings

Objective 4.3 To develop and implement procedures to prepare children psychologically and emotionally for leaving one setting and entering a mainstream setting

Goal 5.0 - To develop replicable, effective procedures for determining and providing the support services needed by a regular teacher when handicapped children are integrated into regular classroom activities.

Objective 5.1 To determine the teacher's level of familiarity with special education techniques and handicapping conditions and to provide inservice training as needed

Objective 5.2 To determine the level and type of technical assistance and support services needed by the regular teacher and to provide them

Objective 5.3 To determine the materials and adaptive equipment needed in the mainstream setting and to help procure these items

The Model

The activities of the five goals of the project were combined in various ways to accomplish functional integration. The major focus of the project was on total reverse mainstreaming (See Figure 1 for a diagrammatic overview), in which normal children were brought into self-contained classrooms on a full-time basis. Some children who have handicaps were not yet ready for full-time mainstreaming; thus, they were involved in partial reverse mainstreaming, in which normal children were brought into self-contained classrooms for specific activities. Children could exit total or partial reverse mainstreaming by being systematically integrated (transitioned) into less restrictive settings elsewhere, e.g., regular kindergarten. Children could also be transitioned to other programs because they became 5 years of age and therefore, were no longer eligible for preschool services in Utah. Systematic transition procedures were developed by the project. The particular type(s) of mainstreaming in which a preschool child with handicaps was involved was determined on the basis of a placement decision by an interdisciplinary team that also developed an individualized education plan for each child with handicaps. Some children were ready for total reverse mainstreaming, and some for partial reverse mainstreaming. After specific skills were acquired, some were mainstreamed (transitioned) elsewhere.

FMS Model Description

The intent of the model developed by the Functional Mainstreaming for Success Project is to desegregate existing self-contained special education preschool programs. That is, those programs that have traditionally served

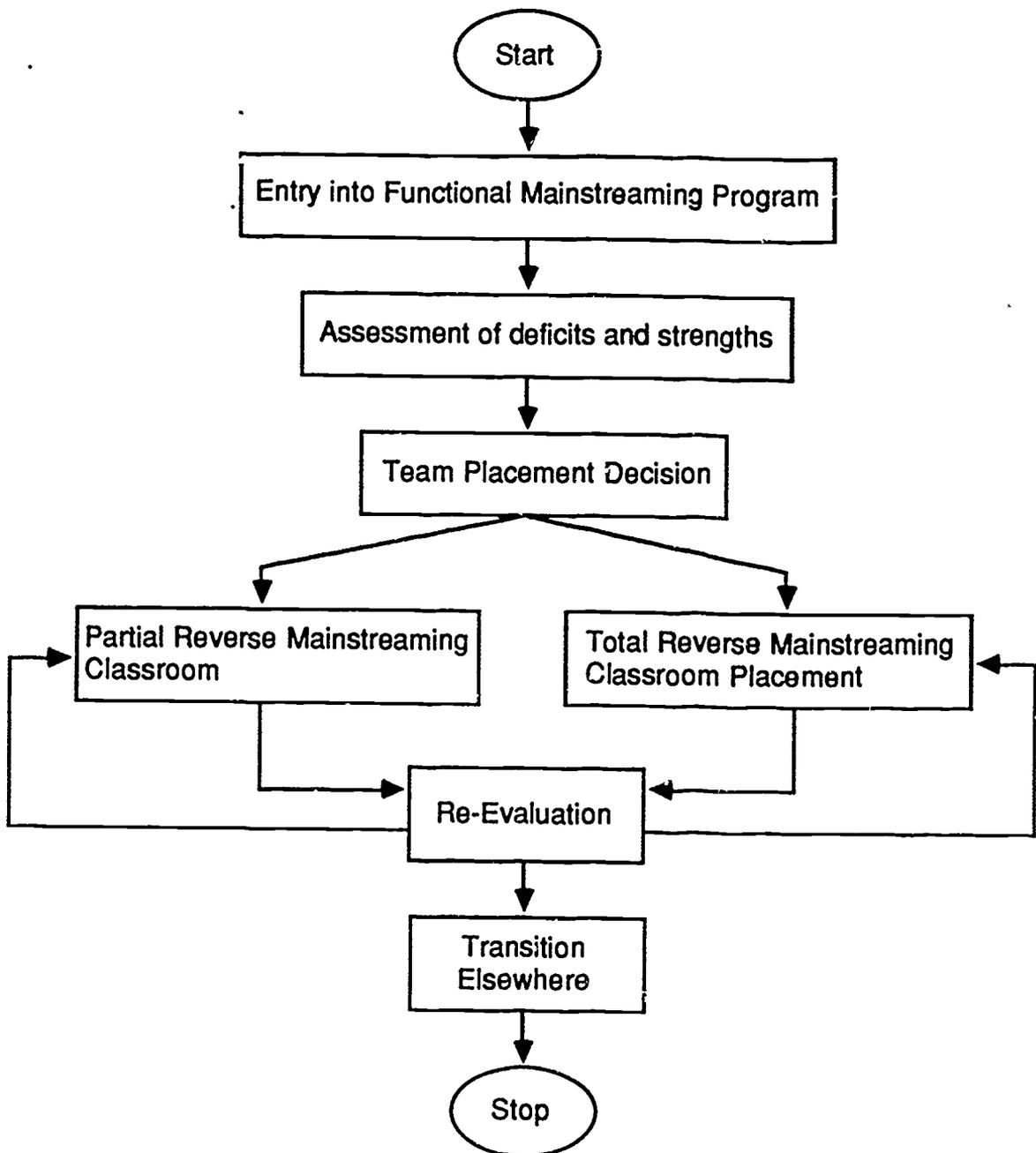


Fig. 1 Flowchart of children's placements into total or partial reverse mainstreaming and/or placement elsewhere

children with handicaps in totally segregated settings. The model has been used by state educational agencies, state social service agencies, and private preschool programs providing services to children with handicaps.

The model is comprised of ten tasks, beginning with the demonstration of administrative commitment to the philosophy of integrated service delivery systems and ending with the transition of students from the preschool program to the public schools. Three major components addressed in the model are 1) total reverse mainstreaming, 2) partial reverse mainstreaming, 3) and transition. The ten tasks which represent the model follow. The products and instruments developed by the FMS project for accomplishing each task are included and discussed in the accompanying Project Manual.

FMS MODEL FOR MAINSTREAMING

General Planning Tasks 1-5

Task 1. **Administrative Commitment**

- Demonstration of Program Administrator's Commitment
- Administrative Decision-Making

Materials in Project Manual: Administrator Checklist; Administrative Planning Forms; Terms Related to Mainstreaming

Task 2. **Staff Preparation and Awareness Activities**

- Orientation
- Needs Assessment
- Training
- Technical Assistance and Follow-Up

Materials in Project Manual: Brochure, Questions Teachers Raise on Mainstreaming; General Teachers Needs Assessments; Teacher Expectations and Assistance for Mainstreaming -Preschool- Kindergarten and Manual; Directory of Local Training Resources

Task 3. Modification of Service Delivery System

- Curricula Change
 - Theme Orientation Vs. Traditional Self-Contained Models
 - Least Restrictive Instruction
 - Non-Obstrusive Data Collection
 - Least Restrictive Behavioral Programming
 - Consultant Model

Materials in Project Manual: FMS Service Delivery Description, Teacher Guidelines for Prompting and Praising.

Task 4. Parent Preparation

- Parents of Students With Handicaps
- Parents of Students Without Handicaps
- All Parents

Materials in Project Manual: Parent Mainstreaming Questionnaire; Parent Brochures (2)

Task 5. Peer Preparation

- General
- Child Specific

Materials in Project Manual: Peer Preparation of Preschoolers in Mainstream Settings

CHILD SPECIFIC TASKS 6-10**Task 6. Child Identification and Recruitment**

- Identification of Students With Handicaps
- Recruitment of Students Without Handicaps

Materials in Project Manual: Mainstreaming Expectations Skills Assessment -Preschool and Kindergarten.

Task 7. IEP Decision-Making Process

- Finalize Placement in Partial or Total Mainstreaming Class Based on Assessment of child strengths and deficits and eligibility criteria.
- Develop IEP

Materials in Project Manual: Eligibility Criteria Checklist; Opinionnaire for Mainstreaming; IEP Flowchart

Task 8. Implementation

- Child Study Teams (CST) Develop Weekly Lesson Plan
- Child Study Teams (CST) Schedule Intervention
- Child Study Teams (CST) Develop Functional Grouping for instructional and social interventions.
- Begin Interventions

Materials in Project Manual: FMS Weekly Lesson Planning Forms; Functional Grouping Guideline; Mainstreaming Teacher Guide for Peer Tutoring; Guidelines for a Successful Buddy System

Task 9. Evaluation

- Child Progress
- Transition
- Follow-Up

Materials in Project Manual: Mainstreaming Expectations Skills Assessment -Preschool and Kindergarten; Classroom Environment Observation, Child Profile

Task 10. Consumer Satisfaction

- Parents
- Staff
- Non-Handicapped Peers

Materials in Project Manual: Parent Satisfaction Questionnaire; Staff Satisfaction Questionnaire, Child Stress Checklist

General Planning Tasks

Task 1 Administrative Commitment: During Task 1 program administrators must demonstrate their commitment to both the philosophy of mainstreaming as well as committing the resources needed for successful implementation of the FMS model. Resources include, but are not limited to, financial resources, space resources, material resources, and staff resources. During task one there is also a set of administration decision making questions which must be answered. These questions address the recruitment of non-handicapped students, curriculum modification and consultant service delivery models versus direct service delivery models. Decisions must also be made in terms of the type and intensity of preparation activities which will be conducted for staff, parents, student's with handicaps, and their non-handicapped peers. The major purpose of task one is to determine the appropriateness and feasibility of mainstreaming for the agency and to prepare for mainstreaming if the agency decides to adopt the FMS model. Materials available in the Project Manual were developed for these activities and include A Self-Evaluation Checklist for Administrators and Administrative Planning Forms.

Task 2 Staff Preparation and Awareness Activity: The purpose of Task 2 is to orient and train agency staff in implementing the FMS mainstreaming model. Orientation includes introduction to the new administrative policies which have been developed as well as becoming aware of the level of administrative commitment to the integration process (Administrative Planning Forms). During the orientation, written materials defining what mainstreaming is, explaining integration, answering questions teachers most

commonly ask and discussing the time lines for implementation of the model are presented (Teacher Brochure). Also, needs assessments are conducted with staff for identifying any existing staff training needs necessary for training students with and without handicaps within integrated programs and a plan for providing the training which is identified is developed. Task 2 utilizes the General Teacher Needs Assessment: 23 Critical Skills of Mainstreaming, the Team-PK, or Teacher Expectations and Assistance For Mainstreaming Preschoolers and Kindergarteners as well as the Directory of Training Resources which have been developed by the FMS project. Also, included in Task Two are the identification of technical assistance needs and their availability, identifying whether the technical assistance can be provided internally or externally, and arrangements for funding the technical assistance needs which are required.

Task 3 Modification of Service Delivery Systems: The FMS model was designed to incorporate the strengths of traditional group and individualized teaching methods. Group curricula is defined as a systematic arrangement of time, procedures, materials, and tasks (Findlay, Miller, Pegram, Richie, Sanford, & Schmrn, 1976). In group curricula the arrangement is based on addressing the common characteristics and needs of more than one student at a time (Findlay, et al, 1976), and usually incorporates skills that are developmentally sequenced and are taught through exploration of the environment; however, children with handicaps are particularly slow at learning incidently and generalizing any such learning to other situations (Stokes and Baer, 1977). In a traditional preschool

program, individualized instructional objectives are not established (Oconnel, 1986). Group curricula traditionally follows a unit or theme concept in which the units or themes are planned for a weekly, biweekly or monthly time period. Units are usually non-operationalized concepts, such as animals, holidays, or transportation. Child progress monitoring, when it occurs, is usually confined to pre-post testing and standardized norm reference assessments and anecdotal recordings. Advantages of group instructions include the efficiency of teaching many children at once, and opportunities for children to learn in naturally occurring environments. Unfortunately, specific child deficits are rarely identified and remediated, and when identification does occur, it is usually in the area of behavioral deficits. If developmental delays are significant and skill deficits are suspected or identified, the child is usually referred elsewhere for remediation, rather than receiving intervention in the regular preschool placement.

In contrast, traditional individualized curricula, a common characteristic of special education programs, focuses on the needs of an individual child, rather than on meeting needs of a group. Interventions are developed for a particular child and are implemented in small groups or one to one instruction, usually in self-contained segregated classrooms. An advantage of a traditional individualized curricula is that it can accommodate behavioral teaching techniques which have been demonstrated to be effective for teaching children who have handicaps (Greer, Anderson, & Odell, 1984). These techniques include, but are not limited to: a) assessment, b) IEP development, c) one to one instruction, d) frequent

progress monitoring of child skill acquisition, and e) revision of teaching programs based on child progress. Unfortunately, a traditional individualized curriculum may actually be self-defeating to the process of integration. The emphasis on one to one and small group instruction in the special setting of a self-contained class can hinder the student's generalization and transfer of skills to settings other than those in which they are trained (Brown, et al, 1983). Furthermore, the specificity of traditional instruction and discrete trial programming can train a child to respond appropriately to a limited number of stimuli with a limited number of responses that often do not occur in the natural environment. Traditional individualized instruction allows the student to be successful in the segregated special education setting. However, when a school setting is restricted to the segregated self-contained classroom such instruction increases the child dependency on special education, limits interaction in the community, and prohibits social interaction between children with and without handicaps (Widerstrom, 1986).

In order to optimize the acquisition of skills with students in integrated settings the strengths of groups and individualized curricula have been merged by the FMS project. At first appearance it may seem that group and individualized curricula are mutually exclusive within a single setting. However with careful planning and individualization within group activities this merger has been readily accomplished.

This merger has been accomplished by adopting the concepts of a) least restrictive instructional programming, b) non-obtrusive data collection, and

c) the use of least restrictive behavioral programming within the format of the FMS Lesson Planning Forms. This merger has also entailed the adoption of a consultant model for the delivery of the majority of related services to students of special needs.

Least restrictive instruction refers to the concept of starting all children in individualized large group activities based on IEP goals and objectives. Only when the child's data demonstrate that the child is not making adequate progress within the large group is the child moved to a more intensive level of small group instruction. If the child's progress monitoring still indicates that skill acquisition is not occurring the student is then moved into individualized microsession training. Microsessions refer to short 10 to 15 training minute sessions designed to utilize traditional discrete trial, behavioral special education. Microsessions entail the presentation of specific stimuli, specific learner responses, and consequence procedures consisting of either correction procedures and/or reinforcement. Individualized incidental teaching is also utilized in the FMS model (Teacher Guidelines for Prompting and Praising). Incidental teaching for our purposes refers to the identification of the time of day in which a skill naturally occurs, and using graduated prompting and praising or other teaching techniques for training that skill. For example, children are taught to put on and zip coats before going out for free play or before going home for the day rather than being trained through direct discrete trial training in a corner of the classroom at times that are not related to going anywhere else.

Non-obstrusive data collection refers to the collection of daily progress data in natural rather than artificial ways. For children in large group instruction this may be as simple as anecdotal recording or daily probes. As a child moves into more intensive, or more restrictive instruction, the intensity of data collection procedures used increases. Thus data collection for children in large and small groups may be based on anecdotal or probe recordings. In contrast, children in microsessions are in discrete trial formats using both mass and distributed trials. The FMS Data Collection Forms were developed for non-obtrusive data collection.

Least restrictive behavioral programming refers to the implementation of positive behavioral management techniques prior to the utilization of more intensive techniques. A policy developed by the DCHP has been used for this purpose. The policy provides a hierarchy of behavioral procedures to be used with all children beginning with modification of antecedents, identification and use of functional reinforcers, and progressing through a hierarchy of less to more intensive procedures with the application of aversive stimuli as the most restrictive behavioral programming being conducted. Restrictive behavior programming also includes the review of aversive programming by a Human Rights Committee which serves as an advocate for the child.

The FMS service delivery model also relies heavily upon the use of consultants in terms of service delivery. In our consultant delivery model (developed at the Developmental Center for Handicapped Persons), consultants such as speech and language therapists, behavior therapists, and

occupational and/or physical therapists are responsible for a) assessment of a child's strengths and deficits, b) development of components of the IEP, c) program development, d) training staff in implementation of the programs developed, and e) monitoring of both the implementation of the program by the trained staff, as well as, monitoring of child progress data for use in programming. Related services are also provided through direct service delivery models when related service personnel feel it is a high priority skill for a child, or no other children in the classroom need instruction in the same or similar skills and grouping is not effective.

Task 4 Parent Preparation: The purpose of Task 4, parent preparation, is to inform parents, both those of children with handicaps and those of children without handicaps, of the purposes and philosophy of integration, changes in the present preschool program, to answer questions, and to give parents the opportunity to become more involved in their children's program. This is accomplished by contacting parents by phone or in person to plan meetings, meeting with parents to answer all questions, and to revise IEP's for children previously enrolled in self-contained programs if needed, and for conducting joint or integrated group parent meetings in terms of completing paperwork, answering further questions, providing parents with support groups and contacts, setting up car pools, and soliciting classroom volunteers. FMS has developed brochures answering questions which parents commonly ask.

Task 5 Peer Preparation: Peer preparation involves general awareness activities as well as child specific preparation. These activities may be

conducted prior to integration when non-handicapped children are recruited from a single source but most often occur within the integrated classroom itself. General awareness activities are usually conducted as simple puppet shows and class discussions (See Peer Preparation of Preschoolers in Mainstream Settings). In contrast child specific preparation involves teaching the communication systems of peers who have handicaps, discussing inappropriate, self-injurious or aggressive behaviors with the non-handicapped peers, and teaching the non-handicapped peers methods for dealing with inappropriate behavior and for increasing peer interaction.

Child Specific Tasks 6 - 10

Task 6 Child Identification and Recruitment: Child identification and recruitment is a two part process which involves both the identification of students with handicaps for placement in integrated classrooms and the recruitment of students without handicaps. Identification of students with handicaps follows the traditional agency referral process, includes the identification of child deficits and strengths through assessment both formal and informal (Mainstreaming Expectations and Skills Assessment for Preschool-Kindergarten), and concludes with the determination of eligibility for acceptance into the program or for referral to other agencies programs as appropriate. Child identification of students with handicaps is conducted with all students enrolled in the program, as well as with new children referred for services.

The recruitment of students without handicaps is based on the program policy which has been determined in Task 1, administrative decision making.

It includes methods of recruitment such as newspaper ads, radio announcements, word-of-mouth and flyers. It incorporates screening non-handicapped students for unidentified deficits (i.e., Brigance), selecting students who have been screened for immediate enrollment, and the establishment of waiting lists. As non-handicapped children are identified as being eligible for the program, parent preparation activities are also initiated. Task 6 activities also include the determination of tuition costs for children who are not handicapped, whether tuition costs will be based on sliding scales or set fees, the investigation of any available subsidies for children who are not handicapped, the establishment of fee payment schedules, and the development of action plans which will be necessary in cases of non-payment of fees. Task 6 activities are accomplished via the Administrative Planning Forms.

Task 7 IEP Decision Making Process: During the IEP decision making process it is decided whether or not children will be placed in a totally integrated (total reverse mainstreaming) classroom or in a classrooms where partial mainstreaming activities are conducted. The IEP decision making process incorporates the traditional eligibility criteria of the program, is based on the identification of child strengths, deficits, and training needs through ongoing assessment, and evaluates the child's ability to follow one step commands and whether aggressive and self-injurious behaviors are under verbal stimulus control for total mainstreaming placement. Based on the above criteria, decisions are made on whether a child is appropriate for placement in the totally mainstreamed class or if the children will participate in a partial mainstreaming class.

Once the placement of a child has been determined the formal IEP is developed by the Child Study Team. The Child Study Team includes parents, the program administrator, teacher, and all related services personnel which will be providing or planning interventions for the child. Upon the development of goals and objectives, the training intensity for each goal and objective (i.e., large group, small group, microsessions) is determined. Peer interaction systems (whether informal or a systematic buddy system), are also determined during this step of the IEP process. For children whose placements have been determined to be most appropriate as partial mainstream placements, options for partial mainstreaming are determined for each goal which is established by using the FMS Options for Mainstreaming Guidelines. These options include mainstreaming into the integrated classroom for social and instructional activities, and the use of peer interaction systems such as buddy and/or tutoring programs for both instructional and social skill acquisition. The IEP decision process concludes with the identification of the responsibilities of each member as a child's study team, assurances that the IEP is in compliance with all IEP guidelines, and establishment of dates for the initiation of services. The IEP Decision-Making Flow Chart is used in Task 7.

Task 8 Implementation: The purpose of Task 8 is to initiate the programs and interventions which have been identified as appropriate for meeting each child's needs. The first step in the implementation task is the development of weekly lesson plans (FMS Lesson Planning Forms) by the child's study team based on theme concepts. These weekly lesson plans are then individualized by the child's study team in one of two ways. For children who are non-

handicapped it is individualized according to the curriculum based assessment which has been conducted on that child. For children with handicaps the weekly lesson plans are individualized (Individualization Forms) to provide training and intervention in the IEP goals and objectives which been established for that particular child.

The second phase in implementation is the scheduling of interventions by the child's study team. This includes who will be the implementor, and whether the intervention will be provided through a consultant model or through a direct service model. The frequency or how often interventions will be provided, as well as the intensity at which that intervention will be conducted are also planned on the Lesson Planning Forms.

The third phase under implementation is the development of functional grouping for both instructional and social interaction (See Service Delivery Description System). Functional grouping for instructional purposes includes the use of large and small group instruction and incidental teaching. Functional grouping for social skill acquisition and increasing social peer interactions includes both informal groups as well as the use of systematic buddy systems. The use of graduated guidance i.e. prompting and praising techniques for increasing social interaction is also planned within the development of functional groups.

The final phase under implementation is the actual initiation of interventions. This refers to the implementation of instructional and social interventions, the recording of daily and weekly progress monitoring

data, and decisions to reprogram based on mastery of identified goals and objectives or lack of progress in existing programs.

Task 9 Evaluation and Transition: The purpose of task 9, evaluation and transition, is to evaluate the impact of the program and to make adjustment and or transition children as needed. Reprogramming interventions for student's with handicaps is based on assessment, IEP progress, and data which has been collected for identified skill deficits. For children without handicaps child progress is monitored through curricula based assessment. Evaluation data for children with and without handicaps is utilized for two purposes. The first of those being for transitioning student's to community programs and second to reprogram skills based on lack of skill acquisition.

Transition procedures are initiated when student's with handicaps demonstrate the exit criteria which has been established on the IEP or when the student has reached public school age. The transition process includes identification of the receiving agency (whether that is the existing agency the child is enrolled in or movement into a community program), obtaining and providing transition information, through the MESA PK, CEO, and Child Profile, to the receiving agency. It concludes with meetings with the receiving agency to determine placement, communicate transition information, and to provide IEP recommendations.

Transitioning when student's with handicaps have reached public school age is identical to that of when they have demonstrated exit criteria with

the exception of the identification of the receiving school. In the latter case, the transition meeting concentrates on the determination on whether a child should be placed in a neighborhood school in their home community, or whether special class placement in an alternative neighborhood school or within a segregated training center facility is more appropriate.

Transition information and transition meetings are identical to the procedures previously described. Transition activities for student's without handicaps include the identification of the neighborhood kindergarten program which they will attend, the provision of transition information based upon the previously mentioned transition instruments, and communicating this information to the receiving school.

Task 10 Consumer Satisfaction: The purpose of task 10 is to collect satisfaction data from parents, both those of children with and those of children without handicaps, and from staff. Consumer satisfaction surveys were developed by the FMS Project for this purpose. Data is collected in terms of satisfaction with individual programs for children, staff interactions, and overall general quality and feedback on the program itself. The data is then used to revise and make adjustments in the program as indicated. Child stress data is also collected on non-handicapped peers through the Child Stress Checklist.

Description of FMS Total and Partial Reverse Mainstreaming Approaches.

The student in a special education self-contained classroom rarely has contact with non-handicapped peers. In response to this situation, the FMS Total and Partial Reverse Mainstreaming approaches were developed. The FMS

Total Reverse Mainstreaming model classrooms are non-categorical, i.e., children with mild-to-severe handicaps and children without handicaps attend the same classes. In the mainstreamed classrooms, 1/2 of the children (8) have handicaps and 1/2 of the children (8) do not have handicaps. Children are taught in large and small groups, as previously described, and service goals for children with handicaps are addressed within these groups, unless a child's progress indicates that they need one-to-one intervention. One-to-one sessions are kept at a minimum, so that the child can still participate in other activities where language, social, and group attending skills can be developed and practiced. Within groups, FMS staff assist in training teaching personnel to use effective prompting and praising procedures, strategic grouping of children in the classroom for learning groups, and peer buddies to facilitate social interactions. Parents are encouraged to be active in the classrooms, and to express their concerns about mainstreaming. Parents are provided written material to answer their questions about the mainstreaming process.

The FMS total reverse mainstreaming classrooms are staffed by a teacher and two aides. This is an increase of one aide over when the classrooms were self-contained. However, children who need one-to-one therapy may need a speech and language pathologist, a behavior specialist, and/or a motor specialist, on a consultative basis. Individual programs vary according to each child's needs, and are met through college students, parents, and volunteers who are solicited to conduct programs under the supervision of specialists and/or the classroom teacher. Hired aides can be used if volunteers are not available. In a classroom where the handicapping

conditions of the children range from mild-to-moderate, few one-to-one sessions are needed and the need for additional personnel is minimal. In classrooms where 8 or more children with moderate-to-severe handicapping conditions are being served, an average of 5-6 adults may be needed in the classroom when one-to-one sessions are being conducted.

Children who are not yet ready for Total Reverse Mainstreaming are involved in partial Reverse Mainstreaming (as shown previously in Figure 1), as appropriate to the needs of the individual child as determined by the child's IEP team.

Effectiveness Data

Effectiveness of the FMS Model.

