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ABSTRACT

This final report discusses the Social Integration Project (SIP), designed to systematically integrate young handicapped children academically and socially into existing early education programs. Four goals were set forth: (1) placing handicapped children into local mainstream day care centers; (2) installing a comprehensive program and curriculum reflecting empirically based programing practices; (3) developing a social interaction curriculum to teach interaction between handicapped and nonhandicapped children; and (4) preparing a home training component. Efforts are reported for each of three years: for year one, model development and feasibility analyses; for year two, replication and evaluation; and for year three, continued service, component replication, and dissemination. Data are presented for child progress, parent satisfaction, and peer acceptance of handicapped children. Interpretation of the data suggests that mainstream day care centers can be a viable service setting for preschoolers with a variety of handicapping conditions. The bulk of the document consists of appendices that include: (1) the SIP brochure; (2) "Evaluation of a Mainstream Model Serving Handicapped Children in Day Care Centers"; (3) "A Naturalistic Study of the Relation between Setting Events and Peer Interaction in Four Activity Contexts"; (4) a list of advisory committee members; (5) Inservice Training Program for Mainstream Teachers--Positive Teacher Attitudes and Child Outcome"; (6) replication data; and (7) dissemination summary (including the questionnaires used). (CL)

FINAL REPORT

A Social Integration Model

For Young Handicapped Children

Project Director - Joseph J. Stowitschek

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Project Coordinator - Sarah Rule

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Project Teacher - Karen Swezey

Handicapped Children Early Education
Programs Grant No. OEG 008100249

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Outreach Development and Dissemination
Developmental Center for Handicapped Persons

Part I - PROJECT IDENTIFICATION

All grantees are required to complete Part I of the Performance Report.

Date of Report:	Grant Number:	Period of Report:
October 15, 1984	G008100249	From: 08/01/81 To: 08/31/84

Grantee Name and Descriptive Title of Project:

Utah State University, Exceptional Child Center, Outreach and Development Division
A Social Integration Model for Young Handicapped Children (Social Integration Project)

CERTIFICATION: I certify that to the best of my knowledge and belief this report (consisting of this and subsequent pages and attachments) is correct and complete in all respects, except as may be specifically noted herein.

Typed Name of Project Director(s) or Principal Investigator(s):	Signature of Project Director(s) or Principal Investigator(s):
Joseph J. Stowitschek	Joseph J. Stowitschek

PART II - PROJECT SUMMARY

All grantees are required to complete Part II of the Performance Report.

All grantees are to compare (in a narrative format) actual accomplishments over the grant award period to objectives contained in the originally approved grant application and, when appropriate, subsequently approved continuation applications. In addition to discussing project/program accomplishments and milestones, grantees should discuss slippages in attainment of program objectives and target dates and reasons for slippages where any differences occurred between originally stated objectives and the actual outcome of activities. This includes any failure to carry out all funded activities. When the output of the grant can be readily quantified, such data should be included -- and related to cost data for the computation of unit costs. When appropriate, utilize quantitative projections, data collected, criteria, and methodologies used to evaluate project/program accomplishments. Discuss reports made by or to professional journals, other publications, and professional conferences.

Grantees are also encouraged to highlight those phases, strategies, or products of their project/program which proved most successful.

Further monies may be withheld under these programs unless this report is completed and filed according to existing law and regulations (34 CFR Part 300).

Acknowledgements

The staff of the Social Integration Project included Joseph J. Stowitschek, Principal Investigator; Sebastian Striefel and Craig Boswell, Co-principal Investigators; Sarah Rule, Coordinator; Karen Swezey and John Killoran, Teachers; Mark Innocenti, Liaison; and Laura Czjakowski, Graduate Assistant. The staff would like to thank the following persons for their contributions to the project: LaNae Bangerter, JoAnn Housley, and Ann McMurtry, secretaries; Rebecca Boswell, Day Care Director; Day care managers Paula Regan, Flora Wall, and Nina Boswell.

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Exceptional Child Center Director Marvin Fifield and Nancy Yonk, Administrative Assistant.

Table of Contents

List of Tables

List of Figures

List of Appendices

A - Social Integration Project Brochure

B - Rule, S., Stowitschek, J.J., Innocenti, M., Striefel, S., Killoran, J., Boswell, C., & Swezey, K. (1984). Evaluation of a mainstream model serving handicapped children in day care centers. Manuscript submitted for publication.

C - Innocenti, M., Stowitschek, J.J., Rule, S., Killoran, J., Striefel, S., and Boswell, C. (1984). A naturalistic study of the relationship between preschool setting events and peer interaction in four activity contexts. Unpublished manuscript.

D - Advisory Committee Members

E - Rule, S., Killoran, J., Stowitschek, J.J., Innocenti, M., Striefel, S., & Boswell, C. (1983). Relationships between teacher attitudes toward mainstreaming and special education support. Manuscript submitted for publication.

F - Replication Data and Instruments

G - Dissemination Summary

Final Report - Draft

The mission of the "Social Integration Model for Young Handicapped Children" (hereafter referred to as the Social Integration Project or SIP) was to build an economical and effective model to systematically integrate young handicapped children academically and socially into existing early education programs. Educational practices already demonstrated to be effective were incorporated into the model; development efforts were concentrated upon four goals:

(1) Placing handicapped children into local mainstream day care centers;

(2) Installing a comprehensive program and curriculum reflecting empirically-based programming practices;

(3) Developing and embedding a social interaction curriculum and teaching procedures to promote sustained and generalized social interaction between handicapped and nonhandicapped children; and

(4) Preparing and implementing a home training component corresponding to the classroom social interaction curriculum to allow handicapped children's parents, siblings and/or peers to act as teachers and confederates in social skills development.

Model developers assumed that: (a) day care staff could serve as primary teachers for handicapped as well as normally developing children; (b) children's development would be improved through early intervention services; (c) the model services could be as effective as other services for handicapped preschoolers; and (d) services would be less expensive than self-contained services. To evaluate whether or not these assumptions were warranted, it was necessary to provide mainstream services, to evaluate the progress of children served, to compare results of the model with results of other services, and to document costs of service. The results of these evaluations are described in the body of this report and in the appendiced manuscripts.

To accomplish project goals, it was necessary to first, overcome initial

resistance of day care teachers to mainstreaming; second, to locate referral sources for a type of service not previously available in the state; third, to work carefully with existing service providers and state agencies to keep them abreast of model services and accomplishments without threatening existing services; and fourth, to work closely with families of children served to address their changing needs. The appendiced reports and manuscripts describe how some of these problems were addressed.

During the three successive project years, activities to achieve project goals were organized as follows: (a) Year One activities were directed toward finding, assessing and placing children in a day care center and formulating and testing model components. (b) Year Two activities included continued model operation, model replication in a second site and a comparative evaluation of model effects with effects of alternative services. (c) Year Three activities concerned continued service to children, dissemination of information about the model, replication of components in different types of service delivery settings and securing support to continue services after the expiration of federal funding. These activities and the results are briefly described by project year. More complete descriptions are found in various appendiced items referenced in the text.

Year One - Model Development and Feasibility Analyses

A four component model was developed in the first year based upon the premise that regular classroom teachers would be the primary agents for service delivery (see brochure in Appendix A). Model components were: (a) special education services, (b) basic skill development, (c) social skill development and (d) home support. Brief descriptions of components, including instructional procedures (e.g., incidental teaching, microsessions), teacher training procedures, and a social skills curriculum follow.

Special Education Component

Child find, screening and assessment. During Year One, the SIP model operated in the Ogden site of Developmental Day Schools, Inc., a nonprofit day care corporation. Children were referred primarily by Handicapped Children's Services in Ogden, the social worker for the Weber-Morgan Social Services District of the Utah Department of Social Services and by word of mouth. Children were screened by the project special education teacher using criteria developed by Striefel described in the Basic Skills Teaching Manual (Stowitschek, J.J.; Striefel, S.; Boswell, C.; Rule, S.; Killoran, J.; & Innocenti, M.; 1982, available from Outreach and Development Division, Developmental Center for Handicapped Persons, Utah State University, Logan, Utah). A draft version of the now-published Program Planning and Assessment Guide for Developmentally Disabled and Preschool Youngsters (Striefel and Cadez, 1983) was used for criterion-referenced assessment. Depending upon the child's developmental level, normative evaluation included one of the following instruments: Bayley Scales of Infant Development (Bayley, 1969); Stanford Binet Intelligence Scale (Merrill, 1973); or the McCarthy Scale of Children's Abilities (McCarthy, 1972). To be eligible for project funding, it was necessary that children meet the state of Utah's Developmental Disability/ Mental Retardation Policy Manual (1980) specifying that children have significant delays (interpreted as a year or more) "in three or more of the following areas:

1. self-care
2. receptive and expressive language
3. learning
4. mobility
5. self-direction
6. capacity for independent living
7. economic self sufficiency."

IEP development and classroom management. Children's individual educational plans (IEPs) were based on assessment results and parent input. The project teacher derived objectives from the Program Planning Assessment Guide for Developmentally Disabled Preschool Children (Striefel and Cadez, 1983). Project staff assisted regular classroom teachers with management through workshops and in-classroom consultation.

Support services. Services which required specialists (occupational therapy, speech or psychological services) were provided on a consultant basis. As dictated by children's needs, specialists helped to develop programs delivered by the special educator or regular classroom teachers.

Basic Skills Component

The basic skills component used the Program Planning and Assessment Guide as the basic curriculum for developing children's motor, language, self help, and preacademic skills. The special educator designed or located supplemental programs as necessary. Most services were delivered by regular classroom teachers, always according to the childrens IEPs. Objectives were addressed in one of three ways: (1) total integration--that is, regular classroom activities, (2) incidental teaching--teaching a skill at the time it would normally be used or (3) through microsessions (Stowitschek & Killoran, 1983)--systematic instructional sequences directed toward single IEP objectives, which served both instructional purposes for children and training purposes for staff; the special educator taught the regular classroom teachers to use instructional programs through microsession transfer procedures each time a new objective was addressed in children's programs. These educational services are described in more detail in "Evaluation of a Mainstream Model Serving Handicapped Children in Day Care Centers" (Rule, Stowitschek, Innocenti, Striefel, Killoran, Boswell, & Swezey, 1984, pp. 4-5) in Appendix B.

Social Skills Component

The basic skills component required that teacher training procedures and instructional formats be designed to incorporate existing instructional materials into the day care curriculum. However, no comprehensive social skills program could be found to address social skills. While the Social Competence Intervention Package for Preschool Youngsters (Day, Powell, & Stowitschek, 1980) was used to address social skills during free play periods, a curriculum designed to encourage interaction of handicapped children and their peers throughout the day remained to be developed.

Before beginning curriculum development, two studies were conducted to assess the need for such a curriculum and to test a suitable teaching format to encourage social skill instruction in the classroom. The first study "A Naturalistic Study of the Relation Between Preschool Setting Events and Peer Interaction in Four Activity Contexts" (Innocenti, Stowitschek, Rule, Killoran, Striefel, & Boswell, 1984) was a study of the effects of various contexts (teacher presence, materials, type of activity) as they relate to interaction. A total of 53 normally developing children enrolled in six different preschools in Logan and Ogden, Utah participated. Results of the study indicated that most interaction between preschoolers was positive with rare occurrence of negative interaction, that teacher presence inhibited social interaction in all settings and that teachers engaged in virtually no prompting and praising of social interaction between children (although they contacted low interacting children more often than high interacting children). Children's levels of interaction were consistent across contexts, that is a child who seldom interacted in one activity (such as freeplay) seldom interacted during other activities (snack, teacher-directed activity). A complete description of the study and results is included in Appendix C.

Because it appeared that specific teaching procedures would have to be signed and implemented if teachers were to encourage social interaction

among preschoolers, a second study was undertaken to investigate the feasibility of coincidental teaching--the use of prompting, praising and environmental rearrangement to encourage social interaction in the context of regularly scheduled activities. Teachers were given specific instruction for rearranging the environment during activities such as math and snack, and were instructed to prompt and praise social interaction. These changes in teacher behavior and environment resulted in an increase in child-child interaction. No detrimental effects on academic skill acquisition were found. The study (Stowitschek, J.J., Czjakowski, L., Striefel, S., & Boswell, C. Systematic programming of social skills through co-incidental teaching) and data are available from the Outreach and Developmental Division, Developmental Center for Handicapped Persons, Utah State University, Logan, Utah.

A 26-unit curriculum Let's Be Social was developed (Killoran, Rule, Stowitschek, Innocenti, Striefel, & Boswell, 1982; Stowitschek, Killoran, Rule, Innocenti, Striefel, & Boswell, 1982). It addressed skills such as sharing, assisting, asking for clarification and ignoring teasing. Three types of teaching activities were included: (1) Warm-up sessions--group lessons incorporating modeling, discussion, and discrimination training; (2) coincidental teaching--using naturally occurring opportunities to prompt and praise use of a skill (for example, having two children carry trays of food to the table at snack time) and (3) microsessions--intensive skill development sessions for children who did not exhibit skills after warm-up participation. The curriculum is available through the Outreach and Developmental Division, Developmental Center for Handicapped Persons, Utah State University, Logan, Utah, 84322.

Home Support

Home support during the first year of the project included both formal and informal meetings with parents. Meeting topics concerned IEP development, placements in the public school system and child management.

Results of the First Year Activities

Children Served. Table 1 describes the 11 children served during the first year of the project, their handicaps, chronological and mental ages at entry, IQ or General Cognitive Index (McCarthy, 1972) and sources of funding. Children were served in four different classrooms in the Ogden school. They were placed with children of similar developmental rather than chronological ages to enhance the probability that ongoing classroom activities would be appropriate to their developmental level and that they would engage in social activities with their classmates. No more than three handicapped children were placed in one classroom and the overall ratio of handicapped to nonhandicapped children at the school did not exceed 1 to 10.