During the developmental phases of the FMS Model, various procedures and materials were field tested on different populations (i.e., parents, teachers, children with and without handicaps), feedback and direct observation data were collected, and procedures and materials were revised and field tested again. The procedures and materials followed the 10 steps of the Borg and Gall (1979) research and development model (See the FMS Tracking System). This process continued until the procedures and materials could readily be used to achieve the desired outcome. Information on the number of parents, teachers and children impacted during development and implementation of the FMS Model are presented in Table 1.

Table 1

**Number of Parents, Teachers and Children Involved
in the Development and Implementation of the FMS Model**

	Children With Handicaps	Children Without Handicaps	Parents of Both Children W/ & W/O Handicaps	Teachers & Support Staff
Total Reverse MS	48	47	99	15
Partial Reverse MS	48	46	10	15 + 3 Aides
Transition	66	100	8	21
Community Awareness Activities -Puppetry -Parent Programs, etc.	N/A	1508	29	40
Buddy System (FMS Components)	16	79	N/A	25
Teacher Training (Workshop)	N/A	N/A	N/A	146
Sub-Totals	178	1780	146	262

N/A = Not Applicable

In the later half of fiscal year 1985-86, and again in the fall of 1986 (fiscal year 86-87), field testing of the Total FMS Model (including Total and Partial Reverse Mainstreaming and Transitioning) was conducted. The data collected provides evidence that the FMS Model is effective. A summary of that evidence is provided in the sections that follow.

Effectiveness with Children, 1985-86. The progress on IPP objectives of 11 children who participated in FMS Total Reverse Mainstreaming in fiscal year 1985-86 is summarized in Table 2. Children were grouped by handicapping condition. Microsessions were 10 to 15 minute, one-to-one sessions conducted by an adult with one child.

Table 2

**% Objectives Achieved in Each Placement
and Corresponding Number of Microsessions**

Handicapping Condition	\bar{X} % Objectives Achieved			\bar{X} Number Micro-Sessions Per Week		
	Partially Mainstream	Main-streamed	% Diff.	Self-Contained	Main-streamed	Diff.
IH (n=4)	36.5 Range = (26-44)	40.8 (33-58)	+4.3	35.3	7.5 (2-16)	-27.8
CD/BD/OH (n=5)	61.4 (43-81)	61.4 (50-72)	0	32	4.6 (0-11)	-27.4
*SIH (n=1)	47	33	-14	38	6	-32
**SMH-A (n=1)	41	22	-19	28	11	-17
X of Total	49.2	47.7	-1.5	33.4	6.4	-27

Children with intellectual handicaps (IH) achieved more objectives in the mainstreamed classes with about 1/5 as many microsessions as children in the self-contained classroom, where microsessions were more frequent. Children with communication, behavior, and orthopedic handicaps (CD, BD, OH) achieved similar percentages of objectives in both settings; but the need

for microsessions was very significantly lower in mainstreamed classes. Two children with severe intellectual and severe multiple handicaps had a reduction in achievement in the mainstreamed classroom; however, their achievement percentages remained comparable to rates of achievement of their partially mainstreamed peers. Also, the dramatic reduction in microsessions may have been too great for these children. In summary, the majority of children in the sample achieved objectives at the same or higher percentages in the totally mainstreamed classroom, while the need for adults to conduct one-to-one sessions was markedly reduced.

Effectiveness with Children, 1986-87. A comparison of the progress of children with handicaps in partial and total reverse mainstreamed classes and children without handicaps was conducted during Year Three, as a part of the FMS Model Demonstration Project's Evaluation Plan. In September, 1986, children with handicaps enrolled in the CHIPP Program were assigned to partial mainstream classes or total reverse mainstreamed classes. Chronological ages, mental ages and gender were matched as closely as possible and non-handicapped peers were recruited to provide age and gender matched peers (control group). The mean chronological age and the range of ages for each classroom, and the mean mental age and ranges of mental ages for each classroom are listed in Appendix A. The children in all of the classrooms (partial and total reverse mainstreaming) were observed daily during playtime, using the FMS Social Interaction Observation System (Appendix B). A summary of the mean percentage of appropriate social reciprocal interactions observed in children in the partial and the total reverse mainstreamed groups is summarized in Tables 3 and 4, and Figures 2a and 2b.

Duration	Class	Reciprocal Social Interactions	
Fall	TRM	135	25.59 (0-100)
	Control	134	27.55 (0-100)
	PRM	172	6.30 (0-71.4)
Winter	TRM	183	15.25 (0-66.6)
	Control	22	40.01 (0-66.6)
	PRM	97	5.21 (0-50)
Spring	TRM	193	13.83 (0-91.6)
	Control	27	29.90 (0-83.3)
	PRM	178	6.89 (0-83.3)
Fall - Spring	TRM	511	18.22 (0-100)
	Control	183	32.49 (0-100)
	PRM	447	6.24 (0-83.3)

Table 3 - Mean percentages and ranges of reciprocal social interactions for the Partial and Total Reverse Mainstreaming and Control Groups

Duration	Class	Cooperative Play	
Fall	TRM	135	15.5 (0-91.6)
	Control	134	13.37 (0-66.6)
	PRM	172	6.29 (0-71.4)
Winter	TRM	183	9.81 (0-75)
	Control	22	22.83 (0-58.3)
	PRM	97	3.29 (0-50)
Spring	TRM	193	8.67 (0-91.6)
	Control	27	26.11 (0-83.3)
	PRM	178	3.50 (0-63.3)
Fall - Spring	TRM	511	11.32 (0-91.6)
	Control	183	20.77 (0-83.3)
	PRM	447	4.36 (0-71.4)

Table 4 - Mean percentages and ranges of cooperative play interactions for the Partial and Total Reverse Mainstreaming and Control Groups

N=	Mean
	Range

Reciprocal Interactions

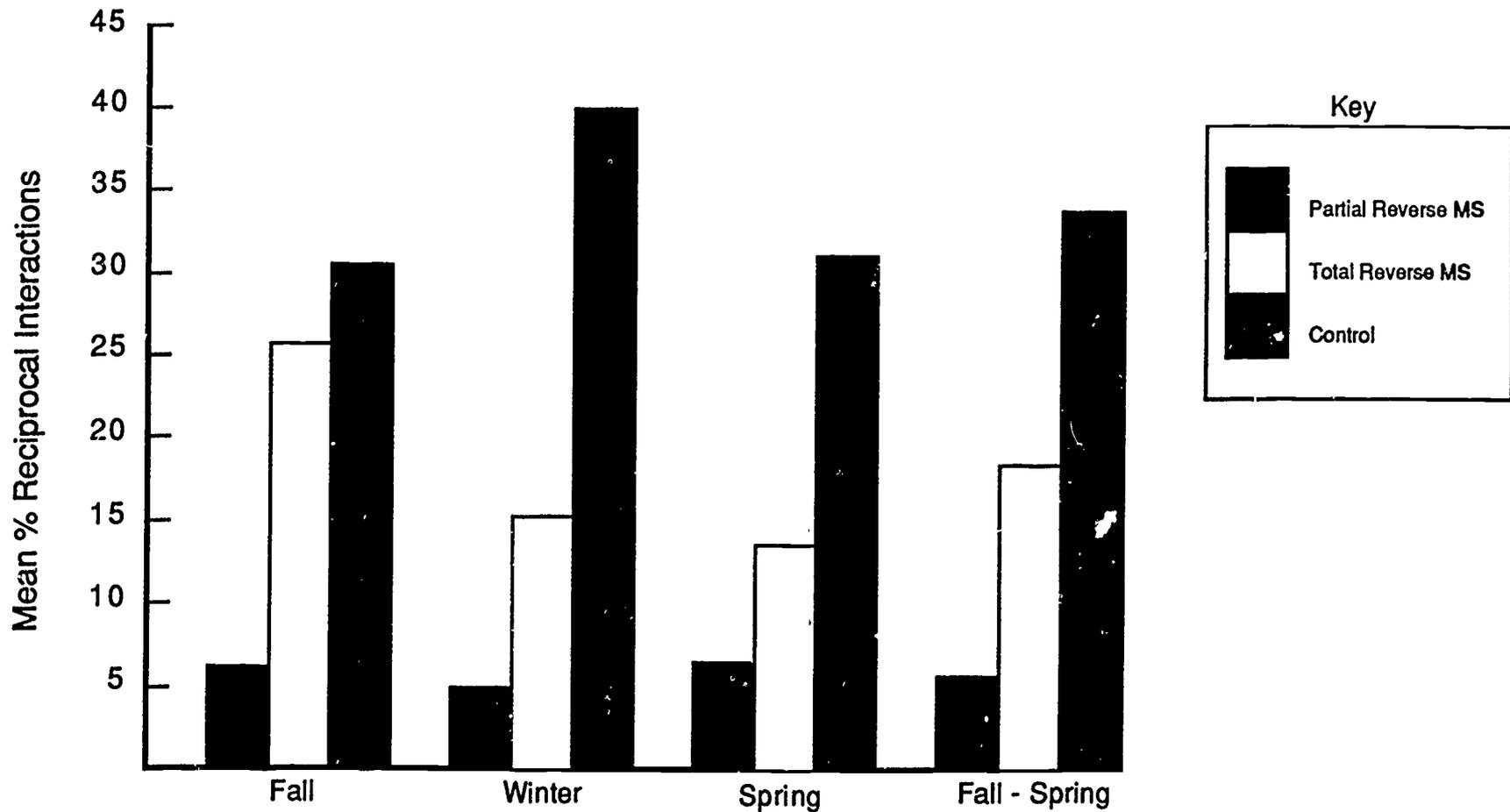


Figure 2a. The quarterly mean percent of reciprocal interactions for the Partial and Total Reverse Mainstreaming and Control Groups

Cooperative Play

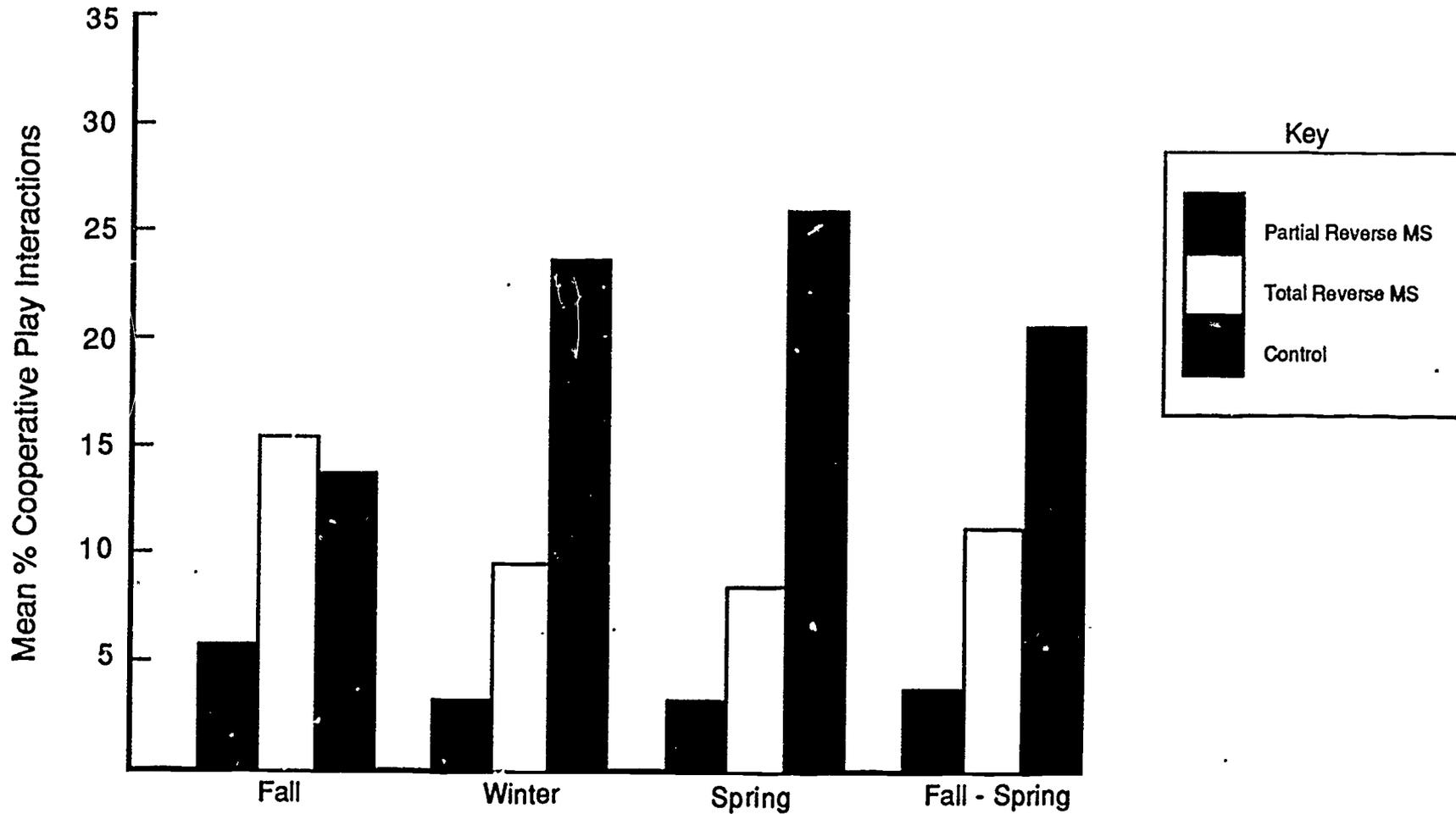


Figure 2b. The quarterly mean percent of cooperative play interactions for the Partial and Total Reverse Mainstreaming and Control Groups

As shown in Tables 3 and 4, and Figures 2a and 2b, children with handicaps in a total reverse mainstream classroom interacted appropriately with their peers more often than children with handicaps in a partial mainstream classroom. By the end of the first quarter, all of the children in the control and total reverse mainstreaming groups had increased their levels of appropriate reciprocal social interactions. Children in the total reverse mainstream classrooms demonstrated an increase in positive reciprocal social behavior, whereas their peers in the partial reverse mainstreaming classrooms did not. These trends continued throughout the year. However, the level of reciprocal interaction increased over the quarters of the year by the control group; whereas, it decreased for the total reverse mainstreaming group. In addition, the level of cooperative play for the three groups was similar to their level of reciprocal interaction; i.e., increasing from quarter-to-quarter for the control group, decreasing over time for the TRM group (although considerably higher than for the PRM group), and remaining low for the PRM group.

Progress in the area of overall development was assessed using a pre-post-test design. All of the children were administered the Battelle Developmental Inventory, the Developmental Programming for Infants and Young Children (DPIYC), the Program Assessment Planning Guide (PAPG) Social and Social Language Subtests, the Mainstreaming Expectations and Skill Assessment-Preschool Kindergarten (MESA-PK), and the Peabody Fine and Gross Motor Subtests (Control subjects did not get these 2 subtests), in September, December, March, and at the end of May. In addition, the mean number of microsessions conducted per week and the mean percentage of IEP

goals (for the partial and total reverse mainstream groups) completed were computed for each quarter (i.e., September to December, December to March, and March to May). These results are summarized in Figures 3a & b through 11a & b and Table 5. The children with handicaps, in both the total and partial mainstream classrooms, showed gains from September to May on all assessment instruments, as well as making progress on IEP goals (See Figures 3-11). The children in the total reverse mainstreaming classrooms made more progress than the children in the partial reverse mainstreaming classrooms on the Battelle, the DPIYC, the PAPG Social and Social Language Subtests, the Peabody Fine and Gross Motor Subtests, and on the MESA-PK. In addition, they required 48% fewer one-to-one microsessions and progress on IEP goals was comparable. The children in the partial reverse mainstreaming (PRM) classrooms did not make more progress than the children in the total reverse mainstreaming (TRM) classrooms on any tests given. The gains made by the children who were not handicapped were: 1) larger than the gains made for children in the PRM or TRM classrooms on the Battelle Developmental Inventory; 2) considerably less on the DPIYC than for either other group; 3) considerably less on the PAPG and Social Subtests than the TRM group, and more than the PRM group; higher for the PAPG Social Language Subtest to both the TRM and PRM group; and 4) less on the MESA-PK than either group. Gross and fine motor testing, microsessions, and IEP goals were not relevant to the children without handicaps, since such data were not collected on this group. It was also demonstrated that all children continued to make developmental gains, indicating that the mainstreamed program is not detrimental to the participating children and is, in fact, very beneficial.

Battelle Developmental Inventory (BDI)

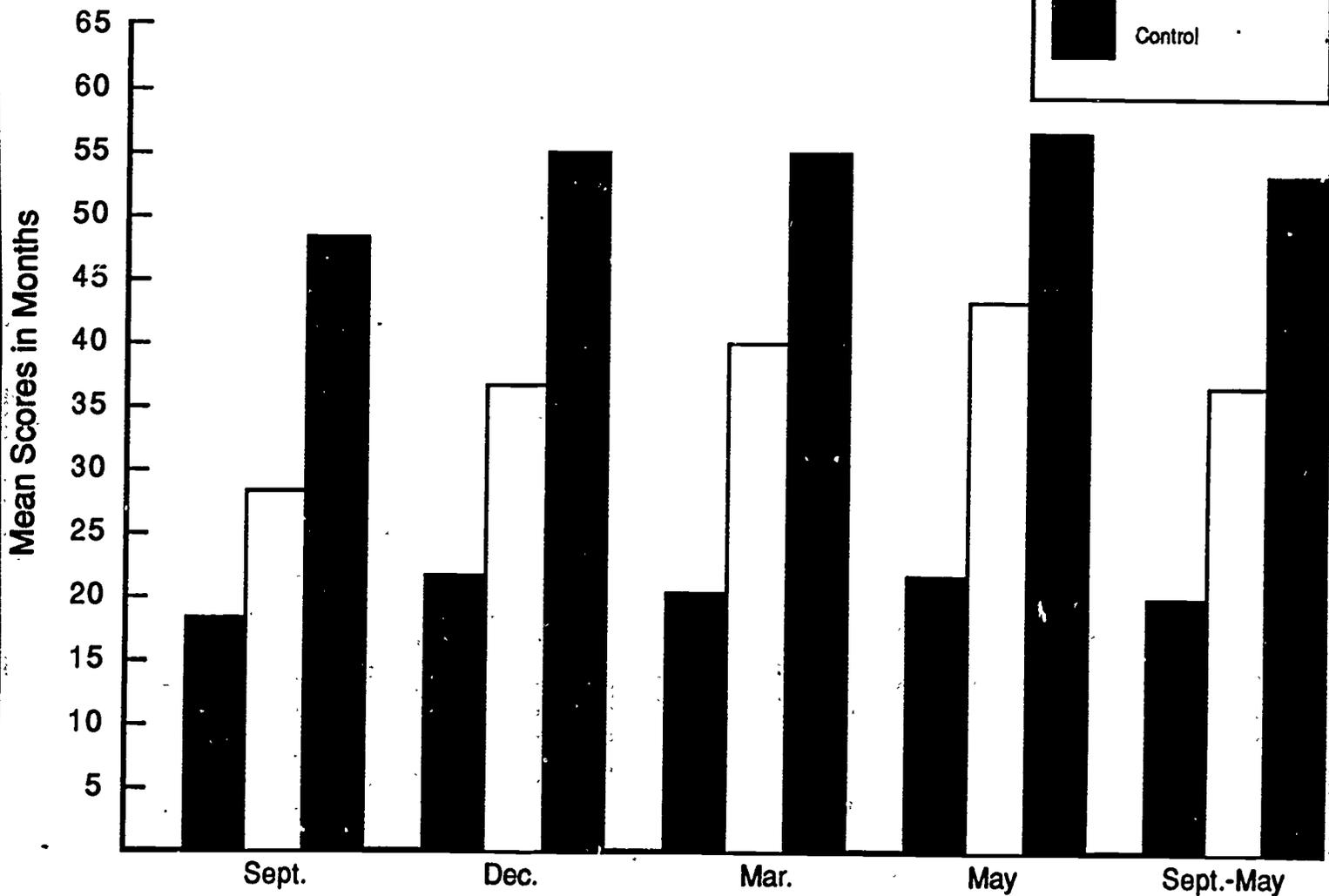
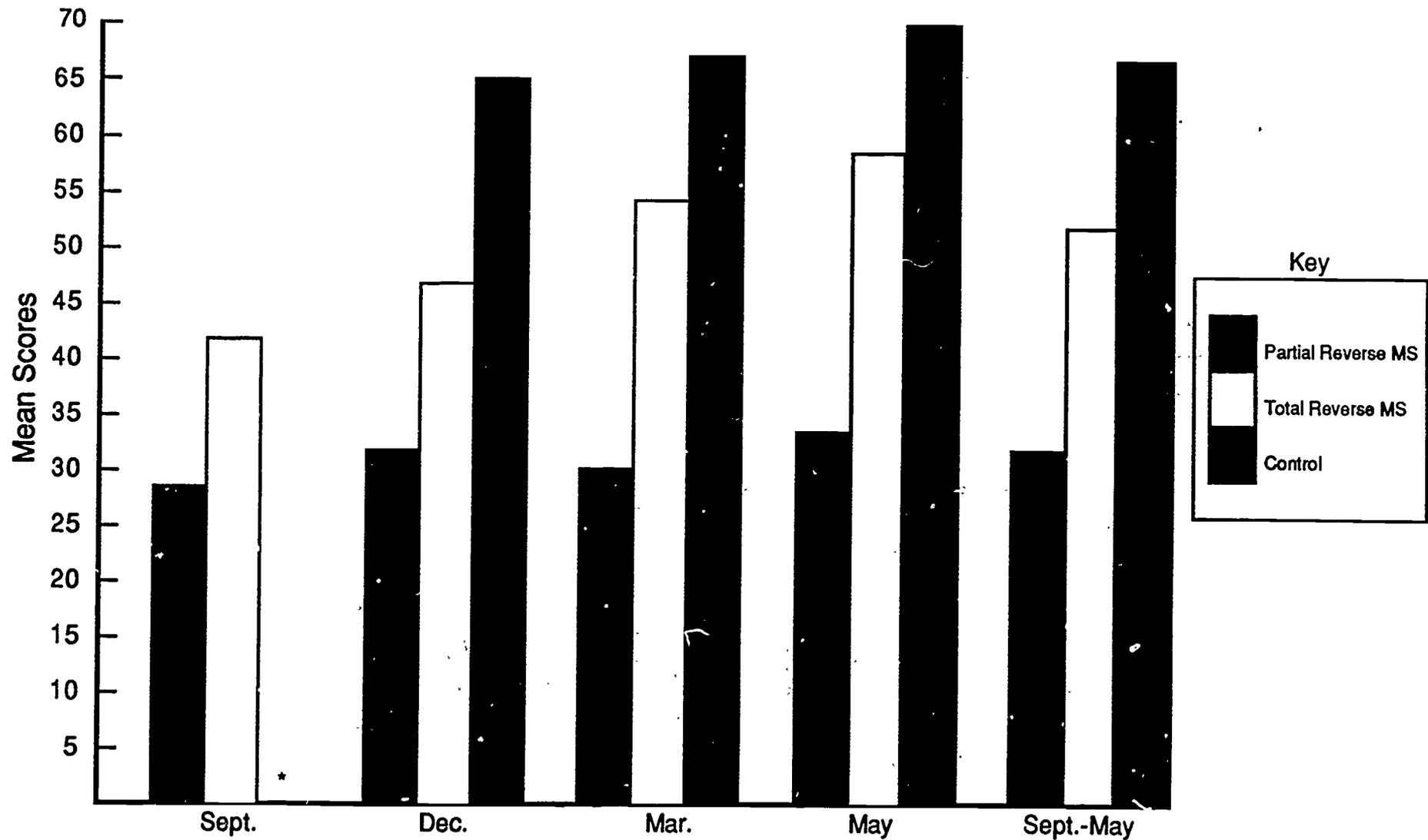


Figure 3a. The mean raw scores in months on the Battelle Developmental Inventory for the Partial and Total Reverse Mainstreaming and Control Groups

Developmental Programming for Infants and Young Children (DPIYC)



* Not Administered in September. Results for the children without handicaps are a comparison of December to May.