TABLE 1

Description of Children Served During Project Year One

Number of Children by Handicapping Condition (Using Utah Office of Education Guidelines)	Chronological Age Range (years - months)	Mental Age Range (years-months)	IQ or GCI[a] Range	Funding Source
Severe Intellectual Handicap n = 3	3-5 to 4-7	1-5 to 3-0	<50 (all)	SIP = 1 nonproject = 2
Severe Intellectual Handicap and Hearing Impaired n = 1	4-5	2-2	<50	SIP
Severe Multiple Handicap n = 1	4-6	1-6	<50	SIP
Intellectual Handicap n = 4	3-1 to 5-3	2-6 to 4-0	50 to 81	SIP = 3 nonproject = 1
Communication Disordered n = 2	3-10 to 4-2	3-0 to 3-6	73 to 78	SIP = 1 nonproject = 1

[a]General Cognitive Index from McCarthy Scales

Child progress. Table 2 shows the percent of IEP short term objectives mastered by children served during Year One. A total of 368 objectives were attempted to be taught and 75% were met.

TABLE 2

Percent of IEP Objectives Met by Skill Area

Area	SIP Funded Children	Other Handicapped Children	Objectives Met By All Children
DISTAR Arithmetic	100%	56%	78% (25 of 32)
DISTAR Reading	77%	75%	76% (23 of 30)
Dressing	82%	60%	76% (30 of 39)
Social Language	85%	77%	84% (37 of 44)
Fine Motor	86%	76%	82% (23 of 28)
Expressive Language	51%	83%	56% (23 of 41)
DISTAR Language	67%	61%	66% (44 of 66)
Functional Math	91%	--	91% (21 of 23)
Social	75%	100%	78% (18 of 23)
Attending Skills	80%	--	80% (21 of 26)
Gross Motor	100%	--	100% (3 of 3)
Personal Hygiene	50%	--	50% (3 of 6)
Toileting	71%	--	71% (5 of 7)

Table 3 shows the results of normative testing of the seven children enrolled for a sufficient length of time to administer pre-post tests. They were enrolled for a mean of 6.9 months (range 4 to 8 months) and showed a mean gain in mental age of 11.7 months.

TABLE 3

Pre-post Gain of Enrolled Children (in months)
On McCarthy or Bayley Scales

	Mean (Months)	Range
Overall gain in Mental Age[1] (n = 7)	11.7	3 months - 2 years
Subscales (n = 6)		
Verbal	12.3	6 months - 2 years
Perceptual	11.5	6 months - 2.5 years
Quantitative	7.9	0 months - 1 year
Memory	8.8	6 months - 1.5 years
Motor	8.8	0 months - 1.5 years

[1]Includes one child assessed with Bayley Scales

Parent satisfaction. Five of the eleven families of children served returned a questionnaire regarding parental satisfaction with the program. The results are shown in Table 4. The low rate of return was attributed: (a) to the fact that the questionnaire was sent during the summer when several families had moved or were on vacation and (b) the reading level of the questionnaire was difficult for some families.

TABLE 4

Summary of Ratings on the Parent Satisfaction Questionnaire

Question	How would you rate your impressions of the educational programming provided to your child by the SIP staff?				
Rating Scale	Excellent	Good	Average	Fair	Poor
Number of Responses	4	1	0	0	0

Question	Rate the quality of your child's Individual Education Plan (IEP.				
Rating Scale	Excellent	Good	Average	Fair	Poor
Number of Responses	4	1	0	0	0

Question	Did you feel you had adequate input into your child's IEP?				
Rating Scale	Highly Adequate	Quite Adequate	Average	Less than Adequate	Not at all Adequate
Number of Responses	1	4	0	0	0

Question	Rate the adequacy of information provided to you on the results of your child's evaluation (testing).				
Rating Scale	Very Clear	Somewhat Clear	Needed More Information	Not Clear	No Information Provided
Number of Responses	5	0	0	0	0

Question	How would you rate your interactions with SIP staff?				
Rating Scale	Excellent	Good	Average	Fair	Poor
Number of Responses	3	2	0	0	0

Placement of children. Six children graduated into the public schools. Two were placed in self-contained special education classrooms and remain in these placements. One was placed in an alternative kindergarten and offered a mainstream first grade placement. Her parents, however, chose a self-contained classroom and she will remain there during second grade. Three children were placed in mainstream classrooms. They remained there through the first grade. Two of the three will attend mainstream second grades and one family has moved and cannot be located.

Teacher evaluations. Teachers evaluated training workshops conducted during the program's first year. On Likert-type scales ranging from 1(low) to 5(high), median ratings ranged from 3 to 5. Overall median ratings for the last workshop held in the spring were 4.5 for "interest" and 4.5 for "value of presentation".

Advisory Committee. The Advisory Committee met quarterly to address model development and funding strategies for one site during the third year of program operation. A list of Committee members is included in Appendix D.

Year Two--Replication and Evaluation

During Project Year Two the model program was continued in Ogden and replicated at the Developmental Day School in Layton, Utah. A single special educator served both sites.

Component Development

The home support model component was further developed through the addition of a 26 unit Let's Be Social home curriculum (Innocenti, Rule, Stowitschek, Striefel, & Boswell, 1983; Innocenti, Rule, Killoran, Stowitschek, Striefel, & Boswell, 1982) to accompany the school program. It was designed to enhance the probability of social skill generalization across persons and settings. Three types of teaching activities were included: (1) home lessons--discussion of school lessons; (2) coincidental teaching--

prompting and praising use of skills during naturally-occurring opportunities in home and community and (3) home rehearsals--skill role plays.

A total of 16 parents participated in a workshop and/or home training. Let's Be Social was used by 14 families. They reported that coincidental teaching was the most frequently used teaching activity. The range of reported length of use of the curriculum was 13 to 17 weeks.

Parents were asked to rate the curriculum on a 10 item Likert-type scale. Seven parents returned the questionnaire. Their mean rating of the benefit of Let's Be Social to their child was 1.7 (1 = very beneficial, 2 = beneficial). Only four parents rated the benefits to siblings; their mean rating was 2.3 (2 = beneficial, 3 = did little good). Mean ratings of the home contracts and follow-up telephone call system were both 2 (somewhat helpful). Home training visits received a mean rating of 1.8 (1 = very useful, 2 = somewhat useful) and group training sessions received a mean rating of 2 ("adequate"). All comments on open ended questions ("general comments", "which lessons did you like best") were favorable. One parent wrote "Don't change any of it. I think it is an excellent program." Another liked the coincidental teaching technique, writing that it was "easy to implement, really takes no extra effort to perform once you are aware . . ." Only two parents responded to the question "which lessons did you like the least?" One found the first lesson too easy for the child; another felt one unit was redundant.

Children served. Table 5 shows the handicaps of the children served, their mental and chronological ages at program entry, IQ and funding source. Three children did not meet guidelines of handicaps in three or more areas of functioning. Two are not included in comparative or pre-post evaluation of the model because their intelligence test scores were in the normal range.

TABLE 5

Description of Children Served During Project Year Two

Number of Children by Handicapping Condition (Using Utah Office of Education Guidelines)	Chronological Age Range (years-months)	Mental Age Range (years-months)	IQ or GCI[a] Range	Funding Source
Severe Intellectual Handicap n = 1	3-5	1-5	<50	SIP
Severe Intellectual Handicap and Hearing Impaired n = 2	4-10 to 4-11	2-3 to 2-8	<50 (both)	SIP (both)
Severe Multiple Handicap n = 2	4-2 to 4-8	1-8 to 3-0	52 to <80	SIP (both)
Intellectual Handicap n = 7	2-10 to 4-10	1-8 to 4-0	56 to 80	SIP = 3 Nonproject = 4
Communication Disordered[b] n = 4	3-11 to 5-0	3-6 to 4-6	68 to 94	SIP = 2 Nonproject = 2
Behavior Disordered[c] n = 1	4-11	5-6	110	Nonproject

[a]General Cognitive Index from McCarthy Scales of Children's Abilities

[b]Two children handicapped in only one area; did not meet criteria of handicaps in three or more areas; one child not included in comparative model evaluation or results that follow because IQ in normal range.

[c]Not included in comparative model evaluation or pre-posttest results that follow because intelligence score in normal range.

Model Evaluation

IEP objectives mastered. Participating children received a weekly average of 14 individual instructional sessions in addition to total integration activity directed toward IEP objectives. Figure 1 shows IEP objectives mastered by the 16 children who had IEP's; they are grouped by skill area. A

total of 83% or 610 of the 733 objectives attempted were mastered. The fewest objectives mastered were in the areas of reading and math--areas often not addressed at all in preschools.

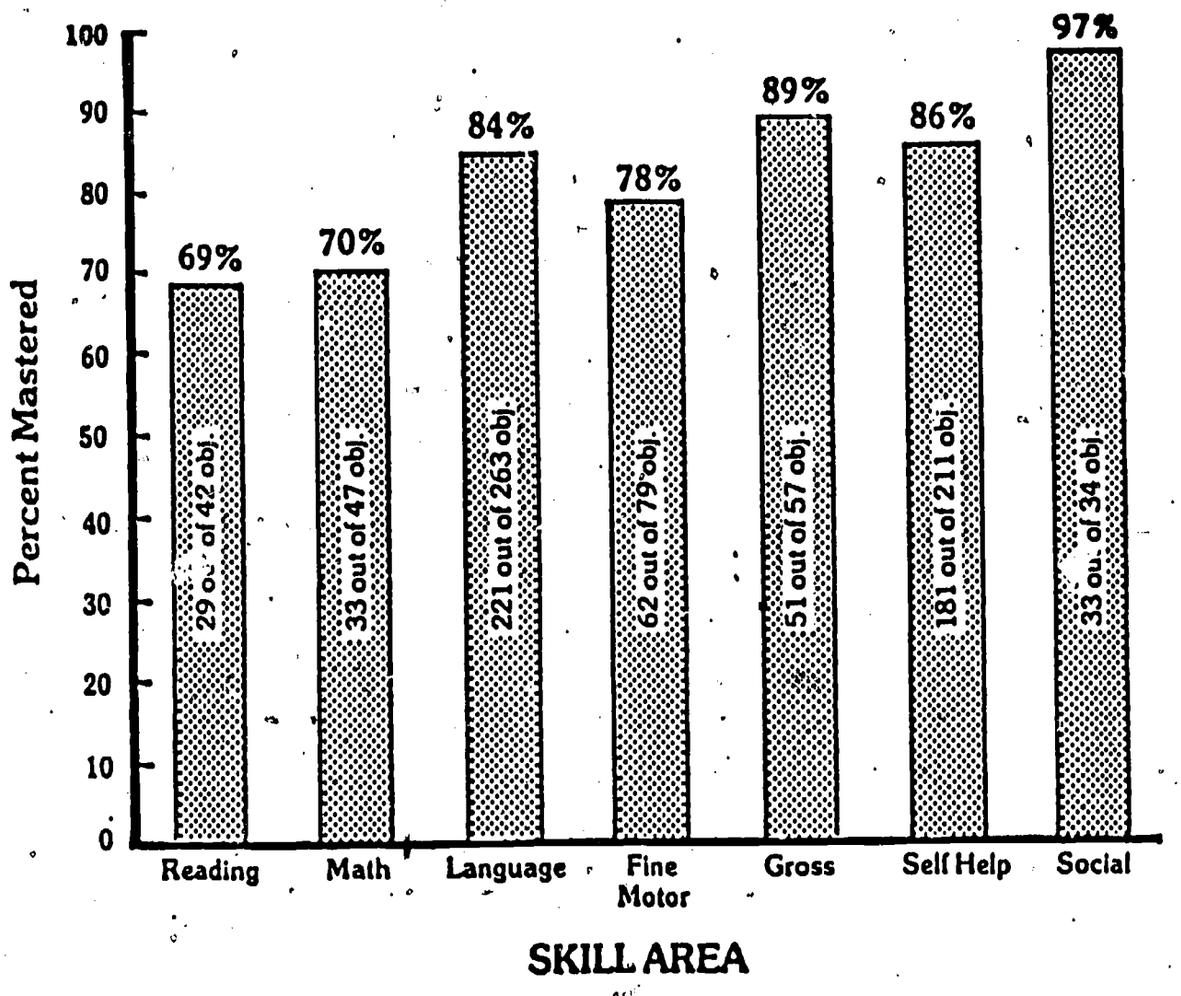

Figure 1. IEP Objectives Mastered During Project Year Two

Pre-posttest changes. Normative tests yielding mental age or equivalent scores were administered to children at the beginning and end of the school year. They included the McCarthy Scales of Children's Intelligence (McCarthy, 1972), the Bayley Scales of Infant Development (Bayley, 1969), the Stanford Binet Intelligence Scale (Merrill, 1973), the Hiskey-Nebraska Test of Learning Aptitude (Hiskey, 1966) and the Slosson Intelligence Test (Slosson, 1982). A t-test for dependent measures indicated that there was a statistically significant difference (in the direction of increase) in children's mental age scores between the beginning and end of the year ($t = -3.76$; $p < .002$; pretest

mean = 34.5; posttest mean = 40.9).

Children's combined scores in the receptive language, reading and fine motor areas on a criterion-referenced test derived from the Program Planning and Assessment Guide (Striefel and Cadez, 1983) also improved from pre to posttesting. The t-test for dependent measures indicated a statistically significant difference ($t = -3.65$; $p < .003$; pretest mean = 38.1; posttest mean = 47.7).

Placement of children. Eight children graduated from the model program during the second year. One was placed in a self-contained special education classroom and will remain there next year. Two were placed in alternative kindergartens. One will go to a self-contained first grade and one will spend half days in a mainstream first grade and half days in a self-contained classroom. Five were placed in mainstream classrooms. Four will remain in mainstream classrooms during the first grade and one family cannot be located.

Comparative Evaluation

To determine whether model services were comparable to locally available alternative services for handicapped preschoolers, SIP children were compared to three other groups of children: (1) handicapped children served in self-contained classrooms; (2) handicapped children integrated into Head Start classrooms and (3) normally developing children served by another day care center. Multiple measures were used for comparisons: (a) the normative tests described under "pre-posttest changes"; (b) the criterion-referenced test described under "pre-posttest changes"; (c) the California Preschool Social Competency Scale (Levine, Elzy, & Lewis, 1969) completed by teachers and parents; and (d) direct observation of teacher-child social interaction and child-child social interaction during free play and teacher-directed classroom activity. The evaluation designs, methodology, and detailed results are included in Appendix B, (Rule et al., 1984). The evaluation indicated that

the model was as effective in producing educational, mental-age and social changes as other services for handicapped children. There was no statistically significant difference in posttest scores between normally developing children and SIP children on mental age, social skill ratings by parents, interaction with peers during freeplay, or interactions with adults. However, there were significant differences between the two groups on the criterion-referenced test, social skill ratings by teacher and child-child interaction during teacher-directed activity. Normally developing children had higher scores (or amounts of interaction) in each case. The evaluation indicated, then, that although the model did not "cure" children's handicaps in the sense of making children comparable to nonhandicapped children in all areas of development, it was effective as more intensive self-contained services for handicapped children and as successful as other integrated programs.

Other Indicants of Model Effects

Teacher attitudes. Teachers were asked to rate their experiences with the model. Twenty of the thirty teachers who had participated in the model over a two year period could be located at the end of Year Two. All ratings were positive. Although 19 of 20 teachers indicated that teaching handicapped children was "more work" than teaching nonhandicapped children, 19 of 20 said they would recommend to other day care teachers that handicapped children be integrated into their programs. All felt that integration had benefitted both handicapped and nonhandicapped children. Eighteen said the training received had helped their teaching skills with both handicapped and nonhandicapped children. A complete description of the survey and results is located in Appendix E (Rule, Killoran, Stowitschek, Innocenti, Striefel, & Boswell, 1983).

Teacher implementation. To assess whether or not teachers used the teaching techniques prescribed by model staff, videotapes of teaching situations were made prior to training, at the middle of the year, and at the end

of the year: Five-minute episodes were taped in the following situations: (a) one-to-one instruction (2 sessions with different children); (b) small group instruction with 5 to 9 children (two episodes with different content); and (c) free play. Teachers selected their own lesson content and the children to teach, except that one or more handicapped children were included in the mid- and end-of-year tapes. Nine teachers participated at three points in time and six additional teachers who were hired during the year participated in the mid and end-of-year taping.

Six different teacher behaviors were observed. Three were desired teacher behaviors: (1) task stimuli--directions or questions to elicit task oriented behavior, such as "Find the green circles" or "Share your toy with Mikey" (free play only); (2) praise; (3) prompts--assisting a child who did not respond or made a error in making a correct response. Two were undesirable behaviors--(1) task related talk--talking about the task activity but not allowing the child to respond; (2) irrelevant talk--talk that had nothing to do with the activity at hand. The final category was commands concerning inappropriate behavior (e.g., "You need to stay in your chair").

Tapes were scored by observers trained to a criterion of 80% or better agreement on 4 out of 5 consecutive scored episodes. Reliability checks (independent scoring by 2 observers) were made on 21 one-to-one episodes. Mean percent agreement was 80, with a range of 63 to 96. Reliability checks were made on 6 group-instructional episodes. Mean percent agreement was 82 with a range from 76 to 88.

In general, the behaviors on the tapes were consistent with project teaching goals. Teachers were trained to give children many opportunities to respond (task stimuli), to praise correct responses and attempts to respond, and to minimize unnecessary talk (irrelevant or task-related talk). The most frequent teacher behavior during one-to-one and group instruction was giving task stimuli and the second most frequent was praise, indicating that teachers

gave children frequent opportunities to respond and praised children for responding. Task related behavior occurred in only 1/2 to 1/3 as many intervals as task stimuli. There was a negligible amount of irrelevant talk and behavior commands.

There was much variation across teachers in frequency of behaviors, but they tended to show consistent patterns, that is, praise, prompts and task-stimuli seemed to co-vary over time. Figure 2 shows two representative examples.

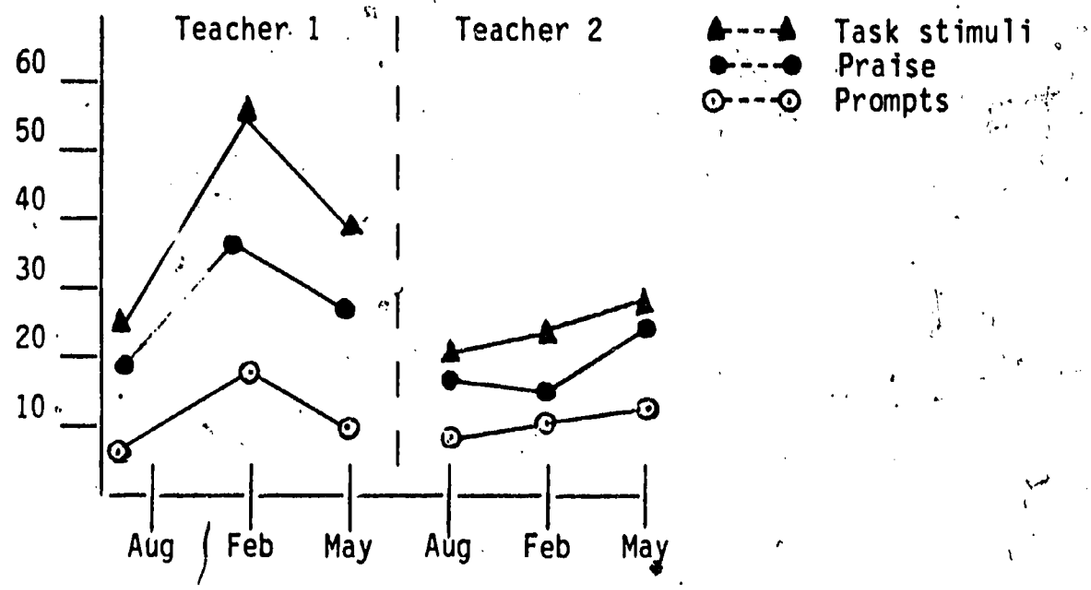

Figure 2. Number of intervals in which praise, task stimuli and prompts occurred over time in two teachers

During freeplay, teachers seldom directed or prompted children to interact. The highest frequency behavior during freeplay was talk that was unrelated to cooperative play.

Teachers behaved in similar ways toward handicapped and nonhandicapped children during one-to-one sessions though handicapped children were given more prompts. Handicapped children might be expected to need more assistance or individual tasks. One noticeable difference in lesson content, however, was observed. Teachers tended to focus instruction on fewer different types of tasks or skills when teaching handicapped children. For example, handicapped children might be asked to identify a numeral and count from 0 to the

numeral, while nonhandicapped children might also be asked to write the numeral, to match the numeral to a given number of objects, and to identify the color of the numeral within a lesson. Figure 3 shows the number of different tasks per 5-minute lesson for handicapped and nonhandicapped children. This difference was consistent with the content of microsession training in which teachers were instructed to address only one or two tasks during a lesson when teaching handicapped children.

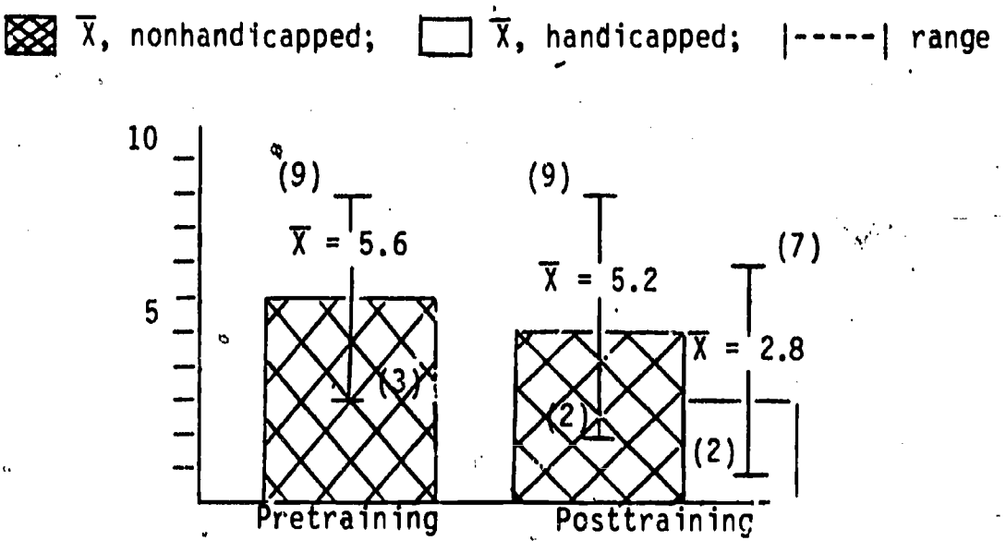

Figure 3. Mean number and range of different types of tasks required of handicapped and nonhandicapped children within a lesson

Parent satisfaction. Parents were asked to complete Likert-type scales regarding their satisfaction with the SIP model services as a whole. The questions and responses of the 8 families who completed the questionnaire are summarized in Table 6.

TABLE 6

Responses to Parent Satisfaction Questionnaire
Project Year Two

Question	Excellent	Good	Average	Fair	Poor
How would you rate services provided?	f* = 6	f = 2	0	0	0
Programming provided by SIP staff	f = 4	f = 4	0	0	0
Quality of IEP	f = 6	f = 1	0	1	0
Did you have adequate input into IEP?	f = 5	f = 1	f = 2	0	0
Interactions with SIP staff	f = 6	f = 1	f = 1	0	0

Given what you now know about SIP and the Day School, circle one:	Glad my child in program	Would have preferred self-contained contained classroom	Would have preferred preschool without special service	Don't know or don't wish to answer
	f = 8	0	0	0

*Families responding

Four open ended questions were included. Sample responses to "what did you like about the SIP program" included two parents who liked integration with normal children, two who liked the individual help given children in areas of their own need and one parent who liked "how much happier he [their son] has become with himself."

Only one parent responded to the question "what things did you dislike about the SIP program" and requested that teachers be given more background in working with handicapped children, for example in using sign language.

Responses to why parents chose SIP ranged from two who were referred by other persons or programs to three who favored mainstreaming to one who had checked other alternatives and found SIP to be best for their needs. General comments included a recommendation that the social skills curriculum be used

in public school kindergartens, a comment that the child had been very happy in the program and a comment that more contact with teachers would facilitate concurrent teaching of skills at home.

Cost Data

Costs of the SIP program and time available to participants at the Day School were compared to costs of self-contained programs in Utah. The SIP model was both less expensive, costing $14.49 per child per day as compared to $18 to $25 per child per day in self-contained services, and available to families for longer periods of time. Most self-contained programs operated for 2 1/2 hours per day, while the Developmental Day School provided services for up to 12 hours per day. This comparison is presented graphically in Appendix A.

Advisory Committee

Quarterly meetings of the Advisory Committee were held. Topics concerned dissemination of information about the model and efforts to secure funding for the Ogden site for the third year of operation. A list of members is included in Appendix D.

Year Three - Continued Service, Component Replication and Dissemination

Model Service Delivery

The model was continued at the Layton Developmental Day School and expanded to include one child at the Riverdale Developmental Day School. The Ogden school provided day care services to several handicapped children enrolled in self-contained services for part of the day, but no formal model services was continued due to lack of funds. Children served in Layton and Riverdale are described in Table 7.

TABLE 7

Description of Children Served During Project Year Three

Number of Children by Handicapping Condition (Using Utah Office of Education guidelines)	Chronological Age Range (years-months)	Mental Age Range (years-months)	IQ or GCI[a] Range	Funding Source
Severe Intellectual Handicap n = 2	3-3 to 4-5	1-5 to 1-10	<50 (both)	SIP
Severe Intellectual Handicap and Hearing Impaired n = 2	5-6 to 6-1	2-8 to 3-8	36 to 52	SIP
Intellectual Handicap n = 6	3-6 to 5-6	2-4 to 4-3	53 to 74	SIP

[a]General Cognitive Index from McCarthy Scales

Two children transferred from the program after mid year--one at the parents' option and one because project staff felt the higher staff-to-student ratio in self-contained service would be appropriate for her.

All model components and services except for child find and Let's Be Social home training were continued as in previous years. Because the program had a waiting list, no child find efforts were conducted. Five families had already participated in Let's Be Social home training during Year Two and had the curriculum at home. Several newly enrolled children were too young developmentally to participate in the curriculum. Therefore, parent meetings concerned language development and other topics appropriate to the broadest range of families.

Child Progress

Data regarding child progress include nine children: six enrolled in the project from the beginning of the 83/84 school year, two enrolled in the project after January, 1984, and one enrolled in the project after January,

1984 who attended a day care center different from the model site. Progress data on two children who left the project at mid-year are not available.

IEP objectives mastered. IEP's were prepared for each child entered into the program and included seven areas of functioning: reading, math, language, fine motor skills, gross motor skills, self-help skills, and social skills. A total of 81% of the objectives attempted were mastered. Figure 4 presents data on IEP objectives mastered by skill area.