Figure 4a. The mean raw scores on the DPIYC for the Partial and Total Reverse Mainstreaming and Control Groups

Program Assessment and Planning Guide (PAPG) / Social

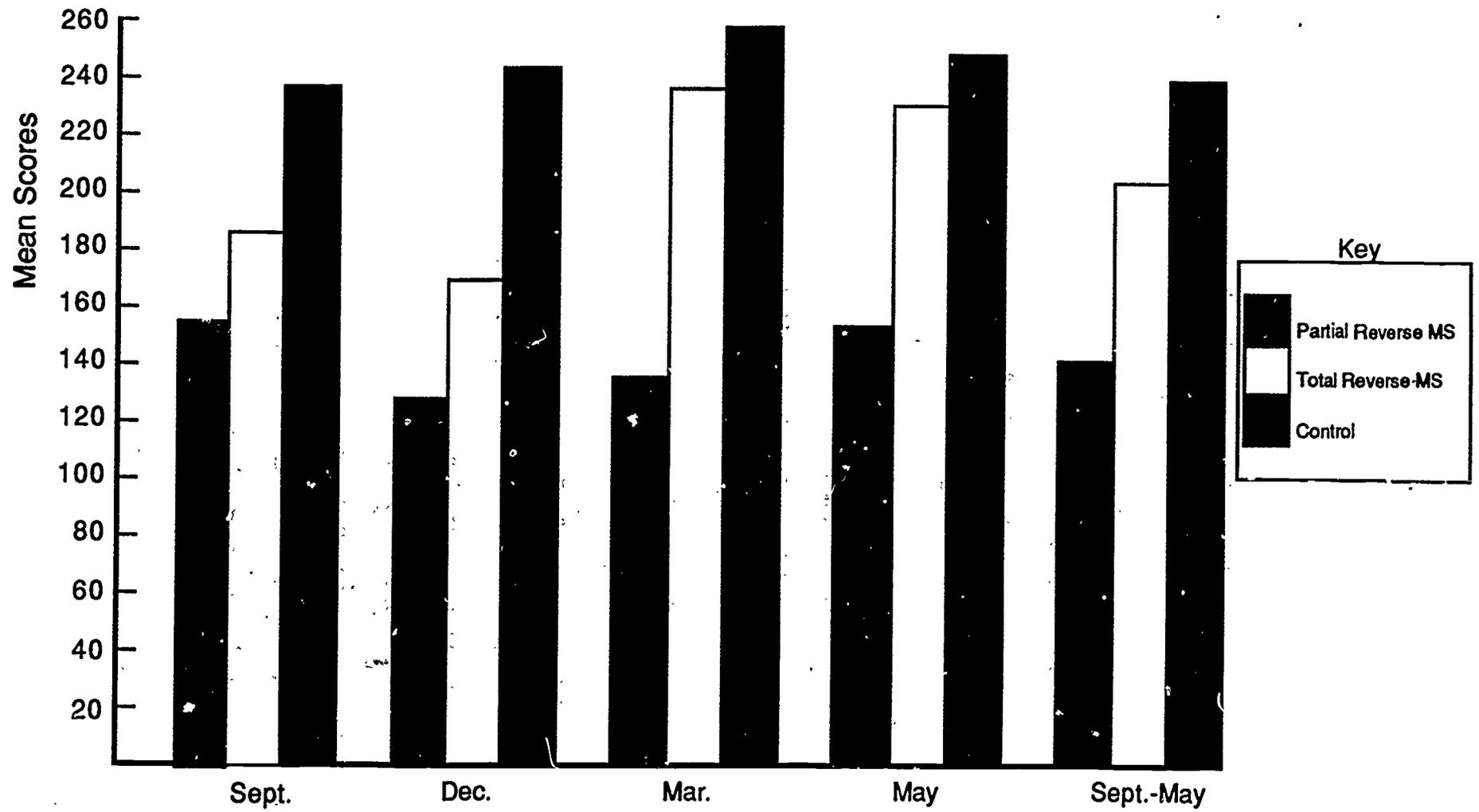


Figure 5a. The mean scores on the PAPG Social Subtest for the Partial and Total Reverse Mainstreaming and Control Groups

Program Assessment and Planning Guide (PAPG) / Social Language

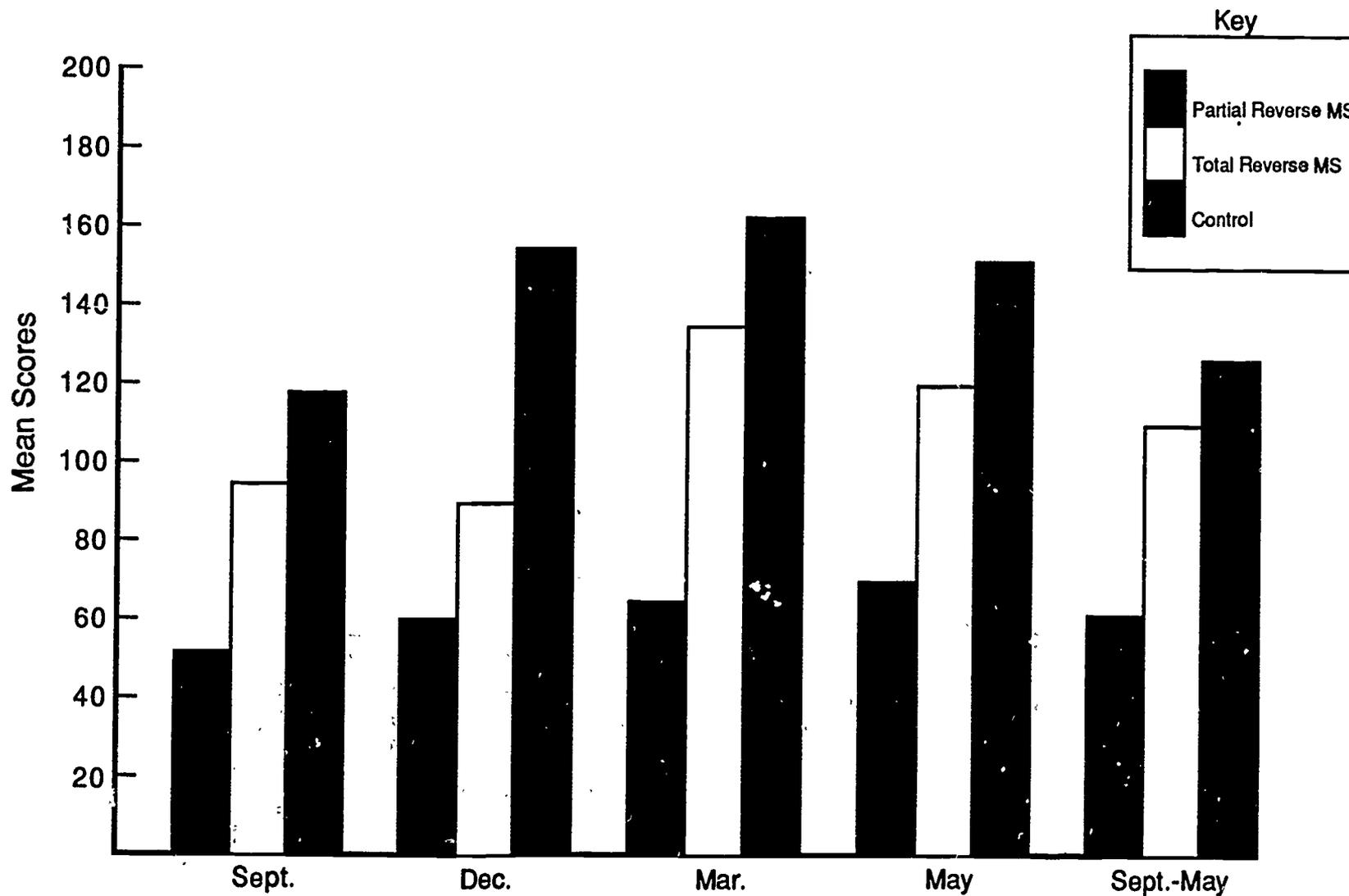


Figure 6a. The mean raw scores on the PAPG Social Language Subtest for the Partial and Total Reverse Mainstreaming and Control Groups

Mainstreaming Expectations and Skills Assessment - Preschool/Kindergarten (MESA-PK)

Key

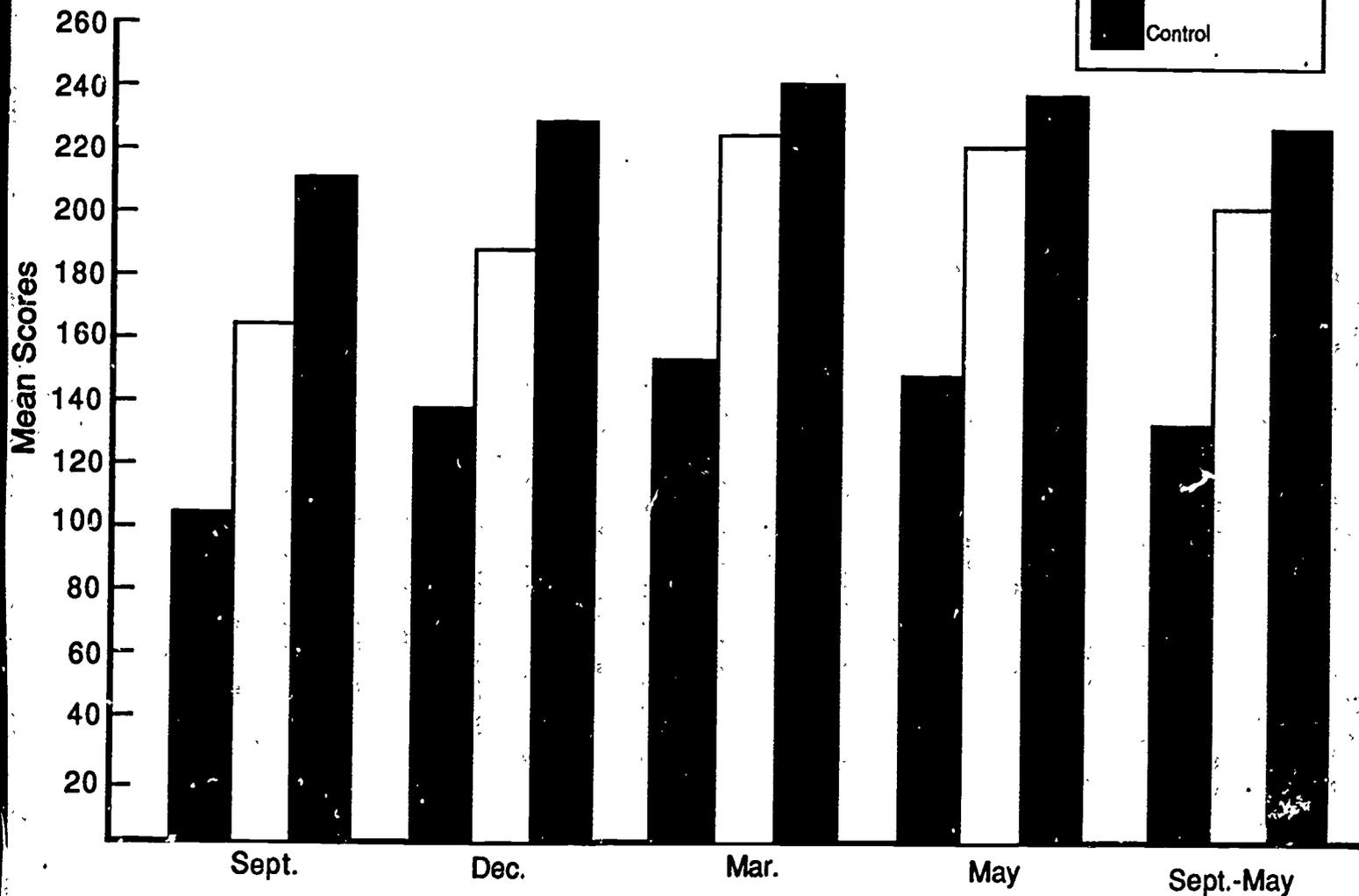
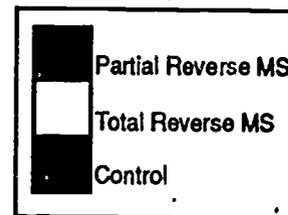


Figure 7a. The mean raw scores on the MESA-PK for the Partial and Total Reverse Mainstreaming and Control Groups

Peabody/Fine Motor

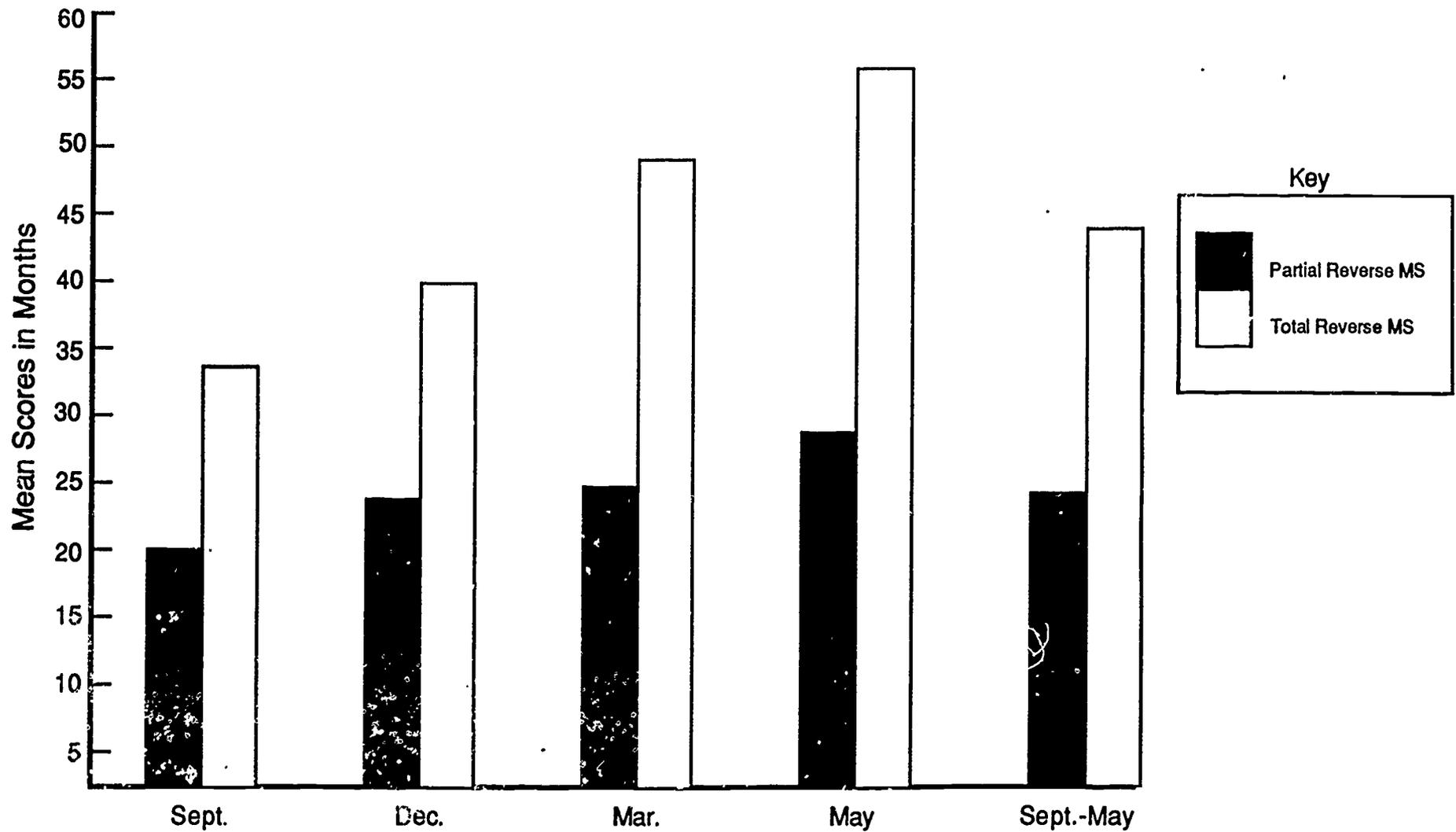


Figure 8a. The mean raw scores in months on the Peabody Fine Motor Subtest for the Partial and Total Reverse Mainstreaming Groups.

Peabody/Gross Motor

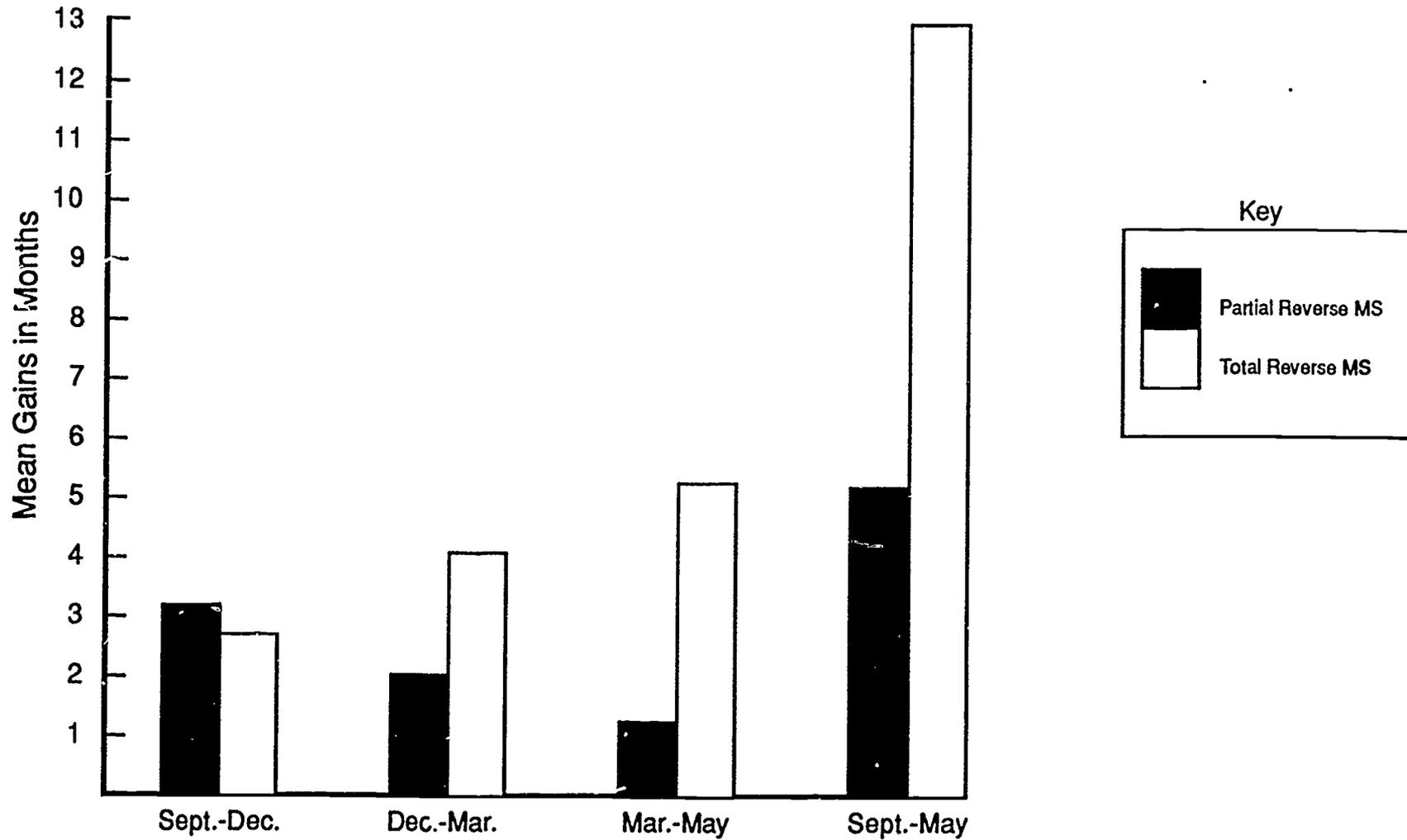


Figure 9a. The mean raw gains in months on the Peabody Gross Motor Subtest for the Partial and Total Reverse Mainstreaming Groups

Microsessions

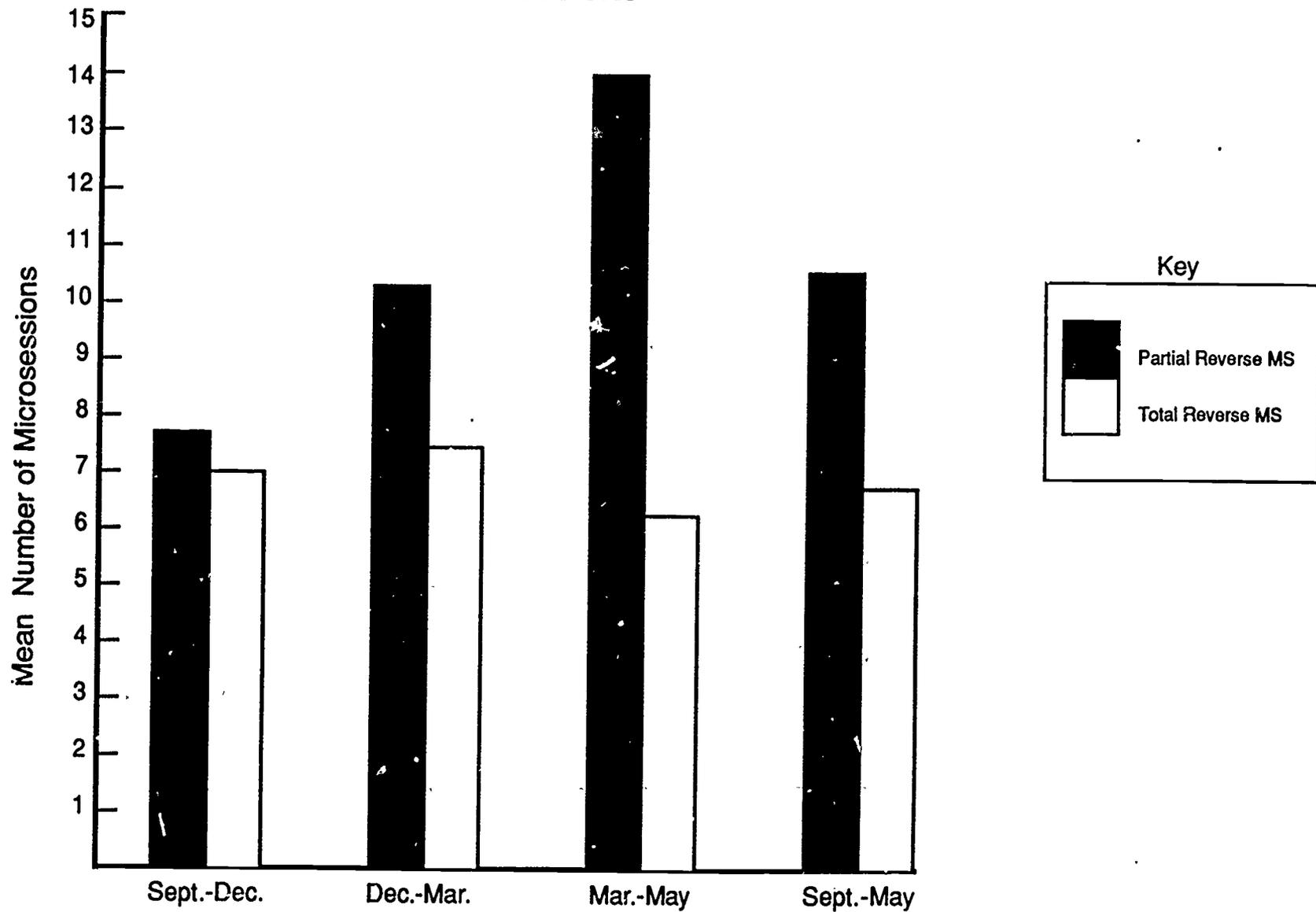


Figure 10a. The mean number of microsessions for the Partial and Total Reverse Mainstreaming Groups

Individualized Education Plan (IEP)

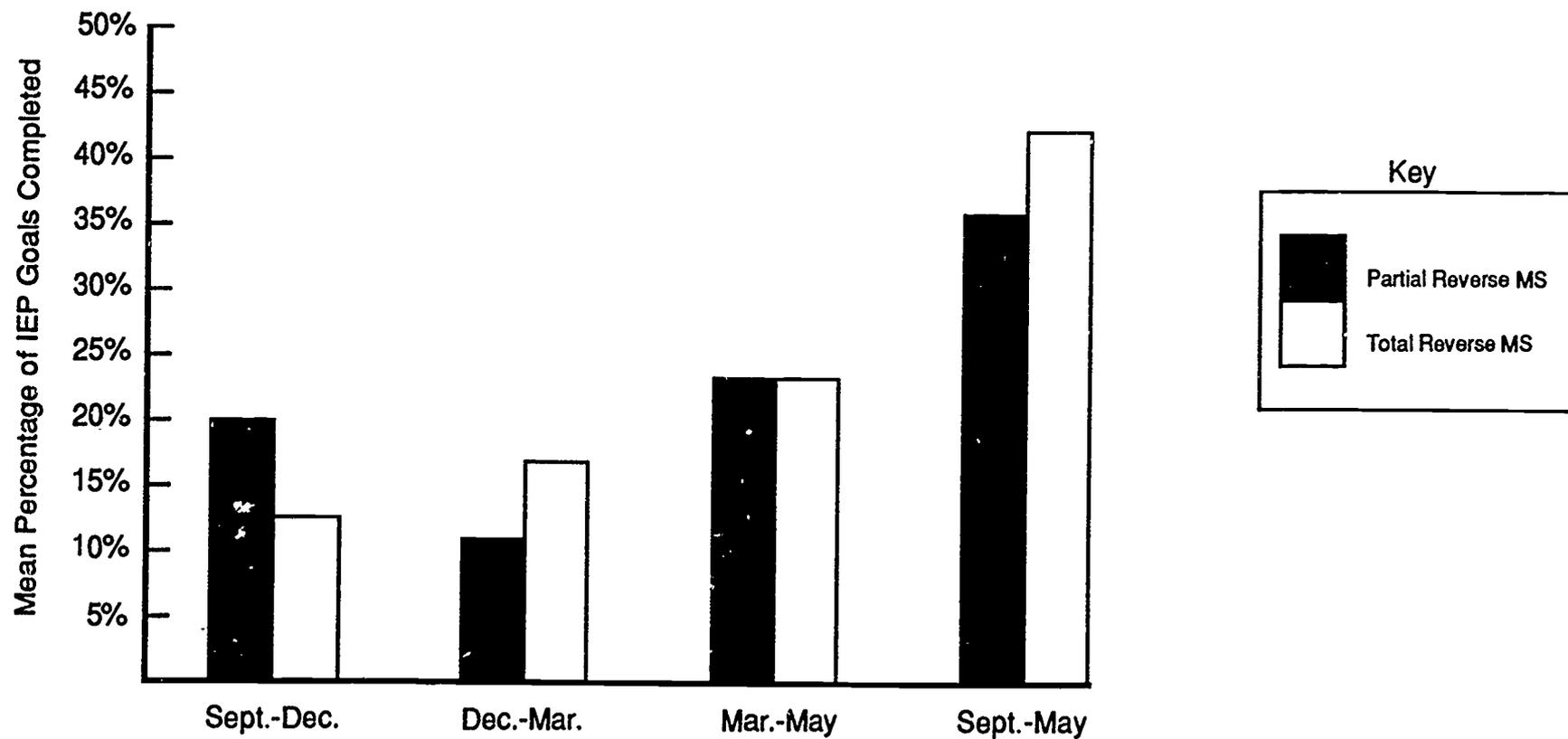


Figure 11a . The mean percentage of IEP goals completed for the Partial and Total Reverse Mainstreaming and Control Groups

Battelle Developmental Inventory (BDI)

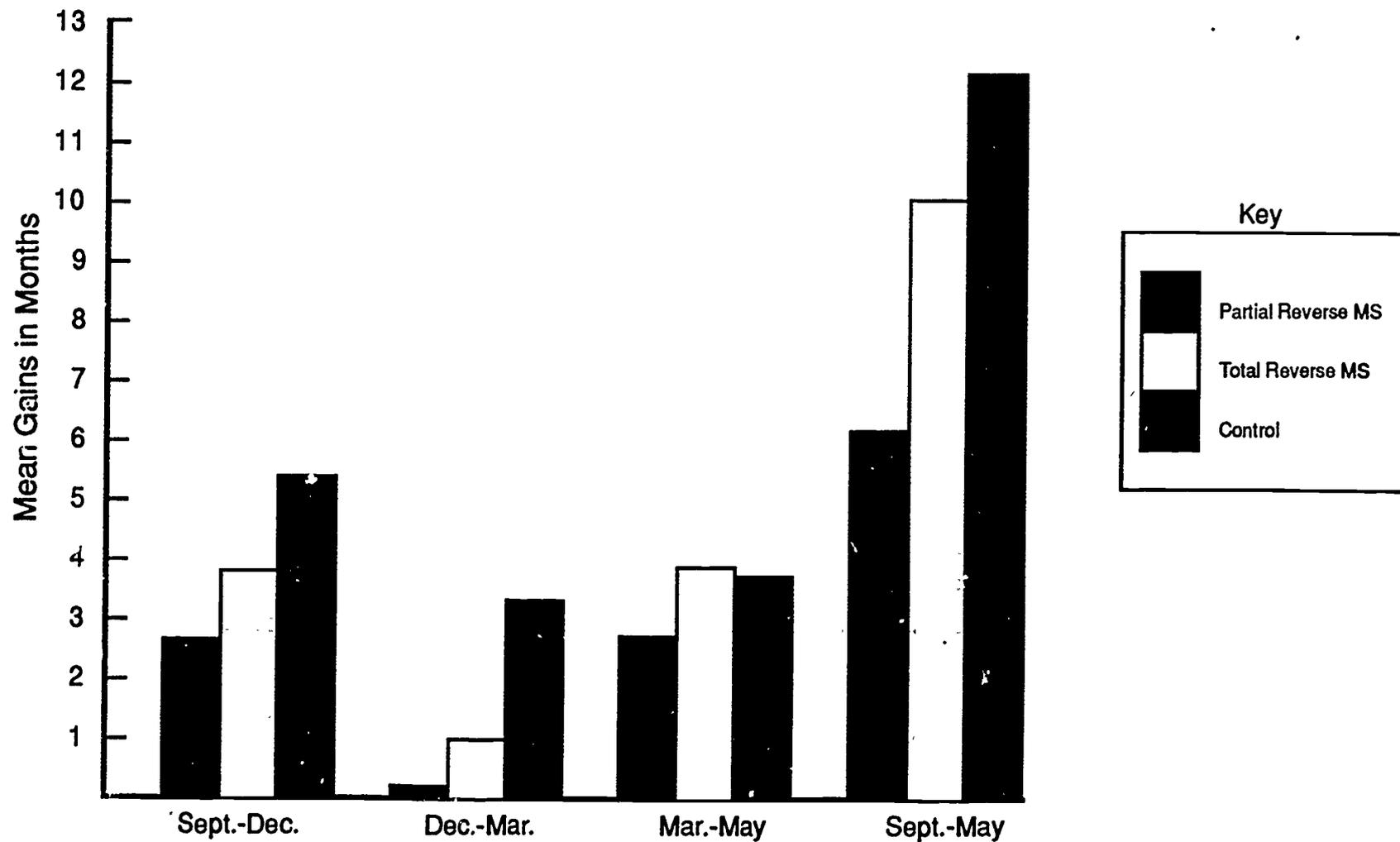
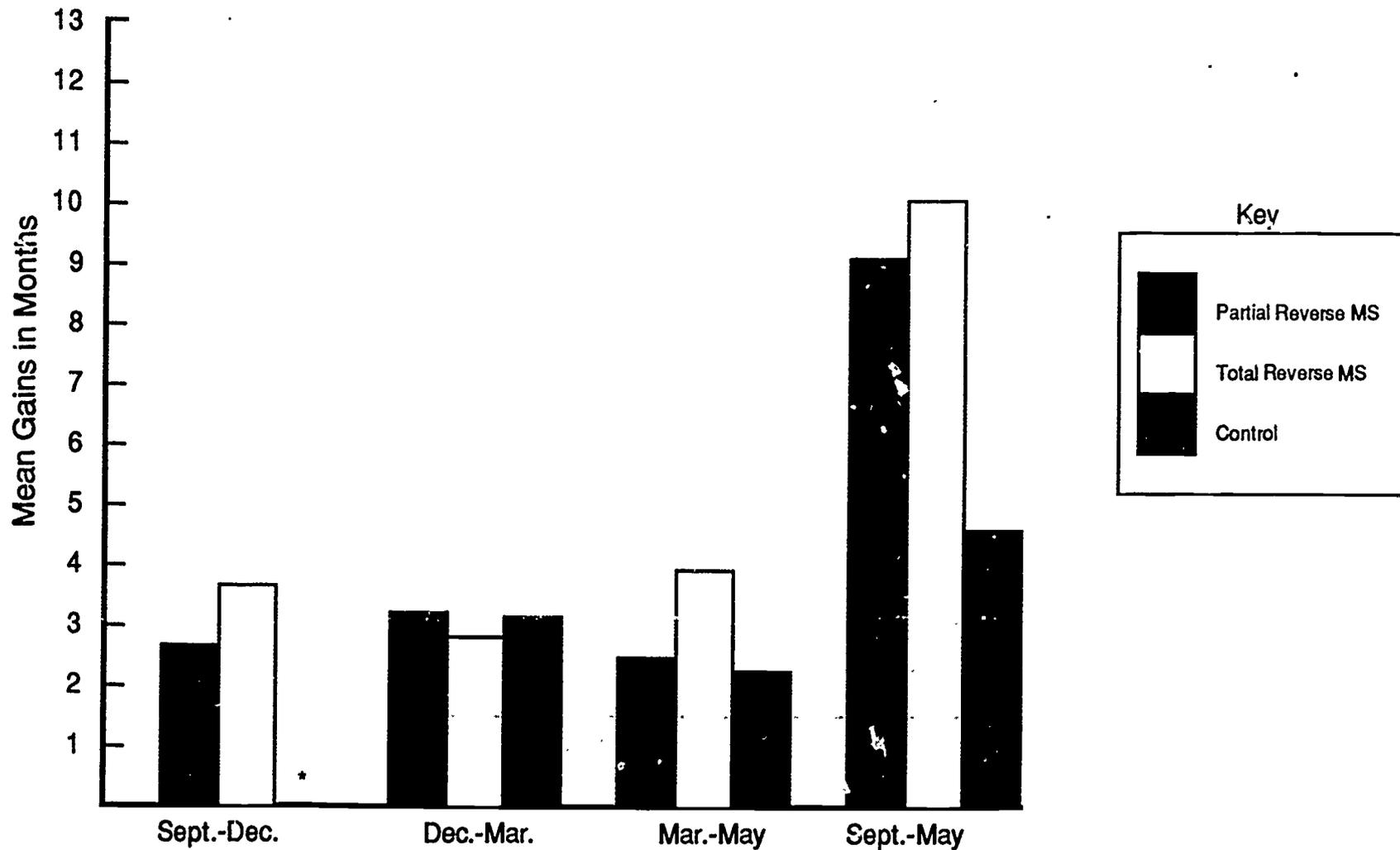


Figure 3b. The mean gains in months on the Battelle Developmental Inventory for the Partial and Total Reverse Mainstreaming and Control Groups

Developmental Programming for Infants and Young Children (DPIYC)



* Not Administered in September. Results for the children without handicaps are a comparison of December to May.

Figure 4b. The mean gain in months on the DPIYC for the Partial and Total Reverse Mainstreaming and Control Groups

Program Assessment and Planning Guide (PAPG) / Social

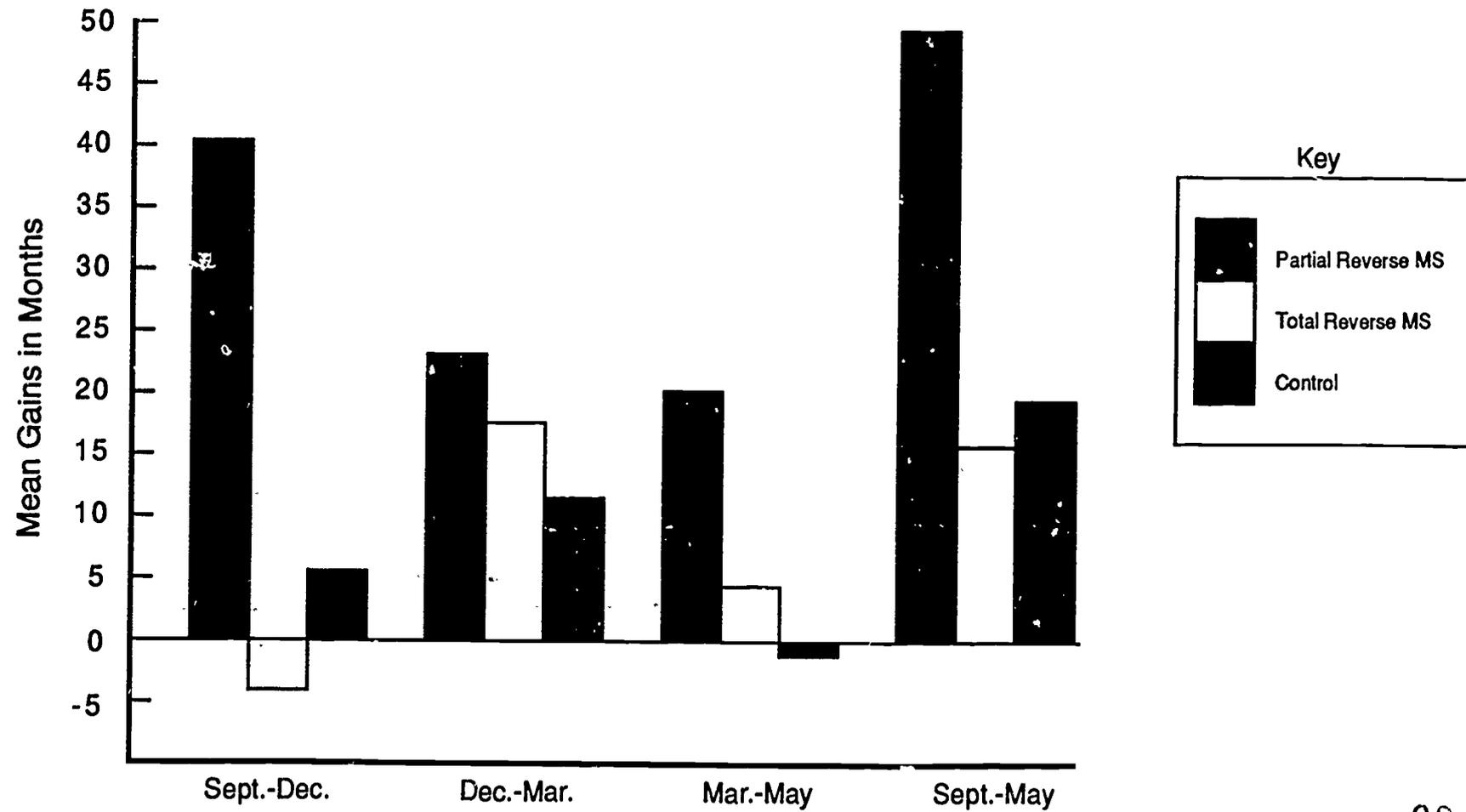


Figure 5b. The mean gains in months on the PAPG Social Subtest for the Partial and Total Reverse Mainstreaming and Control Groups

Program Assessment and Planning Guide (PAPG) / Social Language

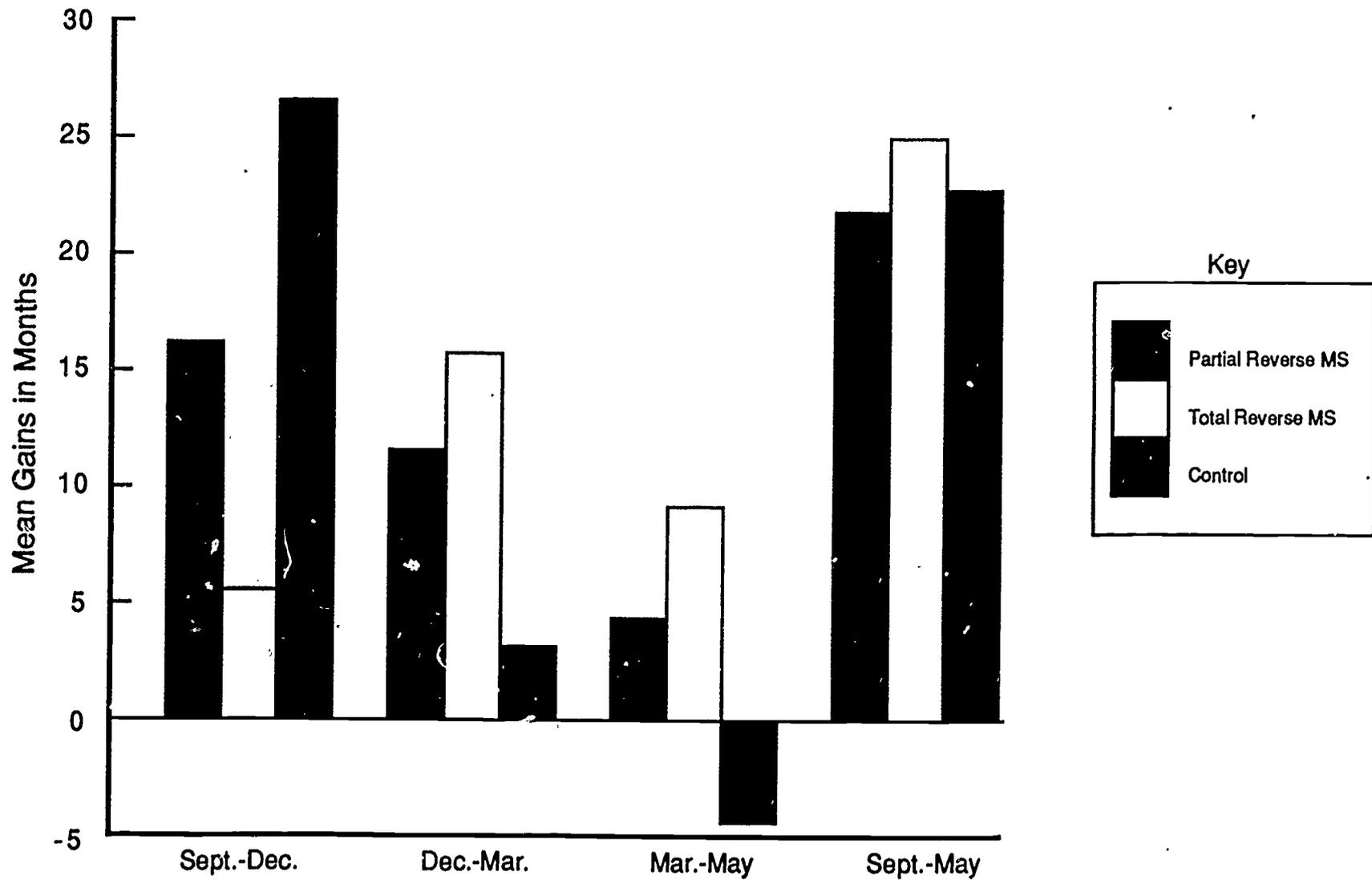


Figure 6b. The mean gains in months on the PAPG Social Language Subtest for the Partial and Total Reverse Mainstreaming and Control Groups

Mainstreaming Expectations and Skills Assessment - Preschool/Kindergarten (MESA-PK)

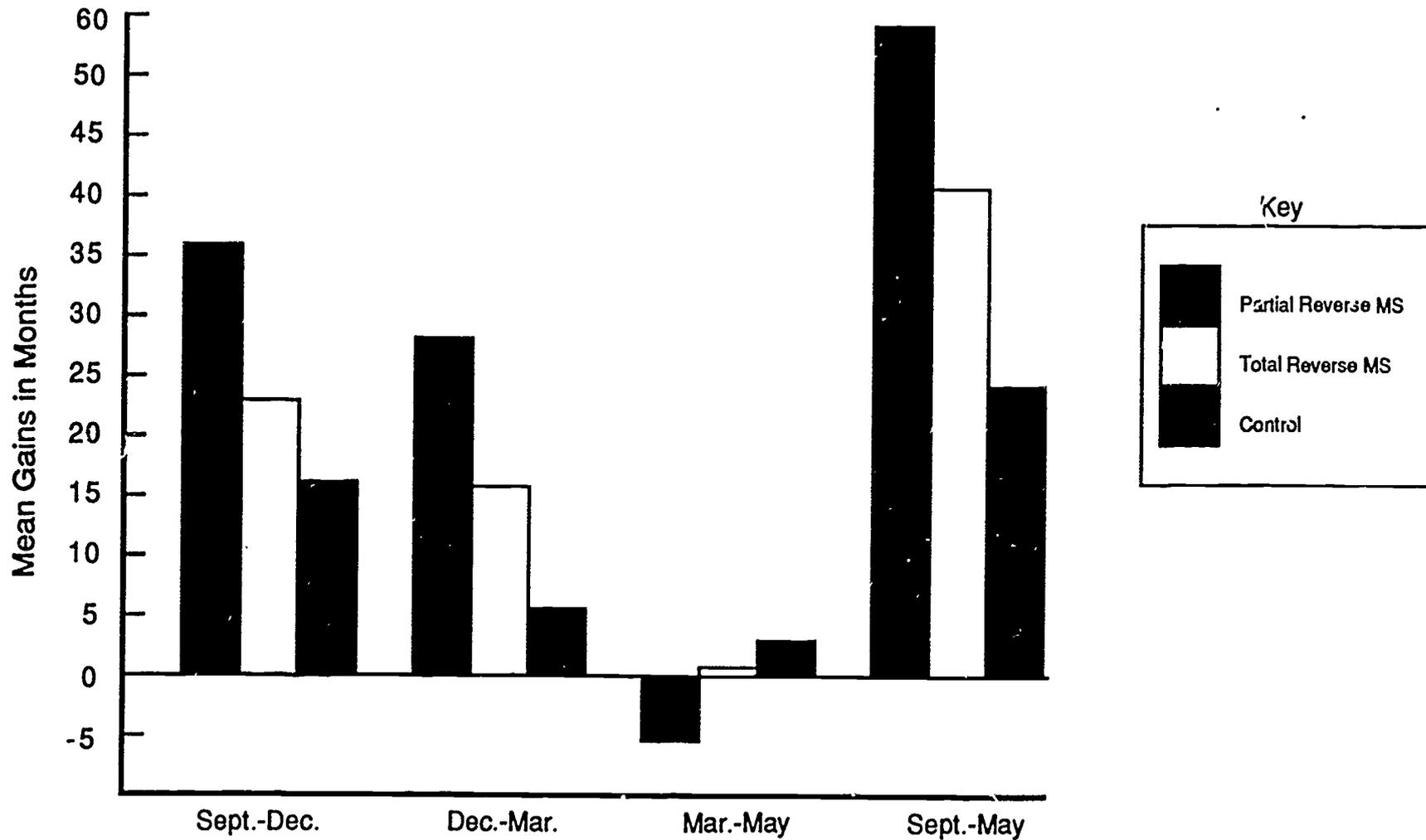


Figure 7b. The mean gains in months on the MESA-PK for the Partial and Total Reverse Mainstreaming and Control Groups

Peabody/Fine Motor

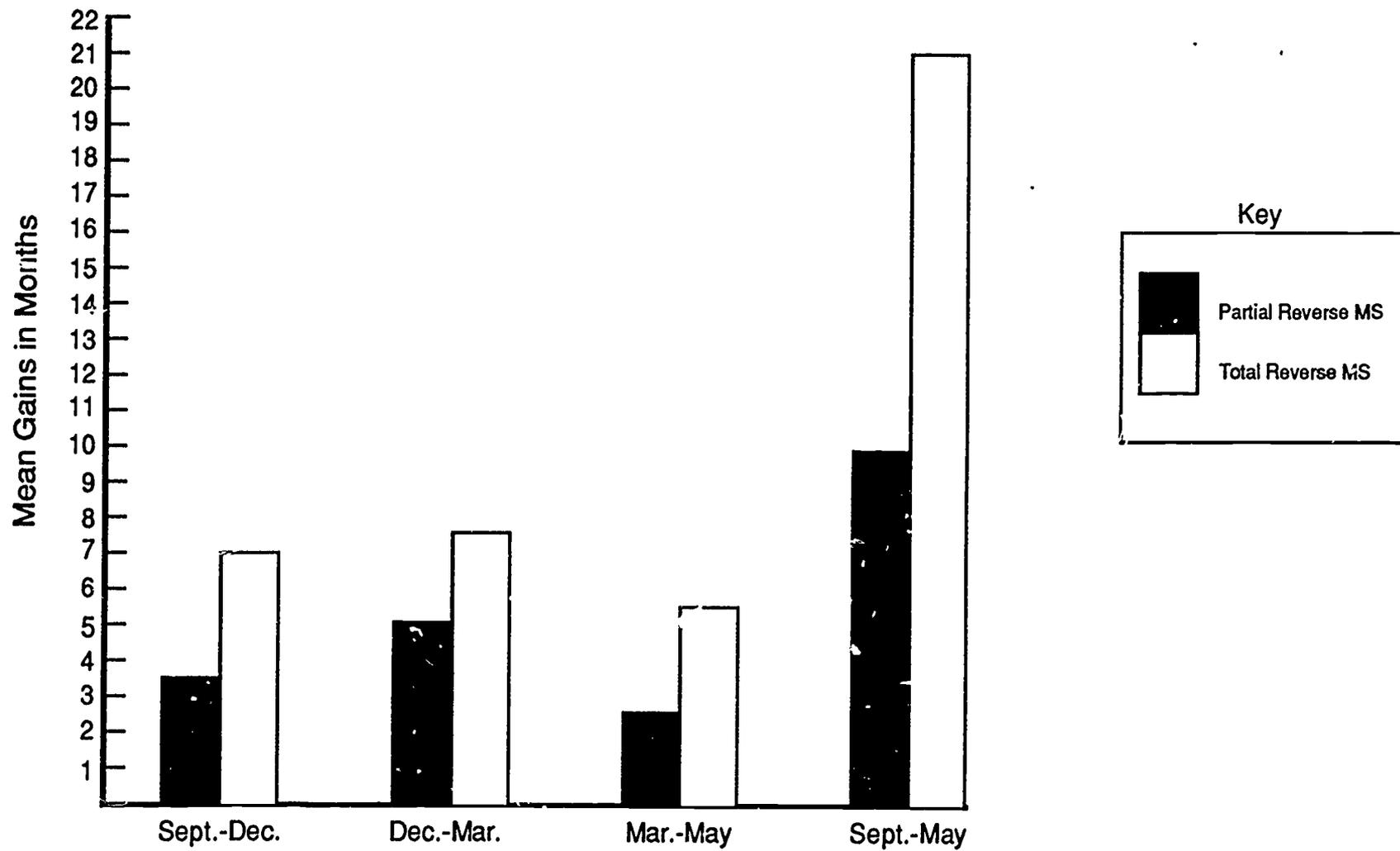


Figure 8b. The mean gains in months on the Peabody Fine Motor Subtest for the Partial and Total Reverse Mainstreaming Groups.