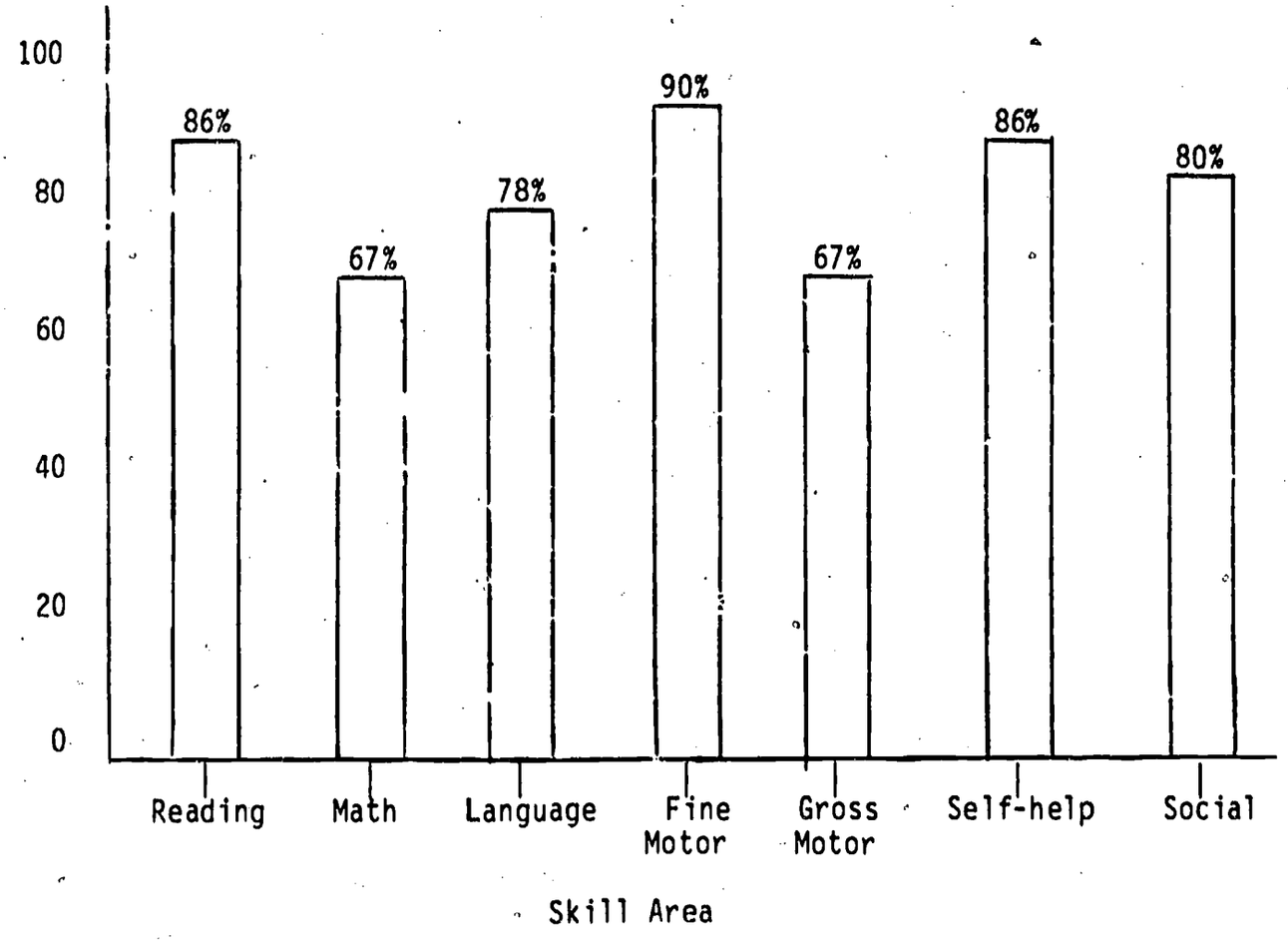

Figure 4. IEP Objectives Mastered During Project Year Three

Normative tests. Normative tests yielding mental age or developmental age equivalency estimates were administered. Four children were tested on the Stanford-Binet Intelligence Scale (Merrill, 1973), four on the McCarthy Scales of Children's Abilities (McCarthy, 1972), and one child received the Slosson Intelligence Test (Slosson, 1982) during pre-testing and the Stanford-Binet Intelligence Scale during post-testing. Individual child data from these

assessment instruments are presented in Table 8. The group made a mean gain of 8.5 months (range from 0 to 18 months) in a mean time between assessments of 6.2 months (range from 4 to 10 months). This represents a mean gain of 1.34 months (standard deviation of .92) in mental or developmental age per month. A t-test for dependent measures indicated that there was a statistically significant difference in children's mental age/developmental age scores between pre and post assessments ($t = 5.12$; $p = .001$).

Table 8

Data on Normative Tests Yielding a Mental Age or Developmental Age Equivalency for Each Child

Child	Test Administered	Pre-Mental Age or Developmental Age Equivalency	Post-Mental Age or Development Age Equivalency	Time from Pre to Post Assessment
1	Slosson[a]/Stanford-Binet[b]	1 year 10 months	2 years 9 months	10 months
2	Stanford-Binet	4 years 3 months	5 years 3 months	5 months
3	McCarthy[c]	3 years 0 months	3 years 6 months	4 months
4	McCarthy	3 years 6 months	5 years 0 months	10 months
5	McCarthy	2 years 4 months	2 years 6 months	5 months
6	Stanford-Binet	3 years 6 months	3 years 6 months	6 months
7	Stanford-Binet	2 years 11 months	3 years 5 months	5 months
8	Stanford-Binet	3 years 7 months	4 years 7 months	7 months
9	McCarthy	2 years 6 months	3 years 6 months	4 months

a = Slosson Intelligence Test; b = Stanford-Binet Intelligence Scale; c = McCarthy Scales of Children's Abilities

Normative tests which assess expressive language skills and language comprehension skills were administered to five Project children upon entering the program and at the end of the year. Four children were assessed using the Preschool Language Scale (Zimmerman, Steiner, & Pond, 1979). The other child was assessed using the Test for Auditory Comprehension of Language (Carrow, 1973), which provides information only on language comprehension skills. Each of these instruments provides a developmental age for the language skills assessed and is presented for each child in Table 9. Children enrolled in the project for a longer period of time (i.e., 6 or more months) tended to make better progress than those enrolled later in the school year. Whether this difference is due to amount of time programming was received or to other factors cannot be ascertained. Clearly, children can and do make substantial gains in language skills while enrolled in the Social Integration Project.

Table 9

Developmental Age on Normative Tests of Language Skills for Children Administered Pre-Post Language Assessments

Test Administered	Expressive Language		Language Comprehension		Time from Pre to Post Assessment
	Pre	Post	Pre	Post	
Preschool Language Scale (PLS)	2 years 3 months	2 years 4.5 months	2 years 3 months	2 years 1 month	4 months
PLS	2 years 10 months	3 years 0 months	4 years 0 months	4 years 1.5 months	3 months
PLS	1 year 9 months	3 years 0 months	2 years 3 months	3 years 1.5 months	7 months
PLS	2 years 5 months	4 years 3 months	3 years 9 months	4 years 6 months	7 months
Test for Auditory Comprehension of Language	___	___	3 years 5 months	5 years 11 months	6 months

Criterion-referenced measures. As in past years children were administered a criterion-referenced test derived from the Program Planning and Assessment Guide (Striefel and Cadez, 1983). Children were administered the following scales from the test: gross motor, fine motor, receptive language, expressive language, social language, eating, dressing, toileting, personal hygiene, writing, reading, math numeration, and social skills. Not all scales were administered to all children. Children were assessed with this instrument first, upon entry into SIP or at the beginning of Project Year Three, and second, in June, 1984. To determine if changes had occurred during the school year t-tests for dependent measures were conducted (a) for each scale separately, (b) for all scales combined (combined scale score, omitting children not receiving each scale), and (c) for a score based on the sum of all scales a child was administered (total scale score) (Table 10). Statistically significant changes (in the direction of improved scores from pre to posttesting) were found on all scales except the hygiene scale, on the combined scale score, and on the total scale score.

Table 10

Results of T-Test for Dependent Measures Conducted on Scores Obtained from the Criterion-Referenced Assessment

Scale	N	T Value	Probability Level
Total Scale	9	-5.43	0.001
Combined Scale	6	-3.87	0.012
Gross Motor	8	-3.33	0.013
Fine Motor	9	-5.82	<0.0005
Receptive Language	9	-3.61	0.007
Expressive Language	9	-3.21	0.012
Social Language	8	-4.08	0.005
Eating	8	-2.54	0.039
Dressing	8	-2.89	0.023
Toileting	8	-3.14	0.016
Hygiene	8	-2.08	0.076
Writing	9	-5.40	0.001
Reading	9	-4.23	0.003
Math Numeration	9	-2.57	0.033
Social	8	-2.88	0.024

Placement of children. Four children graduated from the model during the third year. One child will be placed in a self-contained special education classroom. Two children will enter a regular kindergarten placement. The fourth child will spend a half day in a regular kindergarten classroom and a half day in a self-contained special education classroom. One other child who could be eligible for kindergarten placement based on his age will remain with SIP for another year.

Parent Satisfaction

Parents were asked to complete a Likert-type scale regarding their satisfaction with the SIP model services. The questions and responses of the seven families who returned the questionnaire are summarized in Table 11. These responses indicate that, overall, parents were very satisfied with the services their child received and with their input into the educational process.

In addition to the Likert-type questions, four open ended questions were included. Sample responses to "what did you like about the SIP program" included two parents who commented on the availability and knowledge of the staff and their interest in children, two parents who enjoyed the individual attention they received, one who commented favorably on the mixing of different types of children [handicapped and nonhandicapped], and one parent who was happy with the progress their child had made and how the child had learned to make friends. In response to the question "what did you dislike about the SIP program" two parents were unhappy about the time the program was without a full-time teacher (due to personnel changes in the fall, 1983). One parent did not like the location and another commented on some teasing her child endured from other children. Another parent suggested more personnel be added so parents and staff could interact more often.

The responses to "why have you chosen the SIP program for your child" were primarily related to the special services provided. Two parents

commented on their childs' contact with normal [nonhandicapped] children and one of these parents stated that "my child does better academically and socially here [SIP] than in a handicapped setting". Other comments were related to the one on one attention received, giving the child a good head start into kindergarten, and that this program [SIP] has good references. General comments were few, and mainly related thanks to the SIP teacher.

Table 11

Responses to Parent Satisfaction Questionnaire
Project Year Three

Question	Excellent	Good	Average	Fair	Poor
How would you rate services provided?	5	2	0	0	0
Programming provided by SIP staff	4	3	0	0	0
Quality of IEP	4	3	0	0	0
Did you have adequate input into IEP?	3	4	0	0	0
Interactions with SIP staff	4	3	0	0	0

Given what you now know about SIP and the Day School, circle one:	Glad my child is in the program	Would have preferred self-contained contained classroom	Would have preferred preschool without special service	Don't know or don't wish to answer
	7	0	0	0

Peer acceptance of handicapped children

In order to determine whether or not handicapped children were socially accepted by their normally developing peers, a sociometric rating procedure was employed. It was based on the Project PRIME picture sorting technique described by Asher & Taylor (1981). Participants were 22 normally developing children in the three classrooms for 4 and 5 year olds. They included all of

the children whose parents had agreed to allow them to participate and who were present on at least one of the three days over which the study was conducted. The children rated a sample of 31 to 36 percent of their classmates, including the six handicapped children enrolled. Children rated were determined solely on the basis of parental permission and presence at school for picture taking. Both rankings of handicapped children and ratings by their peers indicated that most handicapped children were accepted by their peers. Four received all positive ratings; one was ranked 14th out of 17 children, but 57% of his ratings were in the "like" category. The sixth handicapped child ranked at the bottom of her class and received a majority of low ratings. Roth the highest ranked (2nd in the class) and lowest ranked child had Down's Syndrome, which may suggest that visibility of handicapping condition did not necessarily determine peer acceptance. (For a more complete description see Appendix B).

Replication Activities

During Year Three of the SIP Project, replication sites were sought for components of the SIP model. Sites contacted were primarily interested in using the Let's Be Social (LBS) Social Skills Curriculum. Seven schools in six different communities in Utah and Idaho agreed to use the LBS school curriculum and keep records on its implementation. These sites provided services to either preschool or kindergarten-aged children in handicapped, integrated, or mainstream classroom settings. Five workshops (either one or two days in duration depending on site location and number of classrooms) were conducted to train staff at replication sites. The 52 workshop participants included teachers, administrators, and others (e.g., teacher aides, speech and language therapists, etc.). Following the workshop 14 teachers reported regular use of the LBS curriculum in their classrooms. The number of LBS units taught at each site varied based on children's needs and time in the school year when replication began. Twenty of the twenty-six program units

were disseminated. Replication sites and pertinent data regarding each sites' replication activities are presented in Table 12.

In addition to these replication sites the Let's Be Social curriculum was also used in a self-contained preschool classroom for handicapped children located at the Utah State University Affiliated Developmental Center for Handicapped Persons. The teacher received informal instruction in the use of the curriculum from SIP staff late in the school year and used part of Units 1-10 in her classroom. Selected units of the LBS curriculum were also used by a graduate-level practicum student with a group of children enrolled in a classroom for autistic children at the Developmental Center.