Peabody/Gross Motor

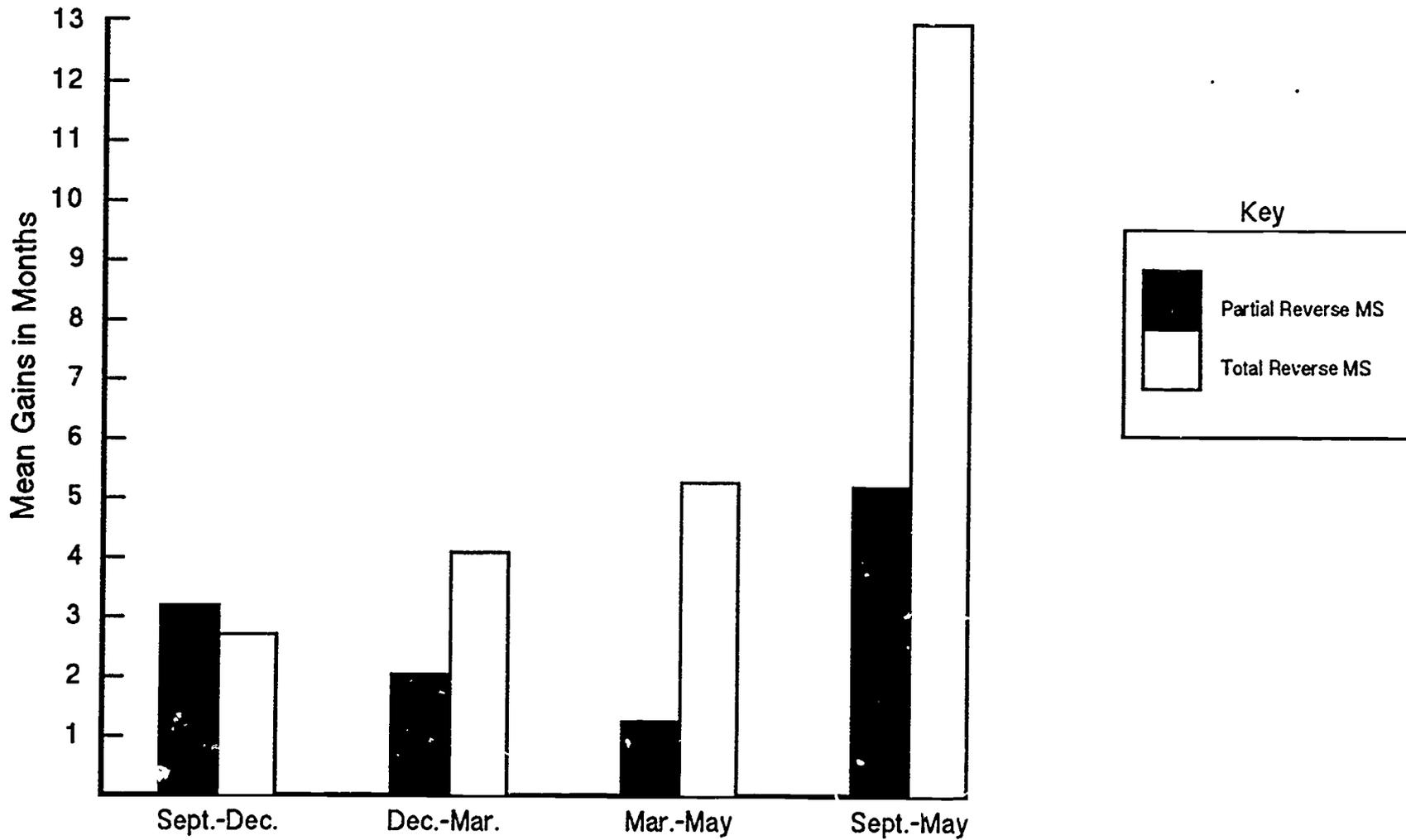


Figure 9b. The mean gains in months on the Peabody Gross Motor Subtest for the Partial and Total Reverse Mainstreaming Groups

Microsessions

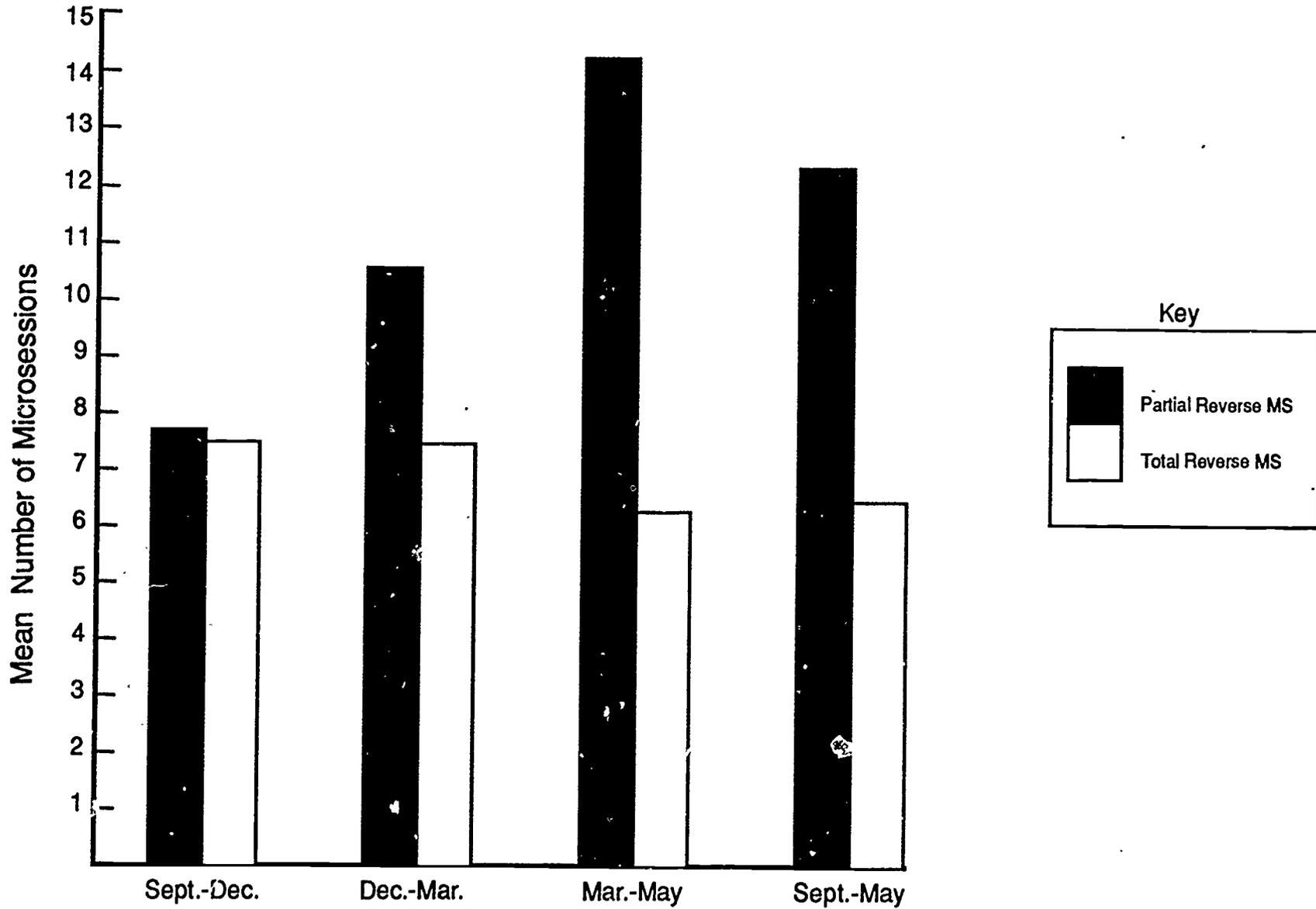


Figure 10b. The mean number of microsessions for the Partial and Total Reverse Mainstreaming Groups

Individualized Education Plan (IEP)

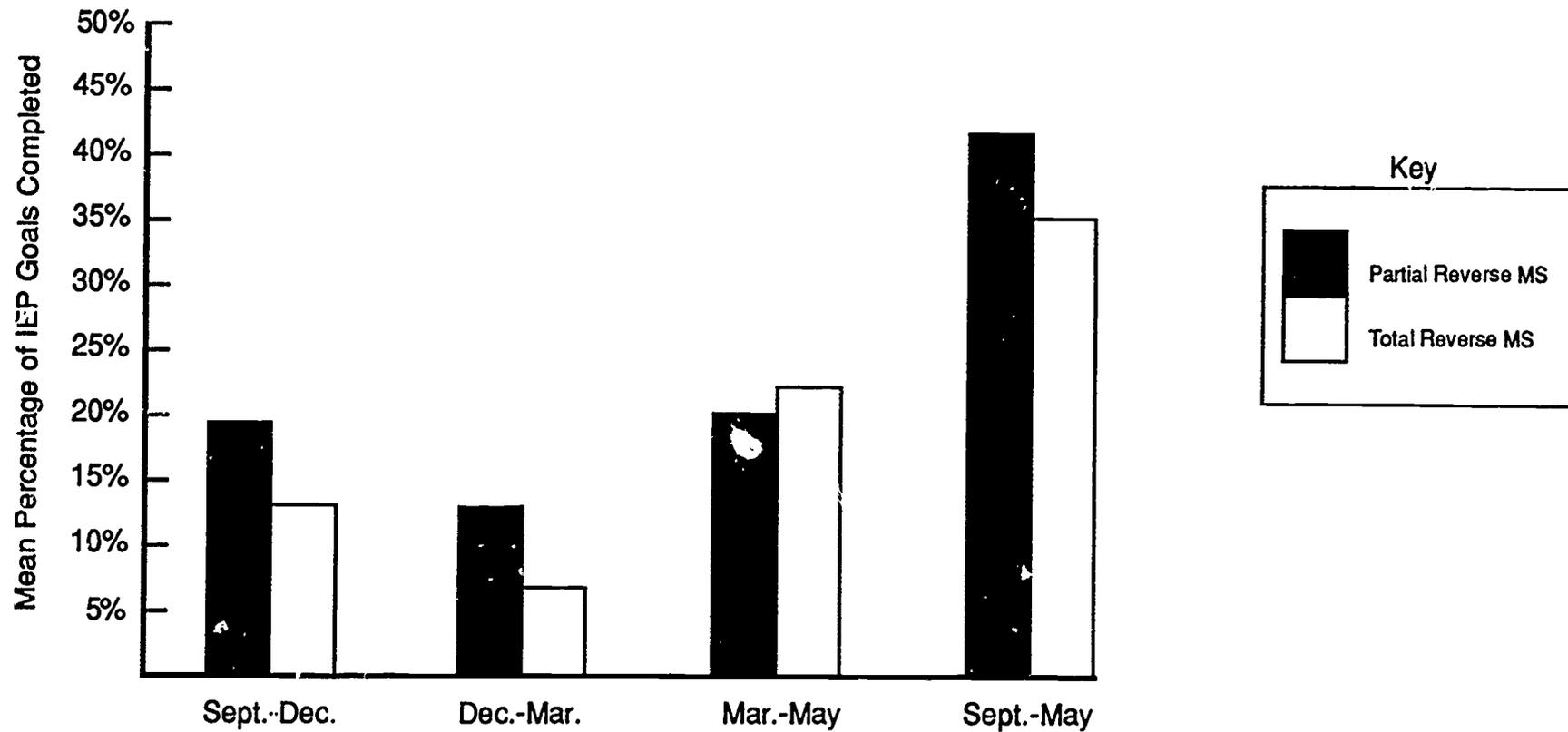


Figure 11b. The mean percentage of IEP goals completed for the Partial and Total Reverse Mainstreaming and Control Groups

Duration	Class	BDI	DPIYC	PAPG/ Soc	PAPG/ Soc.Lang.	MESA-PK	Peabody/ Fine	Peabody/ Gross	Micro- sessions	IEP
Sept-Dec	TRM	²⁴ +3.9 (-4 to 11)	²² +3.72 (-1 to 14)	¹⁶ -4.52 (-52 to 44)	¹⁶ +5.52 (-23 to 37)	²⁴ +23.8 (-30 to 79)	²³ +7.02 (-1 to 16.5)	²³ +2.83 (-8 to 12)	²⁵ 7.44 (0 to 18)	²² 13.36% (0 to 75%)
	Control	²² +5.4 (-3 to 14)	Not Adm.	¹³ +5.38 (-16 to 53)	¹³ +27.46 (5 to 62)	¹⁹ +16.58 (-27 to 70)	Not Applicable			→
	PRM	¹⁸ +2.8 (0 to 8)	¹⁸ +2.61 (0 to 9)	¹⁶ +41.56 (-22 to 52)	¹⁵ +16.33 (-9 to 87)	¹⁸ +36.05 (-12 to 98)	¹⁸ +3.66 (0 to 11)	¹⁷ +3.15 (0 to 12)	¹⁸ 7.67 (0 to 17)	¹⁸ 19.36% (0 to 85%)
Dec-Mar	TRM	²⁰ +1.0 (-6 to 13)	²² +2.82 (-1 to 6)	²³ +17.17 (-36 to 66)	²³ +16.17 (-48 to 54)	²³ +15.78 (-24 to 53)	²¹ +7.67 (-3 to 16)	²¹ +4.28 (0 to 13)	²³ 7.48 (0 to 13)	²¹ 17.75% (0 to 100%)
	Control	¹⁵ +3.31 (-4 to 12)	¹⁶ +3.12 (+1 to 6)	¹⁶ +11.25 (-15 to 54)	¹⁶ +3.43 (-52 to 36)	¹⁷ +5.94 (-58 to 37)	Not Applicable			→
	PRM	¹⁷ +.35 (-2 to 9)	¹⁹ +3.21 (0 to 7)	¹⁸ +23.22 (-45 to 82)	¹⁸ +12.55 (-44 to 52)	¹⁸ +28.89 (-12 to 74)	¹⁹ +5.21 (-.5 to 13)	¹⁹ +2.08 (-7 to 6.5)	²² 10.59 (0 to 23)	²³ 13.24% (0 to 100%)
Mar-May	TRM	²⁵ +3.9 (-2 to 28)	²² +3.91 (-1 to 9)	²⁵ +4.6 (-37 to 84)	²⁵ +8.28 (-72 to 47)	²⁵ +32 (-35 to 26)	²³ +5.56 (-1 to 18.5)	²⁰ +5.27 (-2 to 14)	²⁶ 6.23 (0 to 15)	²² 22.79% (0 to 100%)
	Control	²⁰ +3.83 (-4 to 17)	²⁰ +2.35 (-2 to 14)	¹⁹ -1.37 (-16 to 32)	¹⁹ -4.74 (-41 to 29)	²⁰ +3.4 (-34 to 62)	Not Applicable			→
	PRM	¹⁹ +2.79 (-3 to 10)	¹⁹ +2.47 (0 to 5)	¹⁹ +20.68 (-46 to 94)	¹⁹ +4.31 (-28 to 63)	¹⁹ -6.05 (-109 to 33)	¹⁷ +2.7 (-1 to 9)	¹⁶ +1.44 (-2 to 7)	²¹ 14.33 (2 to 21)	²⁰ 20.15% (0 to 100%)
Sept-May	TRM	²⁰ +10.15 (1 to 23)	²⁰ +10.05 (5 to 16)	¹⁹ +16 (-2 to 45)	¹⁸ +23.44 (-2 to 68)	²⁴ +41.92 (+3 to 89)	²¹ +21.05 (2 to 39.5)	¹⁸ +12.94 (-1 to 32)	²² 6.36 (.67 to 14)	²² 42% (0 to 100%)
	Control	¹⁷ +12.23 (0 to 20)	¹⁶ +4.56 * (1 to 11)	¹⁰ +19.8 (+2 to 51)	¹⁰ +25 (-40 to 80)	¹⁶ +24.25 (-13 to 85)	Not Applicable			→
	PRM	¹⁶ +6.22 (-1 to 16)	¹⁶ +9.06 (3 to 23)	¹² +49.54 (3 to 101)	¹² +22.92 (7 to 45)	¹⁶ +59.25 (-48 to 120)	¹⁴ +9.74 (0 to 23)	¹² +5.17 (-3 to 15)	¹⁶ 12.31 (8 to 18.33)	¹⁶ 35.67% (0 to 100%)

Table 5 - Summary of mean gains on all tests for all subjects in all groups.

TRM = Total Reverse Mainstreamed Classroom

PRM = Partial Reverse Mainstreamed Classroom

* = December to May comparison

\bar{x}	mean
	range

Statistical Significance. A two-factor repeated measures analysis of variance was conducted on the data obtained across all assessment instruments for the four separate testings (September, December, March, and May across the three groups). The p values for each test (or subtest), and for the repeated measure were significant at the .0004 level (see Appendix C for the analysis date). A Fisher PLSD and a Scheffe F-test were then conducted on all tests/subtests between scores obtained by the partially and totally mainstreamed groups, the partially mainstreamed and control group and the totally mainstreamed and control group. Table 6 provides a summary of the statistical significance obtained (Appendix C provides the complete data). The majority of comparisons (193 of 230) for which data were available were statistically significant at the .05 level on both the Fisher PLSD and the Scheffe F-test.

Summary of Child Progress Data. Table 5 provides a summary of the gains made on each area by each group and Figures 3a-11a provide the changes in raw test scores across groups across quarters and Figures 3b-11b provide the changes in gains across quarters and groups. The data indicate that each group generally made gains on each retesting, but that gains were not consistent within or across groups. Clearly each group made gains across time with the largest gains being made by children in the control group (non-handicapped), followed closely by children in the totally mainstreamed group, and the gains made were the smallest in the partially mainstreamed group.

Table 6. Fisher PLSD and Scheffe T-Test findings across groups and assessment instruments across quarters.

Comparison Groups	Statistical Test for Significance	BDI (Months)					DPIYC (Items)					PAPG/Soc. (Points)					PAPG/Soc.Lang. (Points)					MESA-PK (Points)				
		Sept-Dec	Dec-Mar	Mar-May	Sept-May	Mean Gains	Sept-Dec	Dec-Mar	Mar-May	Sept-May	Mean Gains	Sept-Dec	Dec-Mar	Mar-May	Sept-May	Mean Gains	Sept-Dec	Dec-Mar	Mar-May	Sept-May	Mean Gains	Sept-Dec	Dec-Mar	Mar-May	Sept-May	Mean Gains
Partially Mainstreamed vs. Totally Mainstreamed	Fisher PLSD	S	S	S	S	S	S	S	S	S	S	NS	S	S	S	S	S	S	S	S	S	S	S	S	S	S
	Scheffe T-Test	S	S	S	S	S	S	S	S	S	S	NS	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Partially Mainstreamed vs. Controls	Fisher PLSD	S	S	S	S	S	ND	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
	Scheffe T-Test	S	S	S	S	S	ND	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Totally Mainstreamed vs. Controls	Fisher PLSD	S	S	S	S	S	ND	S	S	S	S	S	S	NS	NS	S	NS	S	NS	S	S	S	S	NS	NS	S
	Scheffe T-Test	S	S	S	S	S	ND	S	S	S	S	NS	S	NS	NS	S	NS	S	NS	S	S	S	S	NS	NS	S

S = Significant at .05

NS = Not Significant

ND = No Data

Continuation of Table 6. Fisher PLSD and Scheffe T-Test findings across groups and assessment instruments across quarters.

Comparison Groups	Statistical Test for Significance	Peabody/Fine (Months)					Peabody/Gross (Months)					Microsessions (Total/Week)				IEP (% of goals achieved)				Social Observation (Reciprocal Interactions)				Social Observation (Cooperative Play)			
		Sept-Dec	Dec-Mar	Mar-May	Sept-May	Mean Gains	Sept-Dec	Dec-Mar	Mar-May	Sept-May	Mean Gains	Sept-Dec	Dec-Mar	Mar-May	Mean Gains	Sept-Dec	Dec-Mar	Mar-May	Mean Gains	Sept-Dec	Dec-Mar	Mar-May	Mean Gains	Sept-Dec	Dec-Mar	Mar-May	Mean Gains
Partially Mainstreamed vs. Totally Mainstreamed	Fisher PLSD	S	S	S	S	S	S	S	S	S	S	NS	S	S	S	NS	NS	NS	NS	S	NS	NS	S	S	NS	NS	S
	Scheffe T-Test	S	S	S	S	S	S	S	S	S	S	NS	S	S	S	NS	NS	NS	NS	S	NS	NS	S	S	NS	NS	S
Partially Mainstreamed vs. Controls	Fisher PLSD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	S	S	S	S	S	S	S	S
	Scheffe T-Test	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	S	S	S	S	S	S	S	S
Totally Mainstreamed vs. Controls	Fisher PLSD	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	S	S	S	S	NS	S	S
	Scheffe T-Test	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	S	S	S	S	NS	S	S

S = Significant at .05

NS = Not Significant

ND = No Data

Additional Child Progress Data. Some additional data on child progress is of interest. After one quarter, 3 children were transferred from a partial mainstreamed classroom to a total mainstreamed classroom, and 7 children went from a total mainstreamed classroom to a partial mainstreamed classroom. The children involved in these transfers were those that teachers thought had been placed in the wrong type of classroom. A summary of the test, retest data for these children is presented in Tables 7 and 8, respectively. The overall progress of some children improved in specific areas after the transfer. For children who shifted from PRM to TRM, 2 did better on the Battelle, 4 on the DPIYC, 5 on the PAPG Social, 3 on the PAPG Social Language, 2 on the MESA-PK, 6 on the Peabody Fine Motor, 3 on the Peabody Gross Motor, 5 had more microsessions, and 5 achieved more IEP goals. If one considers child progress on IEP goals to be the critical variable, then at least 5 of the 8 children did better after being placed in a total reverse mainstream classroom. For children who shifted from the TRM to PRM, 1 did better on the Battelle, 1 on the DPIYC, 6 on the PAPG Social and Social Language, 4 on the MESA-PK, 5 on the Peabody Fine Motor, 3 on the Peabody Gross Motor, 1 had more microsessions, and 5 achieved more IEP goals. Again, if IEP goal achievement is considered critical, then at least 5 of the 7 children did better after being placed in a partial reverse mainstreamed classroom. It appears that teachers were able to accurately select the appropriate placement for 10 of these 15 children.

Effectiveness with Parents. Reactions from parents of children with and without handicaps have been obtained through Parent Satisfaction Questionnaires conducted every three months. Parents were asked to respond

Transfers from PRM Into TRM
(n=8)

Table 7. Summary of mean gains and losses for the 8 children transferred from a Partially Mainstreamed to a Totally Mainstreamed classroom.

Subjects	BDI (Months)			DPIYC (Items)				PAPG/Social (Points)				PAPG/Soc.Lang. (Points)				MESA-PK (Points)				Peabody/Fine (Months)				Peabody/Gross (Months)				Microsessions (Total/Week)				IEP (% of goals achieved)				
	Sept-Dec	Dec-Mar	Mar-May	Sept-May	Sept-Dec	Dec-Mar	Mar-May	Sept-May	Sept-Dec	Dec-Mar	Mar-May	Sept-May	Sept-Dec	Dec-Mar	Mar-May	Sept-May	Sept-Dec	Dec-Mar	Mar-May	Sept-May	Sept-Dec	Dec-Mar	Mar-May	Sept-May	Sept-Dec	Dec-Mar	Mar-May	Sept-May	Sept-Dec	Dec-Mar	Mar-May	Sept-May				
* a-12 ^{IH}	+3	-1	+1	+3	+5	+4	+6	+15	+4	-36	+10	-22	+8	-54	+8	+41	+48	-1	+14	+61	+11	+10	+18.5	+39.5	+2	+1	+2	+5	8	5	.8	7	24%	15%	40%	53%
* a-7 ^{SH}	+1	-1	+4	+4	+2	+2	+6	+10	+6	+21	+16	+21	+15	+22	+27	+34	+56	+5	+22	+83	+5	+9	+2	+16	+6	+1	0	+7	0	10	12	7	1%	22%	17%	35%
* a-13 ^{CH}	+8	-4	+8	+12	+1	+2	+6	+9	+12	+10	+23	+45	+5	0	+3	+8	+45	-7	+22	+60	+2	+7.5	+3	+12.5	0	+1	0	+1	5	15	8	9	16%	52%	30%	60%
* a-8 ^{SH}	-3	+9	-2	+10	+2	+2	+4	+8	+4	+16	-23	-11	Not Adm.	+39	-45	Not Adm.	+53	+30	0	+83	+2	+12	+9	+23	+4	+6	0	+10	10	13	10	11	20%	3%	50%	54%
* a-16 ^{BD}	+4	0	+7	+11	+1	+2	+3	+6	+2	+35	+36	+19	+2	+27	-2	+22	+21	+31	-18	-34	+4	+5.5	+9.5	+19	+1	+5	+7	+13	0	0	2	.67	20%	25%	3%	36%
* a-17 ^{CD}	+4	+5	+2	+11	+3	+2	+8	+13	0	+8	-7	+1	+28	+13	-9	+32	+40	+15	-21	+34	+16.5	+6.5	+3.5	+26.5	+11.5	+3.5	+6	+21	9	8	15	11	40%	50%	19%	52%
* a-15 ^{CD/BD}	Not Admin.	Not Admin.	Not Admin.	Not Admin.	+2	+5	+1	-8	-1	Not Adm.	+45	-4	Not Adm.	+20	+47	Not Adm.	+49	+7.5	+8	+2	+17.5	+1	Not Adm.	Not Adm.	Not Adm.	2	6	6	5	23%	14%	0	22%			
** a-9 ^{IH}	+3	-2	0	+1	+4	+5	+4	-13	-20	+18	0	-2	-11	+14	+3	+6	-12	+26	+26	+40	+2	+13	0	+15	+2	+3	+1	+6	2	10	8	7	20%	3%	13%	32%
TRM X and range	+6 4to9	+2.85 2to6	+7.43 1to1		+2.4 2to4	+4.75 1to8	+10.25 5to15			+1.2 36to38	+7.85 23to3	+12 22to48		+3.62 64to39	-2.14 45to27	+23.28 6to41		+11.6 7to31	+6.43 21to16	56.5 34to83		+8.6 5to12	+5.94 12to12	+21.12 12,5to 56.6		+2.6 1to6	+2.26 0to7	9 1to21	9 0to15	9 2to15	7 6to11		23% 3to52	21% 0to50	43% 22to60	
PRM X and range	+4.75 1to8	+2.85 2to6			+2.25 1to5	+4 3to8				+9.4 8to18	+12 9to28		+13.14 16to87	+12.5 11-14			+37.25 18to64	+26.5 15to28			+6.25 3to12	+6.1 4to12			+19.5 0to17	+7.1 5to11		4 0to16	8 6to10			26% 0to41	22% 3to48			

* = transferred between December and March Testing.

= Partially Reversed Mainstreaming (PRM)

** = transferred between March and May testing.

= Total Reversed Mainstreaming (TRM)

Transfers from TRM into PRM
(n=7)

TABLE 8. Summary of mean gains and losses for the 7 children transferred from a total mainstreamed to a partial mainstreamed classroom after one quarter.

Subjects	BDI (Months)			DPIYC (Items)			PAPG/Soc. (Points)			PAPG/Soc.Lang (Points)			MESA-PK (Points)			Peabody/Finu (Months)			Peabody/Gross (Months)			Microsessions (Total/Week)				IEP ^b (% of goals achieved)										
	Sept-Dec	Dec-Mar	Mar-May	Sept-Dec	Dec-Mar	Mar-May	Sept-Dec	Dec-Mar	Mar-May	Sept-Dec	Dec-Mar	Mar-May	Sept-Dec	Dec-Mar	Mar-May	Sept-Dec	Dec-Mar	Mar-May	Sept-Dec	Dec-Mar	Mar-May	Sept-Dec	Dec-Mar	Mar-May	Sept-May ^a	Sept-Dec	Dec-Mar	Mar-May	Sept-May							
b-11 ^{IH}	+8	+2	+5	+13	+14	+7	+2	+23	Not Adm.	+82	+22	Not Adm.	Not Adm.	+39	+10	Not Adm.	+14	+74	+12	+100	+2	+7.5	+3	-12.5	+5	+3.5	+5	+10	12	11	14	12	3%	31%	44%	67%
b-4 ^{SMH}	0	+2	+6	+8	+4	+5	+2	+11	2	+29	+37	+64	-14	+24	+1	+11	0	+62	+33	+95	+1.5	+1.5	-1	+2	+4	0	-3	+1	12	10	2	8	0	37%	42%	60%
b-5 ^{SMH}	+3	-1	+10	+12	+8	+7	+5	+20	+44	-45	+94	+93	+11	+20	0	+31	+79	-6	+35	+108	+1	+3.5	+3	+7.5	+1	+1	+2	+4	15	10	20	15	0	10%	15%	22%
b-6 ^{SMH}	+1	+1	+4	+6	+2	+2	+1	+5	1	+66	+36	+101	+10	+33	-5	+38	+18	+67	+27	+112	+5	+9	+4	+18	+2	+4	0	+6	16	10	16	14	9%	6%	39%	43%
b-12 ^{IH}	+11	-5	+10	+16	+1	+1	+3	+5	0	+48	+38	+86	-21	+28	+3	+10	+41	+36	+29	+106	0	-2.5	Not Adm.	+5	+6	Not Adm.	11	10	16	12	2%	10%	10%	20%		
b-1 ^{SMHA}	0	+2	-3	-1	+1	0	+3	+4	-13	+48	+30	+65	-25	+52	-19	+8	+30	+66	+12	+48	-5	+2	Not Ac.	+2	C	Not Adm.	1	11	16	9	0	20%	15%	22%		
b-7 ^{SMH}	+3	+2	0	+5	+2	+2	+2	+6	Not Adm.	+82	-46	Not Adm.	Not Adm.	-7	+12	Not Adm.	+36	+25	-109	-48	-1	+8	+2.5	+9.5	+3.5	+4	+1	+8.5	18	10	14	14	23%	6%	22%	33%
X and range	+5.44 0to11	+2.8 -5to2	+4.57 -3to10	+8.42 -1to16	+4.67 1to14	-3.43 0to	+2.57 1to5	+10.57 4to23	+8.8 19to44	-44.28 46to94	30.14 46to	+410 100	+7.8 -26to	27 7to52	+28 -19to	+19.8 8to38	+22.57 -30to	+48.28 6to74	+6.57 -109to	+74.43 -48to	-1.14 112	+4.14 -2.5to9	+2.3 -1to4	+9.9 -2to18	+3.73 -5to6	+2.64 0to	+1 -3to2	+5.9 1to10	12 1to18	10 10to11	14 2to20	12 8to15	6% 0to23	17% 6to20	27% 10to44	35% 20to67

All subjects transferred between December and March testing.