Table 12

Let's Be Social (LBS) School Curriculum Replication Sites and Replication Activities

Site	Type of Children Served and Setting	Number of People Attending Workshop	Number of Teachers Using LBS	Number of LBS Units Received	Data Collected, Pre-LBS	Data Collected Post-LBS	Teacher Implementation Questionnaire Returned*	Teacher Satisfaction Questionnaire Returned*
Washington County Early Intervention Center	Preschool, handicapped	8	2	15	Yes	Yes	Yes(1)	Yes(1)
Gardiner's Curriculum Preschool	Preschool, nonhandicapped and handicapped	1	1	20	Yes	No	No	No
Kid Power Day Care	Preschool, nonhandicapped and handicapped	22	10	15	No	No	Yes(3)	Yes(3)
Skills Preschool	Preschool, economically disadvantaged	4	1	10	Yes	No	No	No
Progressive Day School	Preschool, nonhandicapped and handicapped	6	6	20	Yes	Yes	Yes(3)	Yes(3)
Canyon View School	Self-contained Kindergarten, handicapped	10	3	20	Yes	Yes	No	Yes(3)
North Park Elementary School	Kindergarten, nonhandicapped	1	1	20	Yes	No	No	No

*Number in parenthesis represents questionnaires returned.

Replication Summary. The Let's Be Social School Curriculum was used by 26 teachers at 8 sites (formally and informally). The effect of the curriculum on childrens' social skills has yet to be experimentally analyzed but data reported from users, especially data collected through direct observation, suggests the curriculum does have an effect. Teachers, overall, were pleased with the program and were of the opinion that it favorably affected children's social skills. The results of the replication activities indicated that some changes will be needed in the training workshop and in data collection procedures. An experimental analysis of the effect of this program on children's social skills is a goal for future replication sites. Replication data and measurement instruments are included in Appendix F.

Sibling Involvement Study

In follow-up to plans in the original SIP proposal for sibling involvement in handicapped children's social development, an evaluation activity was undertaken to determine the feasibility of using siblings to assist in increasing social interactions or participating Day School children. The effects of sibling presence, training, and reinforcement of siblings based on their handicapped brothers' or sisters' social interactions in a small freeplay setting at the school was assessed. Negligible change in the handicapped child's social interactions followed the introduction of the sibling into the freeplay setting. Substantial increases in handicapped children's social interactions with siblings occurred with the use of the combination of training of the sibling to interact, picture activity prompts and a token economy. No indications of generalization of increases in social interaction in another freeplay setting were evident. A complete report regarding the study can be obtained from the Outreach and Development Office, Developmental Center for Handicaped Persons, Utah State University, Logan, Utah.

Advisory Committee

The Advisory Committee met to formulate alternatives for funding after federal funding expired and to discuss plans for service to individual children if funding could not be secured. Help was solicited from individual members in providing information about service needs for handicapped preschoolers and in preparing for children's transition into schools. A list of members is included in Appendix D.

Dissemination

A list of manuscripts and conference presentations pertaining to the project is found in Appendix G. Two manuscripts were written and submitted for publication and three are in preparation; 18 papers were presented at state, local and national conferences, and 11 workshops were given for early childhood and special educators. The impact of these efforts on state agencies will be discussed below. National impact is apparent in requests from more than 100 individuals and agencies in 19 states and one foreign country for materials and information about the project.

Summary and Projections

The results of the Social Integration Project indicate that mainstream day care centers can be a viable service setting for preschoolers with a variety of handicapping conditions. Children in the Project learned as much as their handicapped counterparts in other service settings. Both parents and participating teachers rated services favorably.

The Project has had an impact on the lives of more than 30 children and families over the three year period. It has also had an impact upon service delivery in the state of Utah. The two major services for handicapped preschoolers in the State have been Head Start, which has operated only in certain (generally more populous) geographic areas, and self-contained classrooms supported through the Department of Social Services, Division of

Services to the Handicapped. The Division has agreed to support a SIP model program in Layton and to support expansion of the model to two new sites in the Salt Lake Valley. This will allow alternatives to self-contained classrooms a d the part-day service provided by Head Start to be continued for families who need more than half-day service.

The model has also raised several issues regarding service delivery. One is how to anticipate which children can be best served in mainstream settings. All model participants were ambulatory, thus requiring no adult lifting and carrying. It was not possible given the scope of the project to explore the feasibility of service to all types of handicapped children. Another issue is how to make the model viable in remote areas where costs and time required to travel between sites may be prohibitive. The model has operated successfully when one special educator has served two geographically proximate sites. If the sites had been remote, however, it seems doubtful that the special educator could have travelled between sites and still spent enough time at each site to conduct in-classroom training (microsession training and transfer), revise children's programs, and provide some direct services to children. One way in which this problem might be overcome in through the use of telecommunication (two way audio-video telecommunications, teletext and conventional teleconferencing) to train staff and monitor in-classroom activity and child progress.

The necessary relationship between model developers (trainers) and implementers has not yet been defined or tested. If effective services to children are to be maintained, some control over training and model implementation must be exercised. The most effective form of the developer-implementer relationship remains to be formulated. It might take the form of developers as trainers, consultant and monitors to certified sites in a manner similar to the Regional Intervention Program (RIP Advisory Committee, Inc., 1981) in Nashville, Tennessee. The necessary amount of training, monitoring and

consultation to maintain effective services also remains to be investigated. Finally, the modes of training, monitoring and consultation deserve further attention. Research suggests that in-classroom training and feedback are necessary to help teachers use effective instructional techniques (Rule, 1972). As already mentioned, problems of time and distance must be overcome to allow cost-effective communication between model developers and implementers.

Finally, how much of the model must be implemented for handicapped children to achieve social and cognitive goals, and the program prerequisites for beginning to implement model components have not been satisfactorily explored. The Project's component replication efforts yielded information about difficulty in collecting adequate data and many anecdotes suggesting that the social skills curriculum may have broad applicability across children and programs. Systematic investigation of the parameters of replication awaits future activity.

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Appendix A

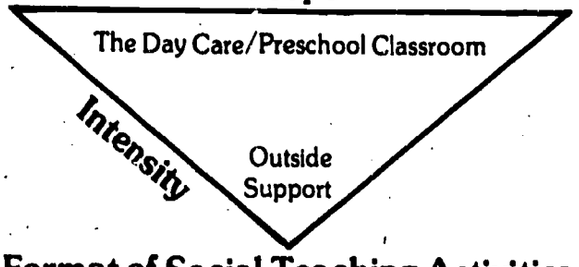
SIP Brochure

SOCIAL INTEGRATION MODEL

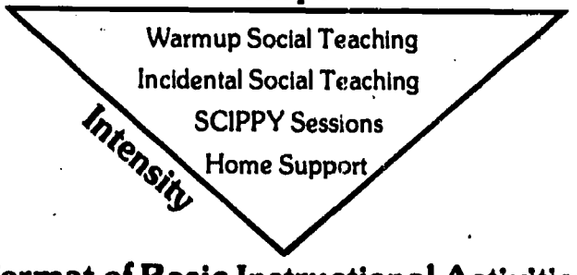
The Social Integration Model (SIP) integrates handicapped children socially as well as physically into early education programs. Based upon the concept that regular classroom staff are the primary educators for handicapped (as well as nonhandicapped) children, SIP provides a support system to enable regular classroom staff to serve the children. The support system provides training for resource consultants and the materials necessary to implement four model components (service delivery, basic skill instruction, social skill instruction, and home support) as explained inside

The inverted pyramid theme repeated below shows how the intensity of support activities are related to the scope of activities. The broader the range of instructional activities, the more they will occur in the daily routine (the most integrated). The more intense the instructional activities, the more narrowly they must be concentrated (the least integrated).

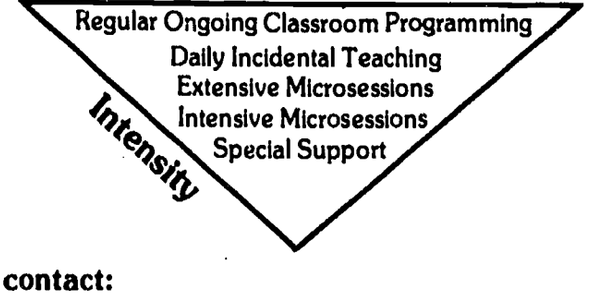
Range of SIP Activities



Format of Social Teaching Activities



Format of Basic Instructional Activities



For further information contact:

Social Integration Project
UMC 68, Exceptional Child Center
Utah State University
Logan, Utah 84322

801-750-1991

COMPONENTS

1. **Service Delivery Program**
   - Child Find
   - Intake (screening, referral, assessment)
   - Individual Educational Programs
   - Liaison with special service (speech therapy, occupational therapy)
   - Classroom management

2. **Basic Skills**
   - Assessment
   - Classroom Staff Training
   - Total Integration
   - Incidental Teaching
   - Microsessions — Extensive
   - Microsessions — Intensive
   - Reprogramming

3. **Let's Be Social**
   - Social Assessment
   - Warm Ups (whole class)
   - Incidental Teaching
   - Microsession (skill rehearsal)

4. **Home Support**
   - Assessment
   - Parent Training
   - Contracting
   - Home Teaching
   - Follow Up

CURRICULUM

Social Skills

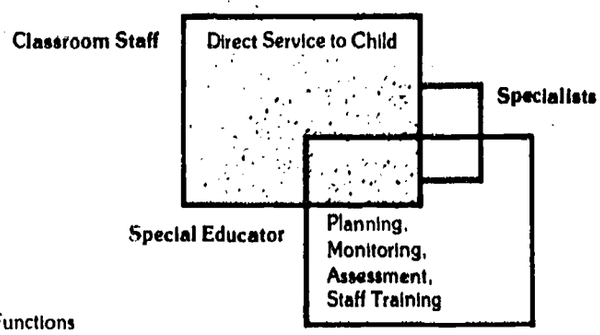
Basic Skills

Home Support

STAFFING PATTERN

The SIP model is a resource consulting model. Most direct services to handicapped children are delivered by regular classroom staff. All special education services, however, are planned and monitored by a special educator (or comparably trained professional) as indicated in Figure 1.

The special educator supports classroom staff through on-site, in-classroom teacher training and consulting, progress monitoring, program revision, and trouble shooting. When a child's needs require specialists such as speech therapists or occupational therapists, the special educator serves as a liaison between specialists and classroom staff to ensure that specialists' recommendations for service delivery are implemented.



Staffing Pattern and Functions

CHILDREN SERVED DURING FIRST TWO PROJECT YEARS IN TWO PRIVATELY OPERATED DAY CARE CENTERS IN OGDEN AND LAYTON, UTAH

SIP Children's Handicaps at Program Entry According to Utah Office of Education Guidelines[1]

Handicap	Number of Children[2]	Mean Chronological Age (CA)[3]	Mean Mental Age (MA)[3]	Mean IQ or GCI[4]
Severely Multiply Handicapped	3	4-5	2-1	less than 50
Severely Intellectually Handicapped	5	4-3	2-3	less than 50
Intellectually Handicapped (mild to moderate)	11	4-3	3-1	64
Communication Disorder	3	4-0	3-4	77

[1]Twenty children met the State of Utah's 1980 Developmental Disability/Mental Retardation Policy Manual criteria for eligibility for services.

[2]Three children are not included because their handicaps were mild or undiagnosed.

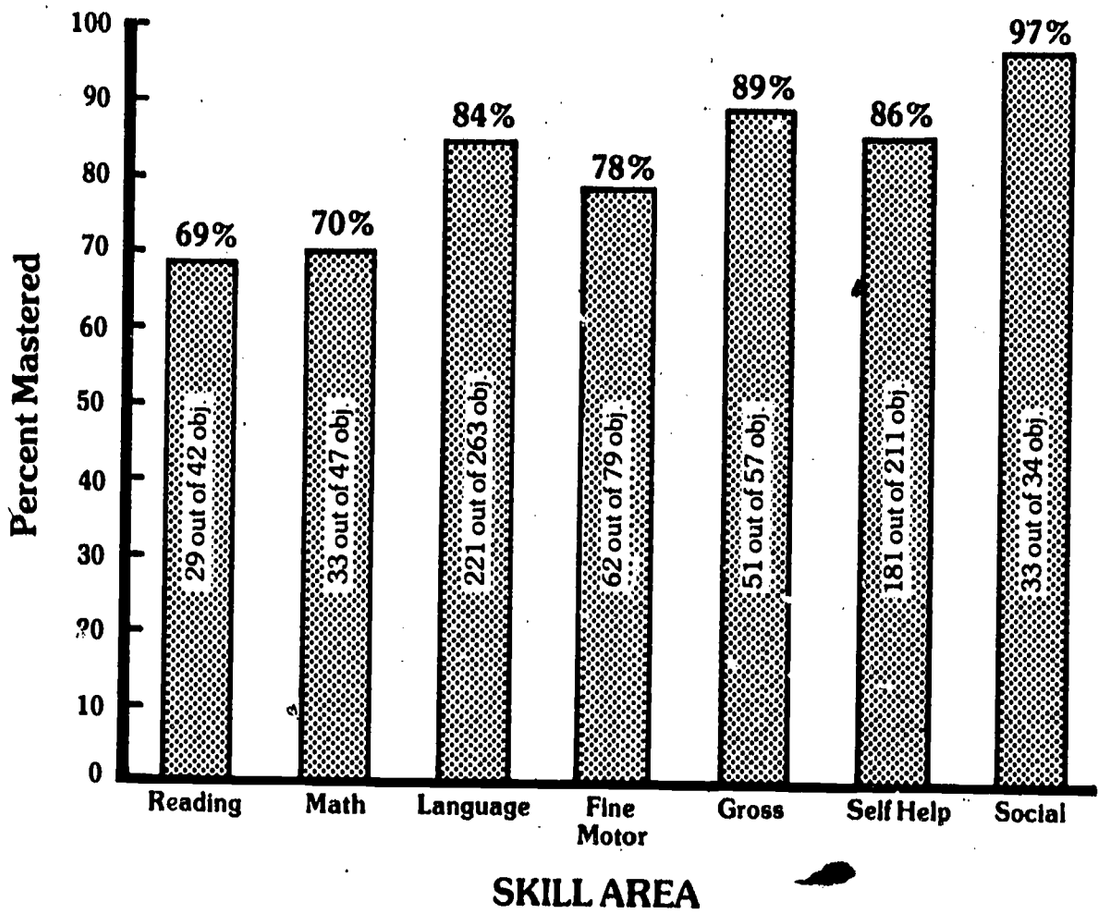
[3]Figures represent years and months

[4]General cognitive index from McCarthy Scales of Children's Abilities.