= Total Reversed Mainstreaming (TRM)

= Partially Reversed Mainstreaming (PRM)

to five questions indicating the quality of service that they perceive that their child received; one question about their desire to continue in the program, and to six open-ended questions about reactions to working in the classroom, the strengths and difficulties with the program, recommended changes, and any other concerns or observations. Responses of parents to the five objective questions on the questionnaire are listed in Tables 9a and 9b. The actual questions are shown on Tables 9c and 9d. Overall, the responses to the program were very positive. In addition, the satisfaction data were very similar for both the parents of children with handicaps and the parents of children without handicaps. A summary of responses to the open-ended questions is presented in Appendix D.

Mean Parent Satisfaction Data to Objective Questions by Quarter and Year.

Effectiveness with Staff. Feedback on staff satisfaction has also been obtained from participating staff at the end of each quarter. A summary of responses from the last six quarters (1986 and 1987) is included in Table 10. Each of the staff in the mainstream classrooms were asked to respond to eight questions indicating how much they agreed or disagreed with each statement. Overall, reactions to the FMS Mainstreaming Program were extremely positive from all teachers. The particular strengths of the FMS Model noted by staff included the opportunities to group children for language, the level of social development by children, and for children to learn to attend and work in groups. The difficulties noted with the Mainstreaming Program were the large amount of paperwork and testing (required to evaluate the model, but not necessary thereafter), initially

Table 9a

FMS - CHIPP Integrated Preschool Classrooms Parent Satisfaction Questionnaire Results

(Old Questionnaire form)

School Year 85 - 86

Question #	N(T) = 9 N(H) = 4 N(NH) = 5 Fall	N(T) = 10 N(H) = 5 N(NH) = 5 Winter	N(T) = 19 N(H) = 8 N(NH) = 11 Spring	N(T) = 38 N(H) = 17 N(NH) = 21 Total Mean (Fall, Winter, Spring)
1.	X(T) = 2.13 X(H) = 2.00 X(NH) = 2.25 <small>N(T) = 8 N(NH) = 4</small>	X(T) = 1.70 X(H) = 1.80 X(NH) = 1.58	X(T) = 1.26 X(H) = 1.38 X(NH) = 1.18	X(T) = 1.59 X(H) = 1.65 X(NH) = 1.49 <small>N(T) = 17 N(H) = 17 N(NH) = 20</small>
2.	X(T) = 2.00 X(H) = 1.64 X(NH) = 1.70 <small>N(T) = 2 N(H) = 2 N(NH) = 0</small>	X(T) = 1.67 X(H) = 2.00 X(NH) = 1.00 <small>N(T) = 6 N(H) = 4 N(NH) = 2</small>	X(T) = 1.80 X(H) = 1.63 X(NH) = 2.50 <small>N(T) = 10 N(NH) = 2</small>	X(T) = 1.78 X(H) = 1.79 X(NH) = 1.75 <small>N(T) = 18 N(H) = 14 N(NH) = 4</small>
3.	X(T) = 2.22 X(H) = 2.00 X(NH) = 2.40	X(T) = 1.90 X(H) = 1.80 X(NH) = 2.00	X(T) = 1.74 X(H) = 1.63 X(NH) = 1.82	X(T) = 1.90 X(H) = 1.77 X(NH) = 2.00
4.	X(T) = 2.00 X(H) = 1.75 X(NH) = 2.20	X(T) = 2.20 X(H) = 2.40 X(NH) = 2.00	X(T) = 1.89 X(H) = 1.75 X(NH) = 2.00	X(T) = 2.00 X(H) = 1.94 X(NH) = 2.05

T = total group size H = parents of children with handicaps N = parents of children without handicaps

1 = excellent

2 = good

3 = average

4 = fair

5 = poor

**FMS - CHS Integrated Preschool Classrooms
Parent Satisfaction Questionnaire Results**

School Year 86 - 87

Question #	N (T) = 21 N (H) = 11 N (NH) = 19 Fall	N (T) = 22 N (H) = 11 N (NH) = 11 Winter	N (T) = 6 N (H) = 2 N (NH) = 4 Spring	N (T) = 49 N (H) = 24 N (NH) = 25 Total Mean (Fall, Winter, Spring)
1.	$\bar{X} (T) = 1.43$ $X(H) = 1.73$ $X(NH) = 1.10$	$\bar{X}(T) = 1.39$ $X(H) = 1.41$ $X(NH) = 1.36$	$\bar{X}(T) = 1.17$ $X(H) = 1.5$ $X(NH) = 1.0$	$\bar{X}(T) = 1.38$ $X(H) = 1.56$ $X(NH) = 1.20$
2.	$\bar{X}(T) = 1.64$ $X(H) = 1.64$ $X(NH) = 1.70$	$\bar{X}(T) = 1.61$ $X(H) = 1.59$ $X(NH) = 1.64$	$\bar{X}(T) = 1.5$ $X(H) = 1.5$ $X(NH) = 1.5$	$\bar{X}(T) = 1.62$ $X(H) = 1.61$ $X(NH) = 1.64$
3.	$\bar{X}(T) = 1.05$ $X(H) = 1.09$ $X(NH) = 1.00$	$\bar{X}(T) = 1.0$ $X(H) = 1.0$ $X(NH) = 1.0$	$\bar{X}(T) = 1.0$ $X(H) = 1.0$ $X(NH) = 1.0$	$\bar{X}(T) = 1.02$ $X(H) = 1.04$ $X(NH) = 1.00$
4.	All yes responses	All yes responses N(T) = 20 N(H) = 9	All yes responses	All yes responses N(T) = 47 N(H) = 22

T = total group size H = parents of children with handicaps N = parents of children without handicaps

1 = excellent 2 = good 3 = average 4 = fair 5 = poor

Functional Mainstreaming for Success

Parent Satisfaction Questionnaire

1. How would you rate the education provided to your child through the Mainstream Preschool?

1 2 3 4 5
 Excellent Good Average Fair Poor

2. If your child received individualized services, how would you rate your impressions of the programming provided to your child by the Mainstream Preschool staff?

0 1 2 3 4 5
 Not Applicable Excellent Good Average Fair Poor

3. How would you rate your interactions with Mainstream preschool staff? (Only Mainstream Preschool staff, not other DCHP preschool staff)

1 2 3 4 5
 Excellent Good Average Fair Poor

4. How would you rate your child's social interactions with the other children in the class?

1 2 3 4 5
 Excellent Good Average Fair Poor

5. Knowing what you now know about the Mainstream Preschool program, please circle one of the following:

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Glad my child was in the program	Wish my child had been in a self-contained program (like the CHIPP classrooms)	Wish my child had been in a preschool without other children who have handicaps	Don't know or don't wish to answer

6. If the Mainstream Preschool program were offered year-round, for a nominal fee similar to standard preschool fees, would you enroll your child? (No commitment will be inferred from your response).

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Yes, without reservations about the mainstreaming taking place	Yes, with reservations about the mainstreaming taking place	No, I would not enroll my child because I am concerned about the mainstreaming taking place	Don't know or don't wish to answer

CHIPP-FMS
Parent Satisfaction Questionnaire

1 How would you rate the program that your child received at the CHIPP preschool?

<u>1</u> Excellent	<u>2</u> Good	<u>3</u> Average	<u>4</u> Fair	<u>5</u> Poor
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2. How would you rate your interactions with CHIPP preschool staff? (Only your child's staff, not other DCHP preschool staff).

<u>1</u> Excellent	<u>2</u> Good	<u>3</u> Average	<u>4</u> Fair	<u>5</u> Poor
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3. Knowing what you now know about the CHIPP program, please circle one of the following:

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Glad my child was in the integrated program	Wish my child had been in a non-integrated special education classroom	Wish my child had been in a preschool without children who have handicaps	Don't know or don't wish to answer

4. Did your child like the program? Yes _____ No _____. If not, please indicate why.

If you worked in the classroom, answer question 5; if you did not work in the classroom, go on to question 6.

5. What was your reaction to working in the classroom? Did you feel comfortable with your assigned responsibilities? Do you think you need more training?

6. What things did you like about the CHIPP program?

7. What specific concerns, if any, did you have about mainstreaming before your child started in the program? Did these things happen?

8. What things would you like to change about the CHIPP program?

9. Does your child have a handicapping condition? _____ yes _____ no

Thank you!

9/86

the lack of materials (different start-up materials required for mainstreaming vs. self-contained classrooms), and the need to train college students and some classroom aides to conduct the specific activities (particularly behavior management).

Table 10

**Mean Staff Satisfaction with the Mainstreaming Program
for the Last Six Quarters (1986-1987).**

STAFF SATISFACTION FORM

Version I

Your feedback is critical to the success of future mainstreaming activities. Please take a moment to complete this form about the mainstreaming activity in which your student(s) participated. Please indicate your response to each item by circling one choice:

1. Generally, I feel positive about the mainstreaming activity in which we participated.

+2	+1	-1	-2	<u>TOTALS</u>
Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly	1.9

2. The children in my classroom/program reacted positively to the mainstreaming activity.

Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly	1.85
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3. I understand the purpose(s) for the mainstreaming activity which took place.

Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly	1.95
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4. I think the benefits significantly outweighed any inconveniences of this mainstreaming activity.

Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly	1.75
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Table 10 (continued)

5. I was given the opportunity to be as involved as I wished to be, in planning and carrying out this mainstreaming.	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly	1.55
6. I felt that the FMS project staff were supportive and helpful throughout this mainstreaming activity.	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly	1.7
7. I feel that the interactions that resulted from this activity between children with and without handicaps, were positive and beneficial to all the children.	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly	1.8
8. I feel competent to carry out a similar mainstreaming activity by myself, without FMS project staff involvement.	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly	1.7
9. I estimate that approximately <u>95.2%</u> (insert a percentage number) of the children in my class/program are appropriate for participation in this type of mainstreaming activity. (If you feel that some children are not appropriate for this activity, please briefly indicate why.) Not appropriate for those kids without demonstrated skills of basic attending and limitation of models. Not appropriate for physically aggressive kids. More severely involved kids require 1-1 learning situations.					
10. I saw the following strengths in this activity: Lang. models, social skills models, differences learned. Increase in activities, speech. Good peer models. Behavior controlled by natural consequences. Great language development. Plenty of opportunity for social interaction. Children working in groups with others who have similar skill objectives. Social involvement, group activities, sitting in circle, standing in line, waiting for turn.					
11. I saw the following weaknesses in this activity: Extra staff, too much paperwork and testing. Be more prescriptive and individualized. Too much time to plan activities. IPP process needs better utilization (not a <u>TEAM</u> yet). Lack of materials at the Center. Classes were not organized at the beginning (spent first 1/2 quarter trying to get things straight). Difficult class due to varying levels of performance. May need to look at restructuring schedule again.					

Table 10 (continued)

"So much to do in so little time" (Repeated on 2 other forms).
Need more time and help in training student personnel. Still need a little better behavior management from some classroom workers.

12. In future activities of this type, I would change or recommend the following: Going well as is. Testing staggered throughout year. Better funding of program. Utilize parents in classrooms (as a requirement for child enrollment). These are already being changed, but for the record: 1) Screen incoming students; 2) Classes organized with complete lists and materials at least 2 weeks before class begins; 3) Teacher allotted more time to complete paperwork. (This is not in reference to lesson plans, curriculum needs, or parent communication.)

Any other comments are welcome. Thank you!

Description of FMS Transition Approach.

The FMS Transition approach is based on the premise that a successful transition occurs only when all parties involved are prepared for the new placement, are active participants in the transition process, and continue to have resources and open lines of communication after placement occurs. The process of preparation in the FMS Transition approach begins by identifying a child who is suitable for transition and by identifying a potential receiving site. The child's present teacher then completes a Mainstreaming Expectation and Skills Assessment-Preschool and Kindergarten Edition (MESA-PK), indicating the child's relative level of proficiency for a number of behaviors. A potential receiving teacher then indicates whether each behavior on the checklist is critical, desirable, or unimportant in that teacher's classroom. Information from the MESA-PK provides the potential receiving teacher with an initial glimpse of the child, and an opportunity to react to that child's profile. It also provides a special

educator with information about the expectations of staff in a receiving environment, and training needs for receiving staff.

A second component of preparation involves use of the Classroom Environment Observation System (CEO) (see Project Manual). The CEO is a checklist to guide an individual who observes in a potential receiving environment, to assure that aspects of that environment relevant to the child's disability are noted. The information from the CEO is used to determine what adaptations in the environment will be needed.

A third component of preparation is the Child's Profile (see Project Manual). The Child Profile is completed by the special educator and provided to the receiving teacher as a brief sketch of critical characteristics of the child. The Child Profile augments the information on the MESA-PK by providing critical details of the child's medical and physiological functioning, specific language or motor strengths and difficulties, and a very brief educational history. The previously mentioned instruments provide teaching and support staff in both agencies (sending and receiving) with precise, critical information to facilitate transition. As a result of the MESA-PK and CEO, the target child can be better prepared for the change in placement.

Parent preparation is another critical feature of the FMS Transition Approach. Materials developed by the FMS Project that answer the most commonly asked questions about transition are made available to parents. The parents are expected to assume an active role in the transition process, which includes accompanying the child to the potential receiving setting to acquaint the child with that environment, contributing goals and objectives

to facilitate the transition process, and assisting or conducting preparation activities for students (peers) at the receiving site.

The last group for whom preparation must be addressed are the peers in a receiving environment. The FMS Project has developed puppet shows (See Project Manual) with accompanying discussions to acquaint children with handicapping conditions and to allow them to have opportunities to ask about the new child. Preparation activities in the FMS Transition Model are not assumed to be sufficient for promoting social interactions; rather, they serve as an ice-breaker and to provide information to young children about handicapping conditions. The puppet shows are conducted in the classroom by the teacher, aides, and/or parents. The scripts developed by the FMS Project are included in the Project Manual.

Effectiveness of the FMS Transition Approach.

The FMS Project has followed 16 children who were helped to transition from either a self-contained special education preschool or from the FMS Reverse Mainstream classrooms into public schools in the summer of 1986. The handicapping conditions of the children who have made transitions range from mild communication disorders and behavioral problems, to severe multiple handicaps with autism. Children have made transitions into a total of ten schools across Cache, Logan, and the Box Elder School Districts.

Effectiveness with Children. Nine of the 16 children (56%) who had handicaps and were in the transition program entered directly into regular public school kindergarten. (All nine were participants in the FMS Total or Partial Transition activities.) Of these children who entered kindergarten,

one child had severe multiple handicaps, including autism, and others were children with communicative disorders, behavioral disorders, and orthopedic handicaps. The rest of the children (7) in the sample entered self-contained special education classrooms in their district public schools.

Monitoring of child progress occurred again for 9 of the 16 children in June of 1987. Seven parents did not respond to questionnaires nor could they be contacted by telephone because of summer vacations, changes of address, etc. Follow-up findings indicate that children in regular kindergarten classrooms are demonstrating behaviors which are appropriate for group instruction in kindergarten. During the first year of follow-up, none of the children who were in a kindergarten placement were nominated for return to a more restrictive environment. Of the 9 children for whom follow-up data are available, 4 will enter a regular first grade and 5 will be in a self-contained classroom. These data are similar to those for original placements. An additional group of 16 children (14 from a total reverse mainstream classroom and 2 from a PRM classroom) will be leaving the program in August 1987. Nine of the children from a TRM classroom will be going to regular kindergarten, 2 into resource rooms and 3 into a self-contained program. The 2 children leaving a PRM classroom, will enter a self-contained classroom in the district with recommendation for partial mainstreaming having been made to the receiving school.

Evidence of Effectiveness with Parents. Parents' evaluations of transition placements were obtained from 9 parents. Feedback from parents indicates that the parent information brochure addressing mainstreaming concerns (see Project Manual) is viewed by parents as an excellent resource

to answer their questions; the early discussions of mainstreaming and preparation utilized by FMS has better prepared parents to advocate for their child's mainstreaming in public school; and having parents assume an active role (e.g., parents conducting peer preparation activities) has resulted in greater communication among parents of children with handicaps, other parents, and their child's teacher. Eight of the 9 parents were satisfied with transition activities and the actual placement of their child for this past year. One parent was satisfied with the transition, but not the actual placement due to personality conflicts with the teacher. Eight parents were also pleased with the placement of their child for the 1987-88 school year.

Evidence of Effectiveness with Teachers and Other Staff. The FMS Transition Approach was used with 8 of the 16 children who entered public school (7 of the 9 parents who responded to the follow-up questionnaire were from the transition group). Information and feedback on the FMS materials (MESA-PK, Child Profile, and CEO) was collected. The findings indicate that the MESA-PK is informative and teachers like the opportunity to indicate their expectations for children in their classrooms. The Child Profile has been very well received by the teachers who have been polled. They indicate that the information is brief and very useful, and provides them with critical data on a child which would otherwise be overlooked among the papers in the average cumulative file. Special educators who use the CEO report that it is useful in reminding them of details which would otherwise be overlooked.

Accomplishments by Goals

The five goals of the FMS Project resulted in the following individual products and methods.

Goal One. The Mainstreaming Expectations and Skills Assessment-Preschool Kindergarten (MESA-PK) was developed in part from the En Trans Checklist from teaching research in Monmouth, Oregon (Teaching Research Associates, 1984). The MESA-PK is designed to communicate information about a child to a potential receiving teacher in the process of transition; to allow the teacher to report his/her expectations for the child; and to provide the special educator with information for training the child to meet the teacher's expectations, and to provide assistance and support to the receiving teacher, as needed.

Goal Two. A Buddy System was developed and implemented which resulted in improved pro-social interactions by low-interacting preschoolers and kindergarteners. Incidental teaching and grouping procedures were used to integrate preschoolers with and without handicaps. Peer tutoring was found to be an activity which was too advanced for preschoolers, and was thus discontinued in favor of the buddy program.

Goal Three. In the process of transition, children without handicaps were introduced to handicapping conditions, in general, and to their new classmates, in particular, by using puppetry and guided discussions developed by the FMS Project. Recommendations for preparing parents of children without handicaps for mainstreaming were outlined. These included PTA presentations, school newspapers and flyers. Additionally, a brochure

was developed to provide more extensive information, as needed. Teacher preparation was addressed through Goal One.

Goal Four. The parents of children without handicaps were prepared for mainstreaming through written information provided by the FMS Project in a parent brochure developed by the FMS Project. Additionally, parent meetings were held to address concerns which arose from direct parent contact and through written feedback collected every three months from participating parents. The preparation of the target child was addressed through Goal One (MESA-PK process) and Goal Three (peer preparation).

Goal Five. Throughout the project, teachers were provided consultation, technical assistance and support, based on written feedback collected every three months from participating teachers.

For greater detail on accomplishments by goals and objectives, see the FMS Tracking System which follows.

Project Staff Training Effectiveness.

The project staff conducted a week-long workshop on mainstreaming in June of 1986 (53 participants), and again in June of 1987 (23 participants). Satisfaction with both workshops was high (see Appendix E for the satisfaction data for 1987 and last year's progress report for the 1986 workshop satisfaction data).

Tracking System.

The FMS Tracking System that follow shows in detail goals, objectives and activities for the three years of operation of the FMS Project. It also discusses review papers which were developed by the project. These review papers are compiled into a separate document which is included in the final report (See document entitled Literature Reviews on Functional Mainstreaming for Success).

Replication Costs

Variability of Costs

Start-up costs at a replication site can vary tremendously depending on factors such as the following:

1. The length of time a program has been in existence (e.g., Is it just starting up or has it been in existence for several years?).
2. The skill level of the staff.
3. The level of previous knowledge and experience of staff with mainstreaming.
4. The availability of classroom space and general preschool materials, supplies, and equipment.
5. The specific curriculum materials available.
6. The disciplines represented on the staff.
7. The level of motivation of the administrator and staff to mainstream children.
8. Funds available to hire substitutes, purchase materials, duplicate materials, or to send staff to the model demonstration site or for staff from the model demonstration site to come to the replication site.

Program Assumptions

Due to the aforementioned variables, no attempt will be made to provide an exact start-up cost for all possible settings. Rather, an outline will be provided of the factors to be considered in replicating the model in a program which meets the following conditions:

1. The program is relatively well established and provides services to children who have handicaps in self-contained classrooms (in either a self-contained training center or elsewhere).
2. The costs for normal operation of the program are covered by the existing budget.
3. Staff include the specific disciplines needed to meet the individual needs of the children served.
4. Staff have minimal to moderate levels of knowledge about mainstreaming.
5. The program meets existing state and federal health and safety codes.
6. Some person with sufficient formal (administrator) or informal (board or staff member or parent) power is committed to mainstreaming children.
7. Funds are available from some source to cover both start-up and on-going implementation costs.
8. Children without handicaps, who are of preschool age, are readily available in the geographic area where the program is located.

Start-Up Costs

Every program has on-going costs. All costs that follow are for a 12-month year (2080 hours). Programs that operate for only 9 months per year would have a cost about 25% lower. Start-up costs are those additional costs incurred by replicating the Functional Mainstreaming For Success (FMS) Model. Included are costs for additional:

1. Classrooms
2. Staff
3. Materials
4. Substitutes
5. Travel
6. Communication (telephone and postage)
7. Trainer Time

Classrooms. Prior to implementing the FMS Model, each self-contained preschool class at the model demonstration site served 12 children with handicaps at any one time. However, since the program for any child was only 2 1/2 hours long per day, one group of 12 children could be served in the morning, and a second group of 12 in the afternoon. Thus, two teachers in two classrooms were serving a total of 48 children per day. When the model was implemented, so that some children were served in total reverse mainstream classes and some in partial reverse mainstream classes, additional classroom space was required. Through experience, the FMS Project arrived at an optimal class size of 16 children (half with and half without handicaps) for total reverse mainstreaming. Three classrooms were now necessary for serving 24 children who had handicaps; whereas before only two classrooms were necessary.

The partial reverse mainstream classrooms could accommodate more children because the children without handicaps were in the classroom only 2-3 hours per week (e.g., 9 am to 10 am, Monday, Wednesday, and Friday). No change in the number of classrooms was necessitated by partial reverse mainstreaming.

The cost of the program to rent an additional classroom in another location was \$560 per quarter or \$2240 per year. This cost included all normal preschool supplies and materials, maintenance, heat, electricity, etc. The specific classroom was located in a regular preschool for "normal" children. The Education Unit at the DCHP also rented space in community schools for either \$500 per year or for no cost. The cost, if any, for additional classrooms at a replication site will depend on the location of the program and space available. Total classroom cost = 0 to \$2240/year per classroom.

Staff. The additional cost for staff consisted of:

1. One additional half-time teacher for each two self-contained classes that became total reverse mainstream classes. Choices exist in terms of the level of experience of the teacher, whether certified or not, and salary costs for hiring teachers in a specific geographic area. At the model demonstration site, the cost differed as follows:
 - a. A certified teacher with 2-3 years experience, Half-time salary plus 31.5% benefits = \$13202.00
 - b. An associate teacher (non-certified) with 1 year of experience. Half-time salary plus 16% benefits = \$ 7285.00
2. One additional aide (3 hours) for each half-day class (\$4.25/hour X 3 hrs/day X 200 days) to meet State of Utah Guidelines. Salary plus 16% benefits = \$ 2958.00

Note that salaries for aides vary from program to program and benefits may or may not be paid for aides. Also, it is important to realize that by having parents of children who are not handicapped pay tuition, one can offset some costs (e.g., 200 days X \$3/child/day X 8 children = \$4800) or 200 X \$2 X 8 = \$3200).

3. One additional aide (plus one as discussed in Item 2 above) for each newly created class. Salary plus benefits = \$ 2958.00

4. Total Reverse Mainstreaming (TRMS) class requires 1 hour less service time per week from related staff. This could differ due to differences in individual child needs. Average salary and benefits per hour equals \$14.54 X 40 weeks = -\$ 582.00
This difference is not significant.

5. Volunteers (students, parents, etc.) - the TRMS class requires 14 hours less volunteer time per week. Note this is almost identical to the time gained by having an extra aide for 15 hours a week. The difference in having an aide vs. volunteers is that one person (aide) is present every half hour; whereas with volunteers, the number present from half-hour to half-hour varies from none to four or five. Volunteer time could be computed at the same rate as an aide (\$4.25 X 14 X 40 + 16% benefits) = -\$ 2761.00

The actual change in staffing if one equates aides and volunteers (some programs will use both, some

only one), and if one considers an hour a week difference in the time of related staff insignificant, is the additional cost of 1/2 FTE teacher for each 24 children placed in total reverse mainstreaming. For a cost of \$13202.00

Materials. Additional materials needed per class for mainstreaming (total or partial reverse) are:

1. One FMS mainstreaming manual per teacher \$ 15.00
2. Child materials - most of these can be duplicated from the manual, so costs are for duplication. A few items are commercially available. If not already used in the school, these would need to be purchased commercially.
 - a. MESA-PK - 6 pages/child with handicaps
 - b. CEC - 4 pages/child with handicaps
 - c. Stress Profile - 2 pages/child -----
 - d. Weekly Lesson Plans - 5 pages/week/class
(40 weeks)
 - e. $(6 \times 8 + 4 \times 8 + 2 \times 8 + 200 \times 10 \text{ cents/page}) =$
\$29.60/class \$ 29.60
 - f. Battelles Developmental Inventory Profile
(\$1.00/each) = \$ 8.00
 - g. Brigance Inventory of Early Development
(\$1.50/each) = \$ 13.60

- h. Developmental Program for Infants and
 Young Children (\$1.70 each) = \$ 13.60

It is assumed that other assessment instruments would be part of the on-going program. In fact, items f, g, and h would be common in some programs.