MODEL BENEFITS

1. Did children learn from the SIP model services?

Yes. Children made statistically significant gains in mental age as measured by normative tests. They made significant gains in skills as measured by criterion referenced tests. Their social behavior showed an increase in social interaction during free play and a decreased reliance on adult attention. Figure 2 shows skill objectives met during Year Two.

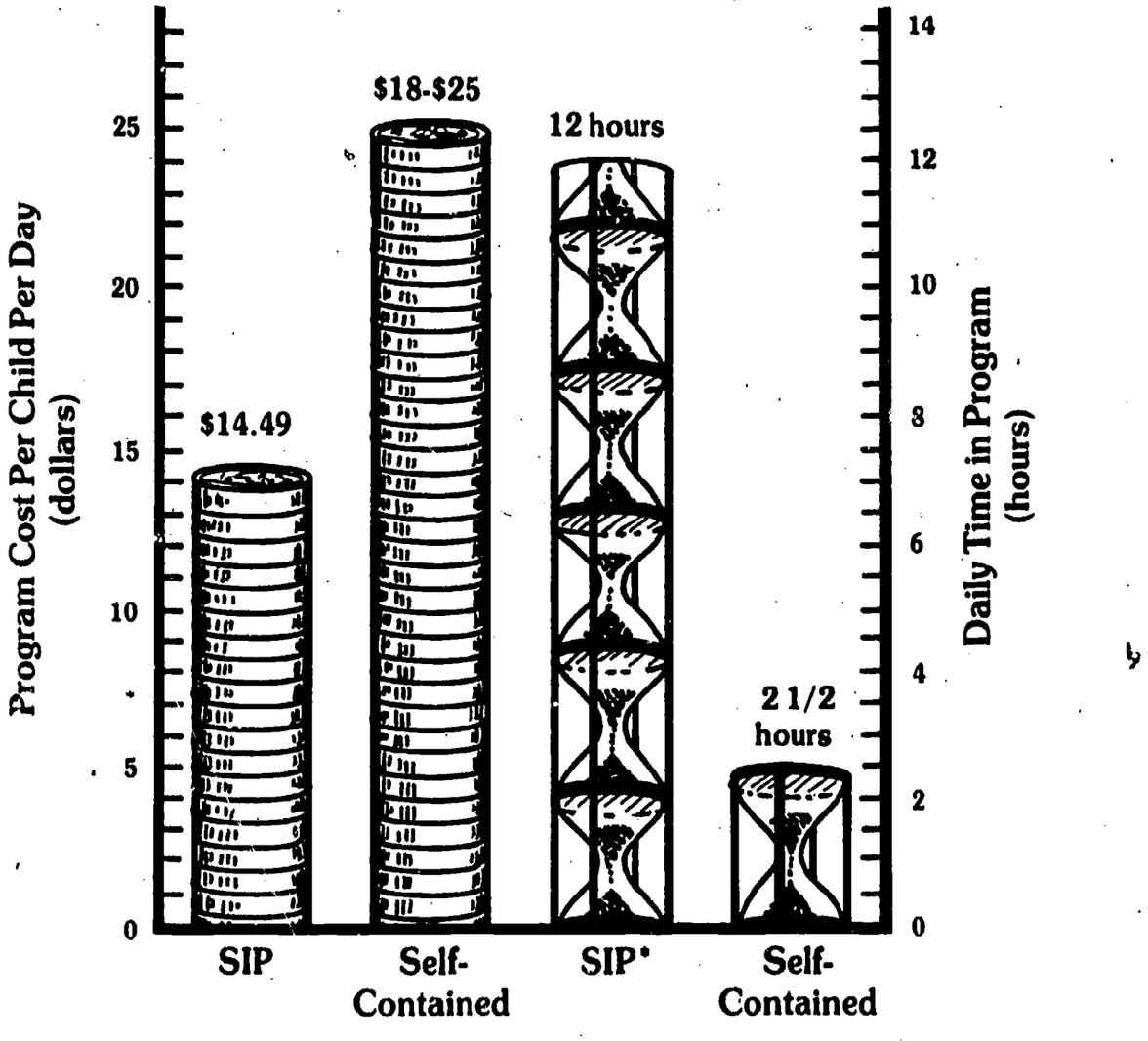


Percent of instructional objectives mastered during the 1982-83 school year by the 16 children having IEPs (individual educationl plans).

2. Did children in the SIP model learn as much as they would have in self-contained special education classes?

Yes. SIP children made the same gains in mental age and other skills during the 1982-83 school year as children matched in developmental age but enrolled in self-contained special education classes.

COSTS AND DAILY PROGRAM TIME AVAILABLE TO CHILDREN IN SOCIAL INTEGRATION MODEL AND SELF-CONTAINED SPECIAL EDUCATION SERVICES



*Range of daily attendance for handicapped children was 3-10 hours.

TEACHER EXPERIENCE WITH THE SIP MODEL

Mean ratings by Teachers

Questions	Ratings			
Work involved with handicapped children	1 a lot more work	2 a little more work	3 same	4 less work
	xxxxxx	xxxxxxxxxxxx	x	
Your advice on including handicapped children in day care centers	1 don't	2 neutral	3 include	4 strongly encourage including
		x	xxxxxxxxxx	xxxxxxxxx
How working with handicapped children affected your opinions about the handicapped	1 like less	2 hasn't changed opinion	3 like more	4 like a lot more
		xxxxx	xxxxx	xxxxxxxxxx
How training has affected your teaching skills	1 not helpful	2 hasn't changed	3 a little helpful	4 improved skills
		x	xxxxx	xxxxxxxxxxxx
How training has affected skills with nonhandicapped children	1 made harder to work with	2 no change	3 helped	4 helped a lot
		xx	xxxxxxxxx	xxxxxxxxx
How having handicapped children at the center affected "normal" children	1 made harder to work with	2 no effect on them	3 has been a little bit good for them	4 has been very good for them
			xxxxx	xxxxxxxxxxxxxx
How being around "normal" children affected handicapped children	1 hasn't been good for them	2 no effect on them	3 has been a little bit good for them	4 has been very good for them
			xxx	xxxxx (xx xxxxxxxxx

'Each x represents one respondent's rating.

Appendix B

Evaluation of a Mainstream Model Serving
Handicapped Children in Day Care Centers

Evaluation of a Mainstream Model Serving Handicapped Children in Day Care Centers[1]

Sarah Rule, Joseph J. Stowitschek, Mark Innocenti,
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Developmental Center for the Handicapped,
Utah State University

Craig Boswell and Karen Swezey[3]
Developmental Day School, Layton, Utah

[1]This project was supported by grant number G008100249 from the Office of Special Education and Rehabilitative Services, U.S. Department of Education. No official endorsement by the Office or Department should be inferred.

[2]Sarah Rule is Coordinator of the Social Integration Project, Developmental Center for the Handicapped, UMC 68, Utah State University, Logan, Utah, 84322. Joseph Stowitschek is Associate Professor of Special Education and Director of Outreach and Development; Mark Innocenti is parent liaison, Social Integration Project; Sebastian Striefel is Professor of Psychology and Director of Clinical Services; John Killoran is Coordinator, Education Unit, Developmental Center for the Handicapped.

[3]Craig Boswell is Director and Karen Swezey is Special Education Teacher, Developmental Day Schools.

Running Head: Evaluation of Mainstream Model

Abstract

Thirty-one handicapped preschool aged children have been served by the Social Integration Project (SIP) in mainstream day care centers. The model contains four components: special education services, basic developmental skill training, social skill training, and home programming. Three types of teaching formats (total integration, coincidental teaching, and microsessions) are employed to address children's individual educational needs. Model evaluation has included both pre and posttesting of children and comparisons of children served by the model with handicapped children in self-contained settings and other integrated settings and with nonhandicapped children. A variety of measures were employed including normative and criterion-referenced tests and direct observation. Results indicate: (a) The model was educationally effective. (b) Children in the model learned as much as their handicapped counterparts in other services though not as much as nonhandicapped children. (c) Children interacted with peers during free play as frequently as nonhandicapped children and were generally accepted by their peers; and (d) Mainstream services were less costly than self-contained services.

To ensure that handicapped children possess the necessary skills to succeed in mainstream settings, it is desirable to teach them to function in such settings at an early age. Day care centers are one type of mainstream setting in which young handicapped children may be prepared for later mainstream experiences. The Social Integration Project (SIP) is a model program that was designed to integrate handicapped children academically and socially into day care centers. It was begun with the premise that, given appropriate support from special educators and specialists, mainstream day care teachers could: (a) serve handicapped children, and (b) encourage their development through the use of effective intervention procedures.

Certain characteristics of effective intervention for handicapped children have been identified. For example, Moore, Fredericks, & Baldwin (1981) reported that instructional time, teachers' implementation of instructional programs with specified cues and consequences for child behavior, and frequent monitoring of child progress are factors associated with long term, effective intervention. Developers of the SIP model were faced with the task of blending intensive instruction and monitoring of services into the context of group instruction and unstructured activity characteristic of day care centers. A day care center represents a mainstream environment characterized by Odom and Speltz (1983, p. 95) as one whose "primary objective . . . is to facilitate the adjustment of a minority of handicapped children to a 'normalized' instructional system designed primarily for children without developmental problems". The tasks identified by the SIP model developers were to avoid "reinventing the wheel" by incorporating intervention procedures found effective in self-contained preschool special education models and to develop a service mode whereby these procedures could be delivered to handicapped children in mainstream settings. The components and procedures that resulted from this model as well as the evaluation of the model are described.

Model Description

The SIP model includes four components: (1) special education services such as child find, screening, assessment, IEP development, classroom management and liaison with specialists; (2) basic (developmental) skill programs; (3) social skill programs; and (4) home support. The roles of special educators and mainstream teachers in translating these components into services to children are described below.

Special education component. A special educator (whose time was shared between two day care centers) was responsible for delivery of special education services. These included locating potential clients, conducting assessment, developing IEP's in conjunction with parents, planning instructional programs to address IEP objectives, and teaching mainstream teachers to: (a) implement most of the programs and (b) manage handicapped children. The model provided for services by specialists in a manner similar to Bricker & Sheehan's (1981, p. 13) description of the "educational synthesizer" model. Specialists (physical therapists, speech therapists, psychologists and occupational therapists) evaluated, consulted and developed programs which could be implemented by the special educator, mainstream teachers or aides.

Basic skills component. The special educator was responsible for developing other individual programs for children in areas such as language, motor, self help and preacademic skills, areas in which systematic instructional curricula have been developed (e.g., the Teaching Research curriculum). In the evaluation year, programs were based on the results of criterion-referenced testing using the Program Planning and Assessment Guide for Developmentally Delayed and Preschool Children (Striefel & Cadez, 1983a). After assessment, skills that had not been mastered were indexed to the appropriate objectives in the Guide. If the objectives could be met through ongoing group instructional

activities in the classroom (total integration), the special educator simply monitored progress. If, however, no suitable instructional activities were part of the mainstream curriculum, the special educator wrote or selected instructional programs to be delivered to several children in a small group (extensive microsessions) or to individuals (intensive microsessions). Lasting 5 to 15 minutes, microsessions incorporate a planned instructional sequence directed toward short term objectives targeted by children's IEPs. They were conducted by regular classroom teachers, aides, or the special educator. Whenever possible, short programs were designed to be delivered by the regular teacher in the classroom at times or on occasions when a skill would naturally be applied (e.g., shoe tying was taught after nap as children dressed or when a child presented herself to the teacher with a shoe untied). Called incidental teaching, these sessions included specific skill steps, specific numbers of step repetitions and a measurement system. Like Hart and Risley's (1979) description of incidental teaching, the sessions were not necessarily prescheduled and teachers used graduated prompting if desired responses were not forthcoming. Unlike Hart and Risley's sessions, they were not always child-initiated and usually addressed self-help rather than language skills.

All instructional programs include a written series of steps, specified teacher and child behaviors and a measurement system. Planning and monitoring forms were from Direct Teaching Tactics for Exceptional Children: A Practice and Supervision Guide (Stowitschek, Stowitschek, Hendrickson, & Day, 1984) and Serving Children and Adolescents with Developmental Disabilities (Striefel and Cadez, 1983b).

Social skills component. Social skills were addressed through Let's Be Social (Killoran, Rule, Stowitschek, Innocenti, Striefel, & Boswell, 1982; Stowitschek, Killoran, Rule, Innocenti, Striefel, & Boswell, 1982) a 26-unit

curriculum designed to increase social interaction through daily whole-group "warm-up" sessions and co-incidental teaching sessions (instruction in a specific skill on the occasion when it should be applied, such as saying "hello" upon entering the classroom for the first time that day). The two types of teaching activities were designed to give children the opportunity to practice skills both through role play (during warm-ups) and in natural situations. The effectiveness of co-incidental teaching was evaluated before the practice was included in the curriculum (Stowitschek, Czajkowski, & Innocenti, 1982). Skills were selected on the basis of literature indicating that certain behaviors are likely to produce interaction with peers (Tremblay, Strain, Hendrickson, & Shores, 1981; Asher & Taylor, 1981), available skill training programs (Goldstein, Sprafkin, Gershaw, & Klein, 1980) and informal observation of children.