The Slossen Intelligence Test was used to screen children who were enrolling who were not handicapped to assure that this was true.

3. Teacher materials can also be duplicated from the FMS Mainstreaming Manual.
- a. 1 MESA-PK (no cost since already available for each child)
- b. General Teacher Needs Assessment - 6 pages X
 10 cents = \$.60

The rest of the information teachers need will be provided via training and the FMS Manual.

4. Administrator Materials
- a. One FMS Manual \$ 15.00
- b. Directory of Local Training Resources -
 13 pages X 10 cents \$ 1.30
5. Parents
- a. Facts About Mainstreaming Brochure -
 4 pages/parent - 16 X 4 X 10 cents \$ 6.40

Substitutes. Whenever a teacher is being trained in mainstreaming (5 days at Model Demonstration Site and 2 days at replication site), a substitute teacher will be needed. The costs vary. At the model demonstration site, the cost for substitutes is \$35/day/teacher. $(35 \times 7 = \$245) \times 1$ (or whatever the number of teachers being trained is) \$ 245.00

Travel. The cost for travel will vary, depending on the distance the replication site is located from the model demonstration site. Travel costs will include those for staff from the model demonstration site being at the replication site for four days across two visits and those for replication site staff to spend five days at the model demonstration site. Sample costs for someone traveling 60 miles each way and going home each day $(120/\text{day} \times 9 \text{ trips} \times 20.5 \text{ cents/mile per vehicle} = \$221)$. \$ 221.00

Sample costs for going from the model demonstration site in Logan, Utah to Missoula, Montana and vice versa follow. Airfare \$418, mileage from Logan to Salt Lake City airport and return $(166 \times 20.5 = \$34)$, airport parking \$3/day, car rental \$40/day, and per diem at \$75/day. Trip 1: Two staff visiting replication site, $2 \text{ people} \times 2 \text{ days} = \$418 \times 2 = \$836 + 34 + 6 + 80 + 75 \times 4 = 300 = \1256 . Trip 2: One staff member from replication site visiting model site, $1 \text{ person} \times 5 \text{ days}$

$= \$418 + 34 + 15 + 200 + 375 = \1042 (each additional person would cost \$793). Trip 3: One staff member from model site visiting replication site for 2 days,
 1 person X 2 days = $\$418 + 34 + 6 + 80 + 150 = \688 .
 $\$1256 + 1042 + 688 = \2986 for training. The first person and \$793 extra for each additional person. \$ 2986 1st person
 Cost efficiency would occur, e.g., by training 5 people ($793 \times 4 + 2986 = \$6158 - 5 = \$1232/\text{person}$), or 10 people ($793 \times 9 + 2986 = 10123 - 10 = \$1012/\text{person}$)

Communication. The cost estimate for telephone communication is:

1. Three calls to set up first visit and finalize details
2. Two calls to set up second visit (5-day training)
3. One call per week for first four weeks and one per month for next two months (6 calls)
4. Two calls to set up third visit
5. Total 13 calls X \$5 \$ 65.00

The cost for postage should be fairly minimal, since most materials will be distributed during face-to-face contacts. One request for feedback and one feedback letter per month for six months ($12 \times 22 \text{ C} = \2.64) plus envelopes, etc. \$ 3.00

Trainer Time. The cost for trainer time during the development of the model was taken care of by the FMS Project, since project staff conducted the training. With the termination of the project, it is anticipated that trainer costs will be \$150/day, 4 trainer days (2 trainers) for trip 1, 5 for trip 2 (for up to 20 staff), 2 for trip 3, and 1 preparation day and 1 day for various set-up and follow-up activities (13 X \$150 = \$1950).

\$ 1950.00

Summary of Start-Up Costs For Total Reverse Mainstream-

ing. The unit we have chosen for replicating the FMS Model would include 24 children who have handicaps being integrated with 24 children without handicaps into three classes, but with the already existing full-time teacher and an additional half-time teacher. Let me present several cost options:

Option 1

a. Teacher (additional certified 1/2 time)	\$13202.00
b. Additional aides 4 (\$2958 X 4) =	\$11832.00
c. Substitutes (2 X \$245)	\$ 490.00
d. Travel - Local	\$ 221.00
e. Communication (\$65 + 3 X 2)	\$ 71.00
f. Materials	
1. 3 manuals -2 teachers & administrators	
= \$45	

2.	Other child materials \$63.20/class = \$189.60	
3.	Other teacher materials .60 X 2 = \$1.20	
4.	Other administrator materials = \$1.30	
5.	Parent materials (6.40 X 3 = 19.20	\$ 256.30
	Subtotal	\$26072.30
g.	Trainer Time	\$ 1950.00
	Subtotal	\$28022.30
h.	Subtotal less	
1.	Parent fees for children without handi- caps (4800 X 3 = 14400)	-\$14400.00
2.	Reduced time of related staff (582 X 3 = 1746)	-\$ 1746.00
	Total Cost =	\$11876.30
	Cost Per Child =	\$ 494.85

Option 2

Option 2 includes the same costs as Option 1, except for using non-certified teacher as the additional teacher (\$11876.30 - (13202 - 7285) = \$5959.30

Total Cost =	\$ 5959.30
Cost Per Child =	\$ 248.30

Option 3

This option is the same as Option 1, except that the out-of-state travel is calculated (11876.30 (2981 + 793 - 221) =

	\$15429.30
Total Cost =	\$15429.30
Cost Per Child =	\$ 642.89

Option 4

This option is the same as Option 2, except that out-of-state travel is calculated (5959.30 + 3553 = 9512.30)

Total Cost =	\$ 9512.30
Cost Per Child =	\$ 396.35

The start-up costs per child could be reduced even more by training a larger number of teachers, by having the additional 1/2 time teacher work full-time serving a second class or by using volunteers in place of the aides. We recommend regular aides for stability from day-to-day and year-to-year.

Maintenance Costs. Maintenance costs include the costs for maintaining the program after the first year. Staffing costs remain the same; communication costs, travel costs, substitute costs, training manual costs, and trainer time costs are eliminated.

The four options are presented below:

Option 1

a. Teacher	\$13202.00
b. Aides	\$11832.00
c. Materials	\$ <u>211.30</u>
d. Subtotal	\$25246.30
e. Subtotal less	
1. Parent fees	-\$14400.00

2. Reduced time for related staff	<u>-\$ 1746.00</u>
Total Cost	\$ 9100.30
Cost Per Child	\$ 379.18

Option 2

Using a non-certified teacher (\$9100-5917)

Total Cost	\$ 3183.30
Cost Per Child	\$ 132.64

Options 3 and 4 are irrelevant since travel costs were eliminated.

Partial Reverse Mainstreaming Costs

The start-up and maintenance costs for partial reverse mainstreaming are considerably less than for total reverse mainstreaming. The primary reason for this is that additional staff are not needed. The figures below are again for 24 children in 2 classes, but taught by 1 teacher.

Start-Up Costs. Start-up costs include:

- a. Substitutes - \$245/teacher
- b. Travel - \$221 if local or \$2981 if out-of-state
- c. Materials - \$171.10 (includes 2 manuals, materials for 2 classes, 1 teacher competencies, 1 resource manual for administrator, and parent brochures for 2 classes)
- d. Trainer Time - \$1950

e. Communication - \$68

Subtotal \$2655/5415.10

Option 1

Total Cost \$ 2655.10

Cost Per Child \$ 110.63

Option 2

Total Cost \$ 5415.10

Cost Per Child \$ 225.62

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A P P E N D I C E S

Appendix A

Range and Mean Chronological Age and Range, and Mean Mental Age for the Partial and Total Mainstreaming and Control Groups

Appendix B

The FMS Social Interaction Observation System

Appendix C

Data for the Two-Factor Repeated Measure Analysis of Variance, Fisher PLSD and Scheffe F-Test Across Groups, Quarters, and Tests Used

Appendix D

Summary of Parent Satisfaction Data to Open Ended Questions

Appendix E

Summary of Participant Satisfaction with Week-Long Workshop

Appendix A

Range and mean mental and chronological ages for the partial and total mainstreaming and control groups

	Mental Age (months) \bar{X} , ranges	Chronological Age (months) \bar{X} , ranges
PRM	19.7 (0 - 38)	39.7 (26 - 58)
TRM	30.13 (12 - 56)	45.42 (28 - 58)
Control	48.33 (31 - 66)	48.33 (34 - 60)

PRM = Partial Reverse Mainstreamed Class

TRM = Total Reverse Mainstreamed Class

APPENDIX B - THE FMS SOCIAL INTERACTION OBSERVATION SYSTEM

Social Interaction Coding System
Functional Mainstreaming for Success Project

Draft Date: 2/18/86

Purpose:

The purpose of this social interaction coding system is to identify reciprocal social interactions and cooperative play, between children with and without handicaps.

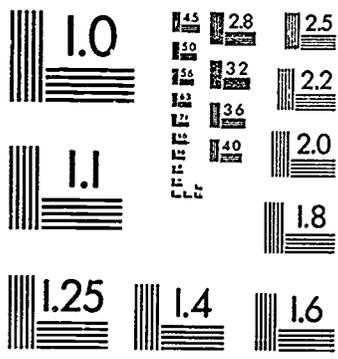
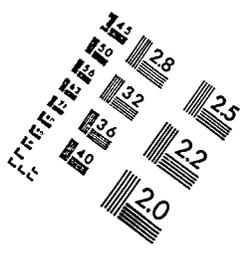
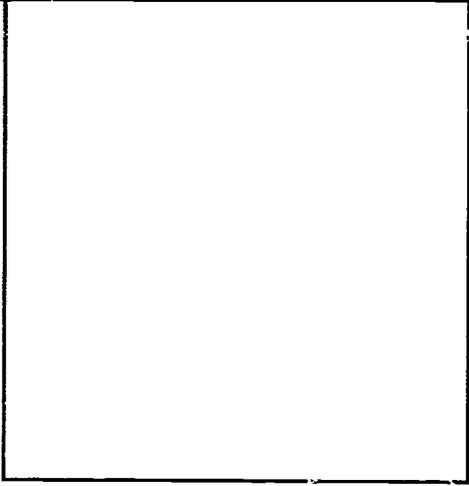
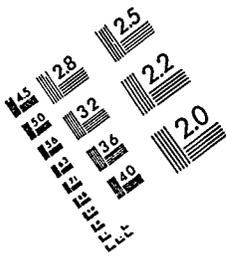
The Coding System: An example of four 10-second intervals making up a one-minute interval.

INITIATION (P) S H N			
RECIPROCATON (P) S H N			
COOP. PLAY C	COOP. PLAY C	COOP. PLAY C	COOP. PLAY C
NEG. BEH. S H N			

Definitions of Target Behaviors:

SOCIAL BEHAVIOR. A directed vocalization and/or a motor gesture made to another child.

A) Directed Vocalization. There is a vocalization directed to another child. The first child calls the second child by name, or clearly indicates by gesture that the vocalization is directed to the second child (e.g., establishes eye contact). Interactions with

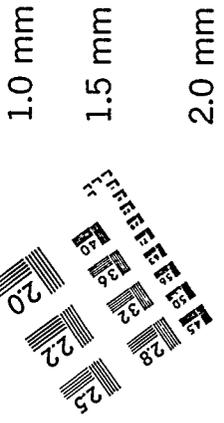
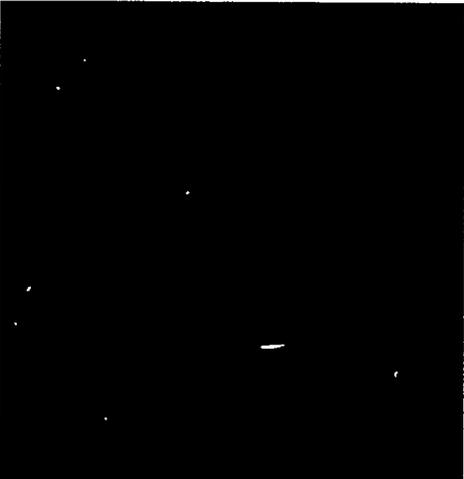
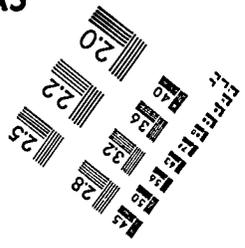


ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz1234567890

ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz1234567890

ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz
 1234567890

A5



SOCIAL BEHAVIOR (con'd)

classroom teachers are not recorded.

B) Motor Gesture. There is a movement that causes a child's head, arms, or feet to come into direct contact with the body of another child; there is waving or extending of a child's arms toward another child; one child hands an object to another child, or adds an object to a structure that received attention from another child earlier in the interval; one child smiles directly at another child.

SOCIAL INITIATION. The first social behavior exhibited either by the targeted child, or by another child to the targeted child during a specific interval. The social behavior must be directed to a specific child or group of children.

SOCIAL RECIPROCATION. A response made within five seconds by a second child to the initiation made by the first child. The return interaction must be directed specifically to the child who made the initiation. If no response to this child is seen within five seconds, reciprocation is not marked.

Alternatively, reciprocations may be acts of compliance. For example, if one child says, "Put the block over there", and another child complies within five seconds, reciprocation is coded. In this case reciprocation is coded even if there is an absence of a vocalization or motor gesture directed specifically to the initiating child.

COOPERATIVE PLAY. Some reciprocal social interactions may be additionally characterized as cooperative play. Cooperative play is marked only if a discrete initiation and reciprocation are observed in an interval. The reciprocal interaction may then be coded as cooperative play if the interaction additionally included the following:

A) Activity involving a common movable object, or objects (e.g., both children add blocks to the same structure).

B) Activity involving an exchange of objects.

C) "Unified" or "organized" activity involving common movements or gestures or common vocalizations (e.g., children crawling on ground and roaring like lions, a "game").

D) Shared-play activity identified as such through verbal approach and response between children (e.g., one child says: "Let's build a house." The other child says: "O.K."; or starts building.

G) The targeted child and another child move together from one area to another following an initiation by another child to do so.

NEGATIVE BEHAVIOR. An initiation or reciprocation consists of an aggressive verbalization (e.g., threatens, calls another child names, or vocalizes a refusal to play with others, eg. "No, go away!"), or makes an aggressive act (e.g., hits, pinches, bites, exhibits "non-playing" pushing or pulling, grabs objects without permission, destroys the construction of another child, or indicates by gesture a refusal to play with others, eg. pushes others away).

If an initiation or reciprocation consists of negative behavior, cooperative play is not recorded, even if other cooperative play is seen

during the interval.

PROMPT. A teacher or classroom worker proposes a social exchange between the subject child and other children, or gives attention to ongoing social behavior between the children. If there is no ongoing social behavior and the classroom worker attempts to stimulate such behavior on the part of an interacting child, then a prompt for an initiation is scored. If one of the interacting children has already exhibited social behavior in the current interval, and the classroom worker gives attention to the ongoing interaction, then a prompt for a reciprocation is scored. Social behaviors emitted in intervals following the "prompted interval" are NOT marked as prompted.

Observation Procedure:

Each targeted child is observed for 12 10-second intervals, with five seconds for recording at the end of each interval. This means the child is observed for a total of three minutes.

As each new interval begins, note the first social behavior exhibited. If social behavior is seen, watch to see if interacting parties reciprocate within five seconds. Note if the children were additionally engaged in activities defined as cooperative play. Record which party made an initiation, and which party made a reciprocation. Record if prompts were given. Record if cooperative play was also seen. If an initiation and/or a reciprocation consists of negative behavior, identify the parties engaged in this activity.

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Anova table for a 2-factor repeated measures Anova.

Source:	df:	Sum of Squares:	Mean Square:	F-test:	P value:
Battelle (A)	2	41648.109	20824.055	74.648	1.0E-4
subjects w. groups	56	15622.048	278.965		
Repeated Measure (B)	3	2300.737	766.912	10.075	1.0E-4
AB	6	1112.097	185.349	2.435	.0278
B x subjects w. groups	168	12788.416	76.122		

There were no missing cells found. 9 cases deleted with missing values.

The AB Incidence table

Repeated Mea...		Septembe...	December...	March Sc...	May Scor...	Totals:
Battelle	PRM	18	18	18	18	72
		19	21.778	19.611	21.917	20.576
	TRM	21	21	21	21	84
		28.667	35.881	39.857	44.238	37.161
Control	20	20	20	20	80	
	49.25	55.35	54.7	55.55	53.713	
Totals:		59	59	59	59	236
		32.695	38.178	38.712	41.263	37.712

One Factor ANOVA X₁: Battelle Y₁: September Scores

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	8866.185	4433.093	33.274
Within groups	61	8127.049	133.23	p = 1.0000E-4
Total	63	16993.234		

Model II estimate of between component variance = 2149.931

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	18	19	10.852	2.558
TRM	24	30.458	12.968	2.647
Control	22	48.364	10.367	2.21

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-11.458	5.068*
PRM vs. Control	-29.364	32.035*
TRM vs. Control	-17.905	13.81*

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	11108.316	5554.158	42.406
Within groups	61	7989.555	130.976	p = 1.0000E-4
Total	63	19097.871		

Model II estimate of between component variance = 2711.591

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	18	21.778	11.93	2.788
TRM	24	36.896	12.758	2.604
Control	22	55.045	9.429	2.01

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-15.118	3.974*
PRM vs. Control	-33.268	41.827*
TRM vs. Control	-18.15	14.434*

* Significant at 95%

One Factor ANOVA X₁: Battelle Y₃: March Scores

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	12281.852	6140.926	48.393
Within groups	60	7613.862	126.898	p = 1.0000E-4
Total	62	19895.714		

Model II estimate of between component variance = 3007.014

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	22	20.636	9.53	2.032
TRM	21	39.857	10.91	2.381
Control	20	54.7	13.231	2.959

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-19.221	15.64*
PRM vs. Control	-34.064	47.396*
TRM vs. Control	-14.843	8.392*

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	10126.856	5063.428	37.744
Within groups	59	7914.873	134.15	p = 1.0000E-4
Total	61	18041.73		

Mode: II estimate of between component variance = 2464.639

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	19	23.763	12.148	2.787
TRM	23	44.478	10.9	2.273
Control	20	55.55	11.799	2.638

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-20.715	16.641*
PRM vs. Control	-31.787	36.694*
TRM vs. Control	-11.072	4.888*

* Significant at 95%

Battelle (BDI)

Row Means	
Comparisons	Scheffe F-Test
PRM vs. TRM	38.23*
PRM vs. Control	149.25*
TRM vs. Control	40.29*

Column Means	
Comparisons	Scheffe F-Test
September vs. December	11.65*
December vs. March	.11
March vs. May	2.52
September vs. May	28.45*

*Significant at 95%

Anova table for a 2-factor repeated measures Anova.

Source:	df:	Sum of Squares:	Mean Square:	F-test:	P value:
DPIYC (A)	2	34480.114	17240.057	88.487	1.0E-4
subjects w. groups	55	10715.771	194.832		
Repeated Measure (B)	2	1334.218	667.109	8.119	5.0E-4
AB	4	840.909	210.227	2.559	.0426
B x subjects w. groups	110	9038.206	82.166		

There were no missing cells found. 11 cases deleted with missing values.

The AB Incidence table

Repeated Mea...		DecScores	MarchSco...	MayScores	Totals:
DPIYC	PRM	18 31.333	18 29.778	18 32.778	54 31.296
	TRM	23 46.043	23 54.696	23 58.696	69 53.145
	Control	17 64.824	17 67.235	17 69.294	51 67.118
Totals:		58 46.983	58 50.638	58 53.759	174 50.46

One Factor ANOVA X₁: DPIYC Y₁: DecScores

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	9839.556	4919.778	28.347
Within groups	55	9545.427	173.553	p = 1.0000E-4
Total	57	19384.983		

Model II estimate of between component variance = 2373.112

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	18	31.333	17.225	4.06
TRM	23	46.043	14.044	2.928
Control	17	64.824	3.187	.773

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-14.71	6.295*
PRM vs. Control	-33.49	28.25*
TRM vs. Control	-18.78	9.932*

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	13188.438	6594.219	69.471
Within groups	65	6169.842	94.921	p = 1.0000E-4
Total	67	19358.279		

Model II estimate of between component variance = 3249.649

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	23	31.87	10.725	2.236
TRM	23	54.696	10.589	2.208
Control	22	65.273	7.472	1.593

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-22.826	31.562*
PRM vs. Control	-33.403	66.088*
TRM vs. Control	-10.577	6.626*

* Significant at 95%

One Factor ANOVA X₁: DPIYC Y₃: MayScores

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	11816.145	5908.072	51.591
Within groups	62	7100.101	114.518	p = 1.0000E-4
Total	64	18916.246		

Model II estimate of between component variance = 2896.777

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	20	34.5	13.485	3.015
TRM	24	58.208	11.264	2.299
Control	21	67.429	6.03	1.316

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-23.708	26.772*
PRM vs. Control	-32.929	48.496*
TRM vs. Control	-9.22	4.157*

* Significant at 95%

DPIYC

Row Means	
Comparisons	Scheffe F-Test
PRM vs. TRM	74.24*
PRM vs. Control	172.71*
TRM vs. Control	29.40*

Column Means	
Comparisons	Scheffe F-Test
December vs. March	4.71
March vs. May	3.44
December vs. May	16.2*

*Significant at 95%

Anova table for a 2-factor repeated measures Anova.

Source:	df:	Sum of Squares:	Mean Square:	F-test:	P value:
PAPG/Soc. (A)	2	336512.745	163256.372	29.251	1.0E-4
subjects w. groups	44	253093.38	5752.122		
Repeated Measure (B)	3	34575.036	11525.012	6.556	4.0E-4
AB	6	33126.339	5521.057	3.141	.0065
B x subjects w. groups	132	232041.312	1757.889		

There were no missing cells found. 24 cases deleted with missing values.

The AB Incidence table

Repeated Mea...		Sept. Sco...	Dec. Scor...	March Sc...	May Scor...	Totals:
PAPG/Soc.	PRM	16	16	16	16	64
		156.781	128.812	136.938	151.688	143.555
	TRM	16	16	16	16	64
		185.375	168.312	236.938	231.562	205.547
	Control	15	15	15	15	60
		236.267	241.067	257.533	252.533	246.85
Totals:		47	47	47	47	188
		191.883	178.085	209.468	211.064	197.625

One Factor ANOVA X₁: PAPG/Soc. Y₁: Sept. Scores

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	49940.439	24970.219	6.874
Within groups	44	159823.168	3632.345	p = .0025
Total	46	209763.606		

Model II estimate of between component variance = 10668.937

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	16	156.781	77.189	19.297
TRM	16	185.375	65.663	16.416
Control	15	236.267	20.313	5.245

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-28.594	.9
PRM vs. Control	-79.485	6.733*
TRM vs. Control	-50.892	2.76

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	100142.914	50071.457	14.565
Within groups	61	209699.446	3437.696	p = 1.0000E-4
Total	63	309842.359		

Model II estimate of between component variance = 23316.88

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	18	138.778	80.658	19.011
TRM	26	195.154	59.603	11.683
Control	20	241.55	23.271	5.203

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-56.376	4.917*
PRM vs. Control	-102.772	14.554*
TRM vs. Control	-46.396	3.539*

* Significant at 95%

One Factor ANOVA X₁: PAPG/Soc. Y₃: March Scores

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	136627.184	68313.592	31.507
Within groups	64	138762.935	2168.171	p = 1.0000E-4
Total	66	275390.119		

Model II estimate of between component variance = 33072.11

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	22	146.773	72.09	15.37
TRM	24	233.917	29.704	6.063
Control	21	250.81	21.602	4.714

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-87.144	20.101*
PRM vs. Control	-104.037	26.318*
TRM vs. Control	-16.893	.737

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	84874.945	42437.472	28.811
Within groups	66	97215.693	1472.965	p = 1.0000E-4
Total	68	182090.638		

Model II estimate of between component variance = 20482.254

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	20	162.85	61.414	13.733
TRM	28	233.571	25.916	4.898
Control	21	246.714	19.259	4.203

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-70.721	19.807*
PRM vs. Control	-83.864	24.457*
TRM vs. Control	-13.143	.704

* Significant at 95%

PAPG/Social

Row Means	
Comparisons	Scheffe F-Test
PRM vs. TRM	21.38*
PRM vs. Control	57.44*
TRM vs. Control	9.18*

Column Means	
Comparisons	Scheffe F-Test
September vs. December	2.54
December vs. March	13.16*
March vs. May	.03
September vs. May	4.92

*Significant at 95%

Anova table for a 2-factor repeated measures Anova.

Source:	df:	Sum of Squares:	Mean Square:	F-test:	P value:
PAPG/Soc.Lang. (A)	2	224080.042	112040.021	44.491	1.0E-4
subjects w. groups	43	108284.638	2518.247		
Repeated Measure (B)	3	25912.712	8637.571	10.68	1.0E-4
AB	6	13761.451	2293.575	2.836	.0126
B x subjects w. groups	129	104331.588	808.772		

There were no missing cells found. 25 cases deleted with missing values.