Home support components. Home support included: (1) informal group meetings with speakers and discussion of topics of parent interest (e.g., language training), and (2) formal training in using the home Let's Be Social curriculum (Innocenti, Rule, Killoran, Stowitschek, Striefel, & Boswell, 1982; Innocenti, Rule, Stowitschek, Striefel, & Boswell, 1983). The skills addressed in the home curriculum were the same as those addressed in the school curriculum. Home activities included (1) home lessons--discussion and demonstration of skills taught at school; (2) home rehearsals--role play of skills; and (3) co-incidental teaching--instruction in use of the skill on a naturally-occuring occasion. A workshop was held to discuss the Let's Be Social Home Curriculum and demonstrate teaching skills to parents. A home visit followed during which parents were observed and given feedback as they conducted instruction. Phone calls were made to monitor program implementation and to problem solve.

Teacher training procedures. Teachers received an orientation to the model and a description of incidental teaching and microsessions during a one day

workshop. A series of 1 1/2 hour workshops describing topics such as exceptionalities, classroom management and instructional processes were held during the first six weeks of model implementation. When individual programs were to be conducted, a microsession training and transfer procedure (Stowitschek & Killoran, 1983) was employed. First, the special educator modeled the instructional program for the regular classroom teacher. After one to two sessions of observation, the regular classroom teacher took over successive parts of the program beginning with simple procedures (data collection) and culminating with the entire program while observed by the special educator. The special educator was available for informal consultation on any topic at the teachers' request, and requests were frequently made.

In addition to observation of microsessions, monitoring included regular checking of students' record books to see the results of microsessions and coincidental teaching sessions and frequent unscheduled classroom visits. Teachers were reminded to conduct teaching sessions if records indicated they had not done so.

Children served. During the first three years of model operation, 31 children were served. Their handicapping conditions (according to Utah Department of Education Guidelines) and mean chronological and mental ages at entry, as measured by the Stanford Binet Intelligence Scale (Merrill, 1973), McCarthy Scales of Children's Abilities (McCarthy, 1972), or Bayley Scales of Infant Development (Bayley, 1969) are shown in Table 1. Children's handicaps ranged from speech and language problems to severe multiple handicaps. Handicaps were diagnosed from results of the norm-referenced tests previously mentioned, administered by a psychologist, and from the criterion-referenced Program Planning and Assessment Guide (Striefel & Cadez, 1983a) which is referenced to developmental age and was administered by the special educator. Recent reports from

other agencies were also considered in the diagnostic process.

Insert Table 1 about here

Children were served in ten classrooms in three day care centers (The Developmental Day Schools) located within a 20 mile radius in an urban-suburban area in Utah. Each classroom maintained a maximum 1 to 15 teacher-student ratio. Most were staffed by two adults with a shift change occuring after mid-day. One to three handicapped children were placed in each classroom; handicapped children constituted 10% or less of the total school enrollments. Children were placed in classrooms with children matched to their developmental rather than their chronological ages to maximize the probability that the regular mainstream day care activities would be appropriate to their developmental skills. It was hoped that this would also minimize any stigmatization due to their handicapping conditions and maximize the probability of interaction between handicapped children and their non-handicapped peers. Peck & Cooke (1983, p. 9) contend that current research suggests "that small developmental differences between handicapped and nonhandicapped children are associated with minimal social discrimination." Guralnick (1981, p. 86) reports that "social interaction increases as a function of the similarity of the developmental levels of the children."

"'Does it float?'"

Strain (1981, p. 123) has likened early intervention program development to "ten year olds building plastic model boats". Designing model programs with features expected to make them effective is not enough. After attaching "our idiosyncratic decals to the model" we must ask "'Does it float?'" In an effort to determine if the SIP model was afloat, multiple indicants were examined: (a)

children's behavior as measured by criterion and norm-referenced tests, direct observation, and mastery of individual education plan (IEP) objectives; (b) mainstream teachers' attitudes as measured through attitude scales; (c) comparisons of the costs of model service delivery with the cost of current alternatives; and (d) comparisons of children's behavior with that of other handicapped and nonhandicapped children.

The investigation to determine the efficacy of services was conducted during the model's second year of operation. The 15 children evaluated included 14 who met the Utah criterion for being developmentally disabled which requires a year or more delay in 3 areas of functioning (e.g., receptive and expressive language, learning, mobility, self direction). The fifteenth child had severe speech and language problems. Using the Stanford Binet, Bayley, or McCarthy Scales to measure mental age, depending on the child's developmental level, two or more years' difference between mental (MA) and chronological age (CA) was measured in 4 children; 8 had one or more years' difference, 1 had a nine-months' difference and 1 a three-months' difference. (In every case MA was lower than CA.)

Educational outcome. The educational outcome of the model was evaluated in three ways: by the proportion of IEP objectives children mastered, by pre-post changes on norm-referenced tests and by pre-post changes on criterion referenced tests. Although mastery of IEP objectives can be influenced by the complexity of objectives and subobjectives, it is a required educational measure. Children's programs are determined by their progress through objectives. Figure 1 shows that from 69 to 97% of objectives in seven skill areas were mastered by the 16 children having IEP's. (In this figure, data are included on an additional child who met the state developmental disability classification criterion in the first year of the project but improved until he no longer qualified.

Treatment continued for his language problems. Therefore his IEP data are reported, but no other data from this child are included in this report). The fewest objectives mastered were in the areas of reading and math--traditional academic areas not always addressed at the preschool level.

Insert Figure 1 about here

Normative pre-post tests administered to children with an intertest interval of 6 or more months included the Bayley, Stanford-Binet, McCarthy Scales and the Hiskey-Nebraska Test of Learning Aptitude (Hiskey, 1966). While these measures may be suspect because of the instability of IQ in preschool children (Peck & Cooke, 1983) and the fact that similar scores do not imply equivalent functioning across ability areas (Bricker & Sheehan, 1981), they do provide a common referent for examining developmental gains. A t-test for dependent measures was applied to mental age estimates derived from the test scores of the 15 handicapped children enrolled during the project's second year. There was a statistically significant difference between pre and post scores ($t = -3.76$; $p < .002$; pre-test mean = 34.5; post-test mean = 40.9).

Children's combined scores in the receptive language, reading, and motor areas on a criterion-referenced test derived from the Program Planning and Assessment Guide indicated a statistically significant pre-post gain using a t-test for dependent measures ($t = -3.65$; $p < .003$; pretest mean = 38.1; post-test mean = 47.7). Since children's educational programs were derived from the objectives in the Guide, this measure was important in establishing the extent to which targeted objectives were met.

Comparative evaluation. The three measures mentioned above indicated that the model was educationally effective; handicapped children did, indeed learn in

a mainstream day care setting. The question remained whether or not they learned as much as they would have in another setting. To address this question a multiple-measure comparison was made of children in the SIP model with 3 other groups of children: (1) handicapped children in self-contained special education preschool classrooms; (2) handicapped children in other mainstream settings (Head Start); and (3) nonhandicapped children enrolled in a day care center (not one that SIP-model children attended). Comparative measures included (1) normative tests yielding mental age or equivalent scores, (2) the criterion-referenced test already described, (3) the California Preschool Social Competency Scale (Levine, Elzy, & Lewis, 1969) completed independently by teachers and parents, and (4) direct observation of children's social interaction with children and adults during both free play and teacher-directed activity. Testing procedures are described below.

Given that children were not randomly assigned to treatments, an effort was made to match children in the SIP model with children from the other settings. Twelve SIP children were matched with children in self-contained programs on the basis of mental age, chronological age and handicapping condition. All children met the Utah Division of Services for the Handicapped guidelines for handicapping conditions. The matches in handicapping condition using the AAMD classification system (Grossman, 1983) are shown in Table 2. ("None" in the classification does not indicate no handicaps but indicates no AAMD classification that fit as a result of IQ scores.) Pairs of children were matched in mental age using pretest scores. Mental age differences between children in the pairs were 6 or fewer months. In addition, children were matched in chronological age. Ten pairs of children had chronological ages of 4 or fewer months' difference. One pair had a chronological age difference of 6 months and another a difference of 9 months.

Children in the SIP model could not be closely matched to Head Start children on the basis of mental age. As indicated in Table 2, in 6 of 9 comparisons, children in Head Start were more mildly handicapped. However, 9 pairs of children were matched in chronological age. Seven pairs of children had 6 or fewer months' difference in age and two pairs had 8 months' differences. The 13 nonhandicapped ("normal") children compared to 13 SIP children were matched only in chronological age. All nonhandicapped children were classified on normative tests as being of normal to superior intelligence.

Insert Table 2 about here

Administration of tests. Normative measures yielding mental age equivalents included the Stanford Binet Intelligence Scale, the McCarthy Scales of Children's Abilities, the Bayley Scales of Infant Development, and the Hiskey-Nebraska Test of Learning Aptitude. The same test was administered to each child in the matched pair except as noted below. In one SIP-Head Start comparisor a Slosson Intelligence Test (Slosson, 1982) was administered to the SIP child while the Head Start child received a Binet. There is however, a substantial correlation between the two tests. The same instrument was used in 10 of the 13 comparisons between SIP and normal children. All tests were administered by the senior author or by graduate students in psychology who had completed courses on intelligence testing and supervised internships. All were experienced at giving the tests.

The criterion-referenced test was administered by the senior author or adults trained to give the tests. Tests were given on a one-to-one basis. (The administration manual can be obtained from the senior author.) The children were tested in their schools. Therefore, the testers were not blind to groupings. A sample of 10 children (1 from Head Start and 3 from each of the other

groups) were retested within 3 days of posttest completion to check for test-retest reliability on the criterion-referenced test. The Pearson Product Moment correlation (r) between total scores was .99.

The teachers and parents who rated children on the California Preschool Social Competency Scale were given a written explanation of ambiguous items. Staff turn over and reassignment in all settings made it impossible to ensure that the same teacher administered pre- and posttests. Therefore, caution is required in interpreting the results.

Direct observation. Interaction of children with peers and adults was observed during free play and teacher-directed activities on four different days (usually within a ten school-day period) both at the beginning and at the end of the school year. (Because self-contained special education preschools did not have extended free play periods, no free play observational data are reported for those children.) Teacher-directed activity (individual or group activity) was held constant during pre and post observation. Data were recorded for six minutes per observation using 10-second continuous intervals. Both adult-child and child-child interaction were recorded using Tremblay et al's (1981) definition of interaction. Interaction included both vocal and gestural interchanges. Each type of interaction could be scored only once per interval.

Prior to the study, observers were trained to a criterion of .80 inter-observer agreement (agreements divided by agreements plus disagreements for intervals in which interaction was scored) over three consecutive days. An agreement was scored only if both observers agreed on the occurrence of a given type of interaction within an interval. When the study began, interobserver agreement was assessed on 25% of the observations in each setting. During the observations at the beginning of the school year, mean interobserver agreement was .86 (range .50 to 1.0) during free play and .88 (range .5 to 1.0) teacher-

directed activity. During observations at the end of the year, mean agreement was .92 (range .68 to 1.0) during free play and .90 (range .63 to 1.0) during teacher-directed activity.

Results. An analysis of covariance was used to determine whether or not there were between-group differences on posttest scores; this statistic adjusts for initial between-group differences when pretests are used as the covariate. Table 3 shows the F-ratios, degrees of freedom, and probability level for the seven measures. No statistically significant differences were found between SIP and handicapped children in self-contained settings on adjusted posttest scores except that children in self-contained settings had more interaction with adults during teacher directed activity. No statistically significant differences were found between children in the SIP program and children in Head Start on any measure. These results suggest that the SIP model was as effective as other programs in serving handicapped children.

Insert Table 3 about here

Comparisons of handicapped children in the SIP model with nonhandicapped children indicated that nonhandicapped children made greater educational gains as measured by the criterion-referenced test, were rated higher socially (on the California Preschool Social Competency Scale) by their teachers, and interacted more with their peers during teacher-directed activities. There were no statistically significant differences between groups in mental age, parent ratings of social skills, or amount of adult-child interaction. There were no differences between handicapped and nonhandicapped children in the amount of interaction with peers during free play. Thus, while handicapped children scored lower than nonhandicapped children in some educational areas, they interacted as much with peers and were able to function with no more adult attention than their nonhan-

dicapped peers. (In fact, a t-test for dependent measures showed a statistically significant decrease in SIP children's interaction with adults from the beginning to the end of the year, while their educational test scores increased significantly).

Acceptance by peers. During the third year of the model operation, a sociometric study was conducted to assess whether or not handicapped children were accepted by their peers. Raters were 22 nonhandicapped children in three classrooms in which 6 nonhandicapped children were enrolled. (Raters included all nonhandicapped children for whom parental permission to participate could be secured and who were present on at least one of the three days during which ratings were solicited). According to the Project PRIME procedure cited by Asher & Taylor (1981), children were asked to sort pictures of their classmates into one of four piles: (a) a happy face pile indicating their friends or "like"; (b) a neutral face indicating classmates they felt were "okay"; (c) a sad face indicating they didn't like the classmate; or (d) a question mark indicating they "didn't know" the classmate. Results are shown in Table 4. Both rankings within the class and ratings indicated that most children were accepted by peers. Four received all positive ratings. Although one was ranked 14th out of 17 children, 57% of his ratings were in the happy face ("like") category. One child was ranked at the bottom of her class and received a majority of low ratings. She was the most severely handicapped child enrolled that year. The most popular handicapped child had Down's syndrome. His high ratings indicated the visibility of handicap was not associated with rejection by classmates.