The AB Incidence table

Repeated Mea...	Sept.Scor...	Dec.Scores	MarchSco...	MayScores	Totals:	
PAPG/Soc.Lang.	PRM	15	15	15	60	
		52.933	60.667	63.533	68.067	61.3
	TRM	16	16	16	16	64
		95.125	90.25	135.688	119.812	110.219
Control		15	15	15	15	60
		119.933	155.8	162.267	151.8	147.45
Totals:		46	46	46	46	184
		89.457	101.978	120.826	113.37	106.408

One Factor ANOVA X_1 : PAPG/Soc.Lang. Y_1 : Sept.Scores

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	34455.796	17227.898	13.369
Within groups	43	55411.617	1288.642	$p = 1.0000E-4$
Total	45	89867.413		

Model II estimate of between component variance = 7969.628

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	15	52.933	25.266	6.524
TRM	16	95.125	45.471	11.368
Control	15	119.933	33.232	8.58

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-42.192	5.347*
PRM vs. Control	-67	13.063*
TRM vs. Control	-24.808	1.349

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	75691.761	37845.881	21.913
Within groups	61	105351.176	1727.068	p = 1.0000E-4
Total	63	181042.938		

Model II estimate of between component variance = 18059.406

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	18	67.222	44.98	10.602
TRM	26	111.731	50.427	9.889
Control	20	156.55	19.715	4.408

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-44.509	6.1*
PRM vs. Control	-89.328	21.885*
TRM vs. Control	-44.819	6.574*

* Significant at 95%

One Factor ANOVA X₁: PAPG/Soc.Lang. Y₃: MarchScores

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	83416.267	41708.134	36.187
Within groups	64	73764.39	1152.569	p = 1.0000E-4
Total	66	157180.657		

Model II estimate of between component variance = 20277.782

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	22	69.909	33.527	7.148
TRM	24	136.5	39.679	8.099
Control	21	152.143	26.407	5.762

Comparison:	Mean Diff.:	Fisher PLSD:	Scheffe F-test:	Dunnnett t:
PRM vs. TRM	-66.591	20.021*	22.081*	6.645
PRM vs. Control	-82.234	20.693*	31.519*	7.94
TRM vs. Control	-15.643	20.268	1.189	1.542

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	56076.403	28038.202	37.481
Within groups	65	48623.714	748.057	p = 1.0000E-4
Total	67	104700.118		

Model II estimate of between component variance = 13645.072

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	20	72.6	28.816	6.443
TRM	28	119.786	31.367	5.928
Control	20	146.3	18.184	4.066

Comparison:	Mean Diff.:	Fisher PLSD:	Scheffe F-test:	Dunnett t:
PRM vs. TRM	-47.186	15.994*	17.362*	5.893
PRM vs. Control	-73.7	17.275*	36.305*	8.521
TRM vs. Control	-26.514	15.994*	5.482*	3.311

* Significant at 95%

PAPG/Social Language

Row Means	
Comparisons:	Scheffe F-Test
PRM vs. TRM	29.43*
PRM vs. Control	88.42*
TRM vs. Control	17.04*

Column Means	
Comparisons:	Scheffe F-Test
September vs. December	4.45
December vs. March	10.10*
March vs. May	1.58
September vs. May	16.26*

*Significant at 95%

Anova table for a 2-factor repeated measures Anova.

Source:	df:	Sum of Squares:	Mean Square:	F-test:	P value:
MESA (A)	2	356740.889	178370.444	68.854	1.0E-4
subjects w. groups	59	152843.696	2590.571		
Repeated Measure (B)	3	85872.173	28624.058	16.121	1.0E-4
AB	6	12890.65	2148.442	1.21	.3032
B x subjects w. groups	177	314282.426	1775.607		

There were no missing cells found. 9 cases deleted with missing values.

The AB Incidence table

Repeated Mea...		Sept	Dec	March	May	Totals:
MESA	PRM	18 103.444	18 139.5	18 151.333	18 148.389	72 135.667
	TRM	24 163.667	24 187.708	24 225	24 223.208	96 199.896
	Control	20 213.15	20 232.55	20 240.05	20 238.7	80 231.113
Totals:		62 162.145	62 188.177	62 208.468	62 206.484	248 191.319

One Factor ANOVA X₁: MESA Y₁: Sept

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	112690.063	56345.032	23.375
Within groups	60	144627.587	2410.46	p = 1.0000E-4
Total	62	257317.651		

Model II estimate of between component variance = 26967.286

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	18	103.444	60.179	14.184
TRM	24	163.667	52.898	10.798
Control	21	211.238	30.579	6.673

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-60.222	7.738*
PRM vs. Control	-107.794	23.361*
TRM vs. Control	-47.571	5.258*

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	32032.103	41016.051	14.633
Within groups	61	170980.835	2802.965	p = 1.0000E-4
Total	63	253012.938		

Model II estimate of between component variance = 19106.543

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	18	139.5	75.566	17.811
TRM	26	187.846	51.008	10.003
Control	20	232.55	21.598	4.829

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-48.346	4.435*
PRM vs. Control	-93.05	14.632*
TRM vs. Control	-44.704	4.03*

* Significant at 95%

One Factor ANOVA X₁: MESA Y₃: March

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	106003.872	53001.936	47.059
Within groups	65	73208.364	1126.283	p = 1.0000E-4
Total	67	179212.235		

Model II estimate of between component variance = 25937.827

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	22	146	50.035	10.668
TRM	24	225	23.144	4.724
Control	22	235.273	19.898	4.242

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-79	31.802*
PRM vs. Control	-89.273	38.918*
TRM vs. Control	-10.273	.538

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	119404.46	59702.23	33.302
Within groups	65	116529.819	1792.766	p = 1.0000E-4
Total	67	235934.279		

Model II estimate of between component variance = 28954.732

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	20	138.7	73.349	16.401
TRM	27	223.111	20.406	3.927
Control	21	238.048	13.197	2.88

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-84.411	22.932*
PRM vs. Control	-99.348	28.199*
TRM vs. Control	-14.937	.735

* Significant at 95%

MESA-PK

Row Means	
Comparisons	Scheffe F-Test
PRM vs. TRM	65.52*
PRM vs. Control	133.26*
TRM vs. Control	16.42*

Column Means	
Comparisons	Scheffe F-Test
September vs. December	11.83*
December vs. March	7.18
March vs. May	.068
September vs. May	34.32

*Significant at 95%

Anova table for a 2-factor repeated measures Anova.

Source:	df:	Sum of Squares:	Mean Square:	F-test:	P value:
Peabody/Fine (A)	1	15984.022	15984.022	39.428	1.0E-4
subjects w. groups	40	16215.881	405.397		
Repeated Measure (B)	3	6728.491	2242.83	22.383	1.0E-4
AB	3	1344.547	448.182	4.473	.0052
B x subjects w. groups	120	12024.52	100.204		

There were no missing cells found. 6 cases deleted with missing values.

The AB Incidence table

Repeated Mea...	Sept Scor...	Dec Scores	March Sc...	May Scor...	Totals:
Peabody/...	PRM	18	18	18	72
		19.978	24.194	24.639	29.306
Peabody/...	TRM	24	24	24	96
		33.042	39.333	48.792	55.792
Totals:		42	42	42	168
		27.443	32.845	38.44	44.44

One Factor ANOVA X₁: Peabody/Fine. Y₁: Sept Scores

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	1755.413	1755.413	11.409
Within groups	40	6154.609	153.865	p = .0016
Total	41	7910.023		

Model II estimate of between component variance = 1601.548

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	18	19.978	12.209	2.878
TRM	24	33.042	12.546	2.561

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-13.064	11.409*

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	2368.021	2368.021	10.083
Within groups	42	9864.223	234.862	p = .0028
Total	43	12232.244		

Model II estimate of between component variance = 2133.159

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	18	24.194	14.947	3.523
TRM	26	39.115	15.577	3.055

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-14.921	10.083*

* Significant at 95%

One Factor ANOVA X₁: Peabody/Fine Y₃: March Scores

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	5426.909	5426.909	37.943
Within groups	44	6293.261	143.029	p = 1.0000E-4
Total	45	11720.17		

Model II estimate of between component variance = 5283.88

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	22	27.048	12.517	2.669
TRM	24	48.792	11.426	2.332

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-21.744	37.943*

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	7290.698	7290.698	42.211
Within groups	41	7081.569	172.721	p = 1.0000E-4
Total	42	14372.267		

Model II estimate of between component variance = 7117.977

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	18	29.306	15.147	3.57
TRM	25	55.7	11.513	2.303

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-26.394	42.211*

* Significant at 95%

Peabody/Fine Motor

Row Means	
Comparisons	Scheffe F-Test
PRM vs. TRM	39.44*

Column Means	
Comparisons	Scheffe F-Test
September vs. December	5.12
December vs. March	5.50
March vs. May	6.32
September vs. May	50.75*

*Significant at 95%

Peabody Gross Motor

Anova table for a 2-factor repeated measures Anova.

Source:	df:	Sum of Squares:	Mean Square:	F-test:	P value:
P Gross (A)	1	6382.698	6382.698	29.124	1.0E-4
subjects w. groups	36	7889.521	219.153		
Repeated Measure (B)	3	2645.479	881.826	9.571	1.0E-4
AB	3	982.878	327.626	3.556	.0168
B x subjects w. groups	108	9950.581	92.135		

There were no missing cells found. 12 cases deleted with missing values.

The AB Incidence table

Repeated Mea...		Sept Scor...	Dec.Scores	March Sc...	May Scor...	Totals:
G	PRM	17	17	17	17	68
		19.824	22.059	23.412	23.647	22.235
P	TRM	21	21	21	21	84
		27.929	30.405	38.786	43.952	35.268
Totals:		38	38	38	38	152
		24.303	26.671	31.908	34.868	29.438

One Factor ANOVA X₁: P Gross Y₁: Sept Scores

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	888.162	888.162	6.986
Within groups	39	4958.46	127.14	p = .0118
Total	40	5846.622		

Model II estimate of between component variance = 761.022

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	17	19.824	11.137	2.701
TRM	24	29.271	11.371	2.321

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-9.447	6.986*

* Significant at 95%

One Factor ANOVA X₁: P Gross Y₂: Dec.Scores

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	1040.581	1040.581	7.447
Within groups	42	5868.663	139.73	p = .0092
Total	43	6909.244		

Model II estimate of between component variance = 900.851

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	18	22.167	12.201	2.876
TRM	26	32.058	11.555	2.266

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-9.891	7.447*

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	2289.422	2289.422	27.338
Within groups	46	3852.323	83.746	p = 1.0000E-4
Total	47	6141.745		

Model II estimate of between component variance = 2205.676

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	24	24.417	9.552	1.95
TRM	24	38.229	8.733	1.783

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-13.813	27.338*

* Significant at 95%

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	17	23.647	10.875	2.638
TRM	21	43.952	12.243	2.672

One Factor ANOVA $X_1: P$ Gross $Y_4: \text{May Scores}$

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	3873.507	3873.507	28.515
Within groups	36	4890.335	135.843	$p = 1.0000E-4$
Total	37	8763.842		

Model II estimate of between component variance = 3737.665

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-20.305	28.515*

* Significant at 95%

Peabody/Gross Motor

Row Means	
Comparisons	Scheffe F-Test
PRM vs. TRM	29.14*

Column Means	
Comparisons	Scheffe F-Test
September vs. December	1.15
December vs. March	5.65
March vs. May	1.81
September vs. May	23.01*

*Significant at 95%

Anova table for a 2-factor repeated measures Anova.

Source:	df:	Sum of Squares:	Mean Square:	F-test:	P value:
Microsessions (A)	1	407.805	407.805	18.846	1.0E-4
subjects w. groups	39	843.935	21.639		
Repeated Measure (B)	2	117.528	58.764	2.836	.0647
AB	2	272.786	136.393	6.582	.0023
B x subjects w. groups	78	1616.353	20.722		

There were no missing cells found. 7 cases deleted with missing values.

The AB Incidence table

Repeated Mea...		Sept-Dec	Dec-March	Mar-May	Totals:
Microses..	PRM	18 7.667	18 10.111	18 14.056	54 10.611
	TRM	23 7.043	23 7.478	23 6.304	69 6.342
Totals:		41 7.317	41 8.634	41 9.707	123 8.553

One Factor ANOVA X₁: Microsessions Y₁: Sept-Dec

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	2.279	2.279	.077
Within groups	41	1214	29.61	p = .7828
Total	42	1216.279		

Model II estimate of between component variance = -27.331

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	18	7.667	5.19	1.223
TRM	25	7.2	5.612	1.122

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	.467	.077

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	108.943	108.943	5.623
Within groups	43	833.057	19.373	p = .0223
Total	44	942		

Model II estimate of between component variance = 89.569

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	22	10.591	4.866	1.038
TRM	23	7.478	3.907	.815

Comparison:	Mean Diff.:	Scheffé F-test:
PRM vs. TRM	3.113	5.623*

* Significant at 95%

One Factor ANOVA X₁: Microsessions Y₃: Mar-May

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	762.675	762.675	48.662
Within groups	45	705.282	15.673	p = 1.0000E-4
Total	46	1467.957		

Model II estimate of between component variance = 747.002

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	21	14.333	4.054	.885
TRM	26	6.231	3.881	.761

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	8.103	48.662*

* Significant at 95%

Microsessions

Row Means	
Comparisons	Scheffe F-Test
PRM vs. TRM	18.86*

Column Means	
Comparisons	Scheffe F-Test
Sept./Dec. vs. Dec./Mar.	1.71
Dec./Mar. vs. Mar./May	1.14
Sept./Dec. vs. Mar./May	5.65

*Significant at 95%

Individualized Education Plan (IEP)

Anova table for a 2-factor repeated measures Anova.

Source:	df:	Sum of Squares:	Mean Square:	F-test:	P value:
IEP (A)	1	.427	.427	2.655E-3	.9592
subjects w. groups	37	5948.054	160.758		
Repeated Measure (B)	2	1150.824	575.412	3.796	.027
AB	2	735.086	367.543	2.424	.0955
B x subjects w. groups	74	11218.12	151.596		

There were no missing cells found. 6 cases deleted with missing values.

The AB Incidence table

Repeated Mea...		Sept-Dec	Dec-Mar	Mar-May	Totals:
C U	PRM	21 12.328	21 17.748	21 23.085	63 17.72
	TRM	18 19.362	18 12.971	18 21.192	54 17.841
Totals:		39 17.574	39 15.543	39 22.212	117 17.776

One Factor ANOVA X₁: IEP Y₁: Sept-Dec

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	355.896	355.896	3.119
Within groups	38	4335.437	114.09	p = .0854
Total	39	4691.333		

Model II estimate of between component variance = 241.806

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	22	13.366	11.369	2.424
TRM	18	19.362	9.765	2.302

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-5.996	3.119

One Factor ANOVA X_1 : IEP Y_2 : Dec-Mar

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	223.392	223.392	1.394
Within groups	42	6732.074	160.287	$p = .2444$
Total	43	6955.466		

Model II estimate of between component variance = 63.104

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	21	17.748	12.336	2.692
TRM	23	13.237	12.948	2.7

Comparison:	Mean Diff.:	Scheffe F-test:	Dunnett t:
PRM vs. TRM	4.511	1.394	1.181

One Factor ANOVA X_1 : IEP Y_3 : Mar-May

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	73.216	73.216	.364
Within groups	40	8048.015	201.2	$p = .5498$
Total	41	8121.231		

Model II estimate of between component variance = -127.984

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	22	22.154	14.843	3.165
TRM	20	20.15	13.419	3.001

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	2.644	.364

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	1	371.165	371.165	1.614
Within groups	36	8279.188	229.977	p = .2121
Total	37	8650.353		

Model II estimate of between component variance = 141.187

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	22	42.005	14.798	3.155
TRM	16	35.675	15.664	3.916

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	6.33	1.614

% IEP Gains Completed

Row Means	
Comparisons	Scheffe F-Test
PRM vs. TRM	.002

Column Means	
Comparisons	Scheffe F-Test
Sept./Dec. vs. Dec./Mar.	.00012
Dec./Mar. vs. Mar./May	5.72
Sept./Dec. vs. Mar./May	5.66

*Significant at 95%

Reciprocal Interaction

Anova table for a 2-factor repeated measures Anova.

Source:	df:	Sum of Squares:	Mean Square:	F-test:	P value:
Reciprocal Interactio...	2	7094.678	3547.339	45.447	1.0E-4
subjects w. groups	20	1561.077	78.054		
Repeated Measure (B)	2	181.524	90.762	.877	.4239
AB	4	1099.372	274.843	2.655	.0468
B x subjects w. groups	40	4140.209	103.505		

There were no missing cells found. 7 cases deleted with missing values.

The AB Incidence table

Repeated Mea...		Fall	Winter	Spring	Totals:
Reciprocal Inter...	PRM	8 6.63	8 5.209	8 6.889	24 6.242
	TRM	9 25.592	9 15.25	9 13.83	27 18.224
	Control	6 27.553	6 40.012	6 29.903	18 32.489
Totals:		23 19.508	23 18.217	23 15.609	69 17.778

Reciprocal Interaction

One Factor ANOVA X_1 : Reciprocal Interactlons Y_1 : Fall

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	2902.558	1451.279	19.016
Within groups	25	1908.006	76.32	$p = 1.0000E-4$
Total	27	4810.564		

Model II estimate of between component variance = 687.479

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	8	6.63	2.02	.714
TRM	10	27.475	9.42	2.979
Control	10	30.503	10.959	3.466

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-20.845	12.652*
PRM vs. Control	-23.873	16.594*
TRM vs. Control	-3.028	.3

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	4282.989	2141.495	23.42
Within groups	20	1828.808	91.44	p = 1.0000E-4
Total	22	6111.797		

Model II estimate of between component variance = 1025.027

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	8	5.209	3.113	1.101
TRM	9	15.25	8.805	2.935
Control	6	40.012	15.105	6.166

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-10.041	2.335
PRM vs. Control	-34.803	22.708*
TRM vs. Control	-24.762	12.07*

* Significant at 95%

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	2392.331	1196.165	8.173
Within groups	21	3073.586	146.361	p = .0024
Total	23	5465.917		

Model II estimate of between component variance = 524.902

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	8	6.889	3.117	1.102
TRM	9	13.83	3.701	1.234
Control	7	31.571	21.97	8.304

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-6.941	.697
PRM vs. Control	-24.683	7.77*
TRM vs. Control	-17.741	4.234*

* Significant at 95%

Reciprocal Interactions

Row Means	
Comparisons	Scheffe F-Test
PRM vs. TRM	23.38*
PRM vs. Control	90.76*
TRM vs. Control	28.14*

Column Means	
Comparisons	Scheffe F-Test
Fall vs. Winter	.18
Winter vs. Spring	.75
Fall vs. Spring	1.69

*Significant at 95%

Cooperative Play

Anova table for a 2-factor repeated measures Anova.

Source:	df:	Sum of Squares:	Mean Square:	F-test:	P value:
Cooperative Play (A)	2	2769.053	1384.526	18.778	1.0E-4
subjects w. groups	20	1474.662	73.733		
Repeated Measure (B)	2	7.533	3.766	.039	.9614
AB	4	804.075	201.019	2.103	.0983
B x subjects w. groups	40	3822.653	95.566		

There were no missing cells found. 5 cases deleted with missing values.

The AB Incidence table

Repeated Mea...		Fall	Winter	Spring	Totals:
Cooperative Play	PRM	8 6.293	8 3.291	8 3.499	24 4.361
	TRM	9 15.5	9 9.807	9 8.667	27 11.324
	Control	6 13.367	6 22.827	6 26.112	18 20.768
Totals:		23 11.741	23 10.937	23 11.42	69 11.366

One Factor ANOVA X₁: Cooperative Play Y₁: Fall

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	612.578	306.289	8.617
Within groups	25	888.605	35.544	p = .0014
Total	27	1501.183		

Model II estimate of between component variance = 135.372

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	8	6.293	2.366	.836
TRM	10	16.81	6.678	2.112
Control	10	16.473	7.056	2.231

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-10.518	6.916*
PRM vs. Control	-10.181	6.48*
TRM vs. Control	.337	7.988E-3

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	1327.344	663.672	6.271
Within groups	20	2116.665	105.833	p = .0077
Total	22	3444.008		

Model II estimate of between component variance = 278.919

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	8	3.291	2.618	.926
TRM	9	9.807	7.888	2.629
Control	6	22.827	17.725	7.236

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-6.515	.849
PRM vs. Control	-19.535	6.182*
TRM vs. Control	-13.02	2.883

* Significant at 95%

One Factor ANOVA X₁: Cooperative Play Y₃: Spring

Analysis of Variance Table

Source:	DF:	Sum Squares:	Mean Square:	F-test:
Between groups	2	1950.406	975.203	7.117
Within groups	21	2877.546	137.026	p = .0044
Total	23	4827.952		

Model II estimate of between component variance = 419.088

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
PRM	8	3.499	1.864	.659
TRM	9	8.667	2.79	.93
Control	7	25.484	21.567	8.152

Comparison:	Mean Diff.:	Scheffe F-test:
PRM vs. TRM	-5.168	.413
PRM vs. Control	-21.986	6.585*
TRM vs. Control	-16.818	4.064*

* Significant at 95%

Cooperative Play

Row Means	
Comparisons	Scheffe F-Test
PRM vs. TRM	8.36*
PRM vs. Control	37.6*
TRM vs. Control	13.08*

Column Means	
Comparisons	Scheffe F-Test
Fall vs. Winter	.07
Winter vs. Spring	.03
Fall vs. Spring	.01

*Significant at 95%

APPENDIX D - SUMMARY OF PARENT SATISFACTION DATA TO OPEN-ENDED QUESTIONS

Summary of Parent Responses

5. What was your reaction to working in the classroom? Did you feel comfortable with your assigned responsibilities? Do you think you need more training?
- I felt very comfortable, under the direction of the teacher. I don't feel more training is necessary (H).
 - I thoroughly enjoy working in the classroom; Brooki makes me feel very useful (NH).
 - I did music and had a great time. Wish I had time to help out more (NH).
6. What things did you like about the CHIPP program?
- It gave my daughter a good chance to associate with handicapped children. I think that it is a good exposure, especially since little brother has a handicap too. This way, they can interact with them and know it's okay and help them realize everyone is different and individual (NH).
 - They teach social interaction, behavior-rules and respect of rules, writing, etc., field trips. (He has learned that kids are kids and friends, whether they have handicaps or not (NH).
 - It teaches them how to act with handicapped children (NH).
 - Wide spectrum of learning opportunities. Exposure at a young age to all kinds of children (NH).
7. What specific concerns, if any, did you have about mainstreaming before your child started in the program? Did these things happen?
- We are very happy with our child's class (H).
 - More emphasis on creativity, less testing - I think it is impossible to give stress-free tests, especially to some children (NH).
 - Maybe more interaction with the staff to help with my child's schooling. This is more my fault than programs though (H).
 - This seems to be a really good program. I've not studied it well enough to answer (H).
8. What things would you like to change about the CHIPP program?
- I was concerned that bad behavior would be a problem. There has not been anything that he wouldn't have thought of anyway (no problem) (H).

- Worried he wouldn't be able to communicate and interact with other children. No, I am very pleased (H).
- I thought perhaps the nonhandicapped children would be ignored. This was not the case (NH).
- None. I believe my child adjusted to the program rapidly, which alleviated any concerns I had towards it. However, more attention is paid to the handicapped children (NH).

Appendix E - SUMMARY OF PARTICIPANT SATISFACTION WITH WEEK-LONG WORKSHOP

Mainstreaming Workshop Evaluation - Overall

Date of Workshop: June 8-12, 1987

1. I rate my degree of interest in this workshop as:

Low	0%	5%	10%	26%	58%	High
-----	----	----	-----	-----	-----	------

2. I rate the value I received from the workshop as:

Low	0%	10%	15%	22%	53%	High
-----	----	-----	-----	-----	-----	------

3. I rate the clarity of the goals of the workshop as:

Low	5%	0%	0%	22%	73%	High
-----	----	----	----	-----	-----	------

4. The degree to which the goals of the workshop were met was:

Low	0%	5%	0%	22%	73%	High
-----	----	----	----	-----	-----	------

5. I rate the quality of the staff's attitude toward the audience as:

Low	0%	0%	5%	32%	63%	High
-----	----	----	----	-----	-----	------

6. I rate the sufficiency of audio and visual materials as:

Low	0%	0%	5%	26%	69%	High
-----	----	----	----	-----	-----	------

7. Enough references were made available (handouts) to enable me to obtain more information, if desired.

Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
0%	0%	0%	15%	85%

8. Work assignments should have been made prior to arrival at the workshop.

Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
5%	51%	22%	11%	11%

9. A follow-up of the workshop should be conducted.

Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
0%	5%	62%	28%	5%

10. I would attend another workshop offered by the FMS or VSSM projects.

Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
0%	11%	11%	39%	39%

11. The pacing of the workshop was appropriate.

Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
5%	11%	5%	51%	28%

12. List two best things about the workshop.

- Peer tutoring
- Many facilitators
- Information dispensed
- Enjoyed group work
- People were interesting
- Sharing materials
- Several viewpoints expressed in organized manner
- Great socials
- Materials
- Teacher evaluation list
- Pacing
- Group involvement
- Staff input
- Answer sessions
- Handouts
- Wide range of topics
- Organization
- Informative, clear
- Practical use
- Objectives
- Buddies, peer tutoring
- Hill Walker's presentation
- Steve Kukic's presentation

13. List two areas that could be improved in future workshops.

- Bring in more participants (i.e., buddies, tutors, teachers, etc.)
- Groups should have been made by severity - groups too divergent
- Guests needed to speak to "whole" group rather than "Utah" audience

- Need more regular teacher input
 - Like to know more history of how this all came about
 - Need more "how to" demonstrations of what to expect of children and teachers in their mainstream setting
 - Needed to discuss preschool program
 - Clarity of reasons for presentors
 - Less bias towards Special Ed (consideration of Regular Ed)
 - More audio-visual examples
 - Viewing mainstreaming in action
 - More guest speakers
 - The use of "OK" by staff is overused
 - Get rid of sessions not related to mainstreaming (i.e., stress, etc.)
 - Faster pace needed
 - Gear less to severe and profound handicaps
14. Comments and recommendations will be most appreciated.
- Groups not formed correctly
 - Direct instruction was put down
 - Relax - don't be too serious
 - Consider ULRC's Achieving Inservice Competency package
 - Didn't address mild handicaps
 - Enjoyed enthusiasm of instructors
 - Appreciated all literature disseminated
 - Enjoyed peer tutoring and buddy system portions of workshop
 - Excellent workshop
 - Well designed
 - Very informative
 - Great!
 - Enjoyed variety of instructors