Insert Table 4 about here

Cost comparisons. The results of the evaluation indicated that the model was a viable educational service for handicapped children and that children's

gains were comparable to those of handicapped children in other programs. A comparison of the educational costs of the SIP model, including the special educator's salary, extra materials, teacher travel between centers, phone calls and copying, specialists' services, and normal day care costs indicated that the model cost $14.49 per child per day to implement. Self-contained special education preschool costs in the State of Utah ranged from $18 to $25 per child per day. As indicated in Figure 2, SIP children had access to service for more hours at a lower cost than did children in self-contained services.

Insert Figure 2 about here

Social significance. While the social significance of the model cannot be fully evaluated for some years hence, two immediate effects are apparent. First, the availability of service to handicapped children for a full day, rather than the 2 1/2 hours available in self-contained services in the State of Utah, was of benefit to single parent families and families in which both parents worked. If parent release time were included in the calculation of benefits, as did Schweinhart and Weikart (1981) in their analysis of the benefits of the Perry Preschool Program, the relative costs and benefits of the program would be even more favorable.

Second, a follow-up of children served, though including children who graduated only 1 or 2 years ago, suggested that the model has indeed prepared many children for mainstreaming when they entered public school. As indicated in Table 5, eleven of the fourteen children who have graduated from the model were placed in mainstream classrooms or in "alternative" kindergartens, classrooms for kindergarteners who may be placed in either special education or regular first grades depending on their performance in the alternative setting. Several mainstreamed children are receiving special help such as speech therapy.

Insert Table 5 about here

Collateral effects. The effects on teachers and families of attempts to mainstream handicapped children are important. Suggestive data are available from this Project. The attitudes of 20 of the 30 day care teachers who had participated in the model toward their experience were measured at the end of the second year via Likert-type Scales (Rule, Killoran, Stowitschek, Innocenti, Striefel, & Boswell, 1983). (Ten teachers had resigned during the two years and could not be located.) The results indicated that although teachers said teaching handicapped children was more work than teaching nonhandicapped children, all felt that mainstreaming was beneficial to both handicapped and nonhandicapped children. When asked if they would advise other day care centers to include handicapped children, one teacher was neutral and 19 said they would encourage or strongly encourage other centers to include them. Most (19 of 20) said training in model procedures had improved their teaching skills and their skills in teaching nonhandicapped children (18 of 20).

An additional collateral effect was observed on parents. As mentioned, 14 families participated in training to use the Let's Be Social curriculum at home. Home training is important in view of evidence that while increased social interaction may generalize from the training setting to other mainstream activities (Strain, 1983), social interactions do not necessarily generalize across settings (Berler, Gross, & Drabman, 1982) unless training occurs across settings. Parent reports indicated that they did undertake home teaching. The 14 families who participated in social skills training reported that they conducted a mean of 8 coincidental teaching sessions per week with their children. The 12 families using home rehearsals reported doing about two per week and the ten families using home lessons reported a mean of about 1 lesson per week. The

reliability of the reports is unknown; they suggest, however, that many parents will undertake collateral training to support efforts made at school.

Cautions. The results of this evaluation suggest that mainstreaming can be a viable educational procedure for at least some children. There are several qualifications, however. First, all children in the program were ambulatory and therefore physically able to participate in the same activities as nonhandicapped children at school. This may have influenced the attitudes of teachers and peers. The age of the children made it possible to minimize differences by placing children with developmentally comparable peers. This is feasible only in preschool; a four-year-old child in a three-year-old class is not unduly noticeable and even a four-year-old in a two-year-old class attracted little attention from peers. The situation would, however, be very different if a ten-year-old were placed in a second grade classroom.

A second consideration is that these children were mainstreamed into a day care center that included academic instruction (e.g., DISTAR Reading) in its curriculum. The notion of teaching specific skills was not foreign to teachers as it might be in a center emphasizing only socialization. Whether the training and monitoring procedures would be sufficient to support intensive instruction in programs with different philosophies is open to question.

Finally, mainstreaming in this model did not mean placing the child in a classroom and leaving the teacher virtually alone. Consistent with the notion that mainstreaming should entail a collaborative effort between special educators and "regular" classroom teachers (Salend, 1984; Fenrick, Pearson & Pepelnjak, 1984) the model incorporated extensive interaction and consultation. Though one special educator served two schools, this teacher was available to teachers about every other day. Many microsessions were taught in regular classrooms and the special educator was frequently in the classrooms and offered

support (consultation, problem solving, modeling of procedures) whenever requested. Hands-on training was offered every time a child completed an instructional objective and began a new program. This kind of support is unusual in day care centers and probably in most attempts at mainstreaming, even though teachers have reported they would be favorable to mainstreaming given support and training (Shotel, Iano, & McGettigan, 1972; Gickling & Theobald, 1975).

Conclusions

The Social Integration model evaluation results are consistent with effects of other early intervention programs demonstrating that early intervention can benefit young handicapped children (Weiss, 1981; Bricker, Bruder, & Bailey, 1982). They also indicate that mainstreaming can be an effective means of service delivery, though it is not the only model that will "float". The results of mainstreaming as reported in the literature have been termed "inconclusive" (Salend, 1984, p. 409). This is, doubtless, because mainstreaming is not an entity; it involves a set of procedures, as Peck and Cooke (1983) have noted. Suggestions about effective procedures are available (Salend, 1984; Guralnick, 1981). To provide consistently effective services to mainstream children, it will be necessary to examine the effects of procedures, separately and collectively, to determine which are effective, for which students, and under what circumstances. The results of the SIP program suggest that systematic instructional procedures adapted for mainstream classrooms, the ratio of non-handicapped to handicapped students, and the specific support procedures offered by special educators are variables due future experimental analysis.

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Table 1

SIP Children's Handicaps at Program Entry According to Utah Office of Education Guidelines

Handicap	Number of Children[a]	Mean Chronological Age (CA)[b]	Mean Mental Age (MA)[c]	Mean IQ or GCI[d]
Severely Multiply Handicapped	3	4-5	2-1	<50
Severely Intellectually Handicapped	6	4-1	2-2	<50
Intellectually Handicapped (mild to moderate)	15	4-4	3-1	64
Communication Disorder	3	4-0	3-4	77

Note. Twenty-six children met the State of Utah's Developmental Disability/Mental Retardation Policy Manual criteria for eligibility for services

[a]Four children are not included; one failed to achieve a basal test score and three had mild or undiagnosed handicaps. [b]Numbers represent years and months. [c]General cognitive index from McCarthy Scales of Children's Abilities

Table 2

Chronological and Mental Ages and Classification of Social Integration Project and Matched Self-Contained and Head Start Children

Pairs of Children	Chronological Age (years and months)			Mental Age (years and months)			AAMD Classification		
	SIP	Self-Contained	Head Start	SIP	Self-Contained	Head Start	SIP	Self-Contained	Head Start
1	3-5	3-3		1-5	1-7		Moderate	Moderate	
2	5-0	4-6	4-11	3-6	3-3	4-6	Mild	None	None
3	4-8	4-8		1-6	1-3		Severe	Severe	
4	3-5	3-9		2-5	2-10		Mild	Mild	
5	4-11	4-7	5-7	2-8	2-7	3-8	Moderate	Moderate	Mild
6	4-10	4-7	4-8	2-3	2-0	3-0	Moderate	Severe	Mild
7	3-3	4-0		2-3	2-1		Mild	Moderate	
8	4-10	4-8	4-6	3-6	3-0	4-1	Mild	Mild	None
9	4-9	4-9	4-1	4-0	4-0	3-6	None	None	None
10	4-4	4-4	4-4	3-2	3-1	4-0	Mild	Mild	None
11	4-10	4-7	5-2	3-3	2-10	3-9	Mild	Mild	Mild
12	2-10	3-1		2-0	1-6		Mild	Moderate	
13	4-11		4-5	4-6		3-6	None		None
14	4-8		4-9	3-0		3-2	Moderate		Mild

Results of Analysis of Covariance Comparing Posttest Scores of Children Enrolled in SIP Model with Other Groups of Handicapped and Nonhandicapped Children

	SIP with handicapped children in self-contained classes (n = 12)[a]		SIP with handicapped children in Head Start (n = 9)[b]		SIP with nonhandicapped children in day care (n = 12)[c]	
MEASURE	F	p	F	p	F	p
Mental Age	.06	.81	.08	.78	.70	.41
PAPG	.73	.40	.03	.88	4.74	.04
Teacher Californias	.47	.50	.38	.55	5.4	.03
Parent Californias	.93	.35	.28	.61	.03	.87
Freeplay Child Interaction	---	---	.77	.39	2.72	.11
Teacher Directed Child Interaction	.26	.62	.27	.61	4.39	.05*
Freeplay Adult Interaction	---	---	2.72	.12	.07	.80
Teacher Directed Adult Interaction	10.88	.004	2.21	.16	.01	.91

Note. There was no free play in self-contained settings.

[a]df explained = 2, residual = 19. [b]df explained = 2, residual = 15.

[c]df explained = 2, residual = 21.

*statistically significant

Table 4

Sociometric Ratings and Rankings of Handicapped Children by Nonhandicapped Classmates

Class	Raters	Children Rated		Rank of handicapped children (1 is highest rank)	Positive Ratings ("okay" or "like") of handicapped children
		Non-handicapped	handicapped		
	n	n	n		
1	5	9	1	4th (tie)	100%
2	9	11	1	12th	38%
3	8	13	4	2nd (tie)	100%
				6th (tie)	100%
				9th (tie)	86%
				14th (tie)	57%

Table 5

Placements of Graduates from the SIP Model Program

	Self-contained Special Education Classroom	Alternative Kindergarten with mainstream first grade an option	Mainstream Classroom
First year graduates[a] n = 6	2	1[a]	3
Second year graduates n = 8	1[b]	2	5

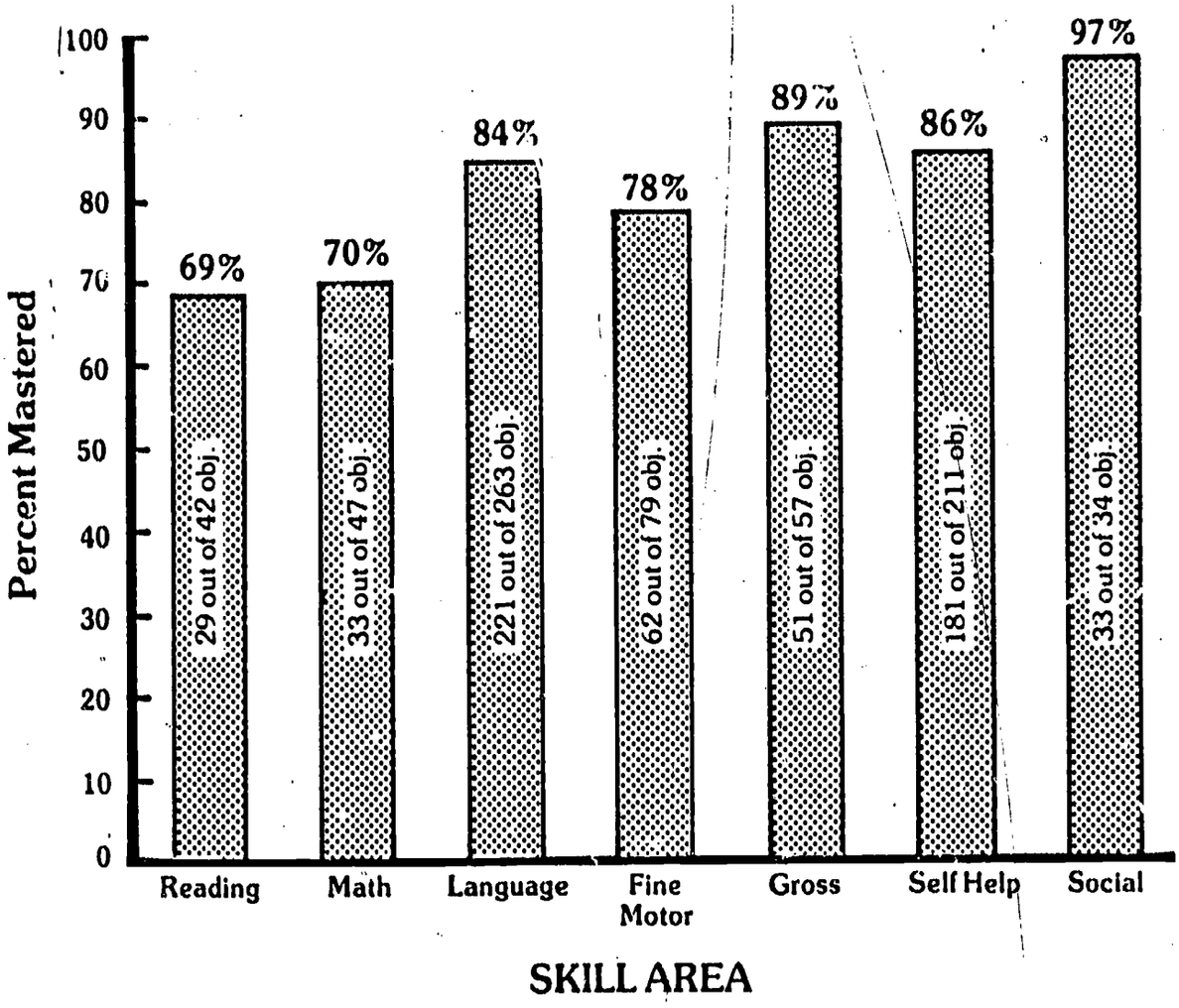
[a]Offered mainstream first grade but parents chose self-contained placement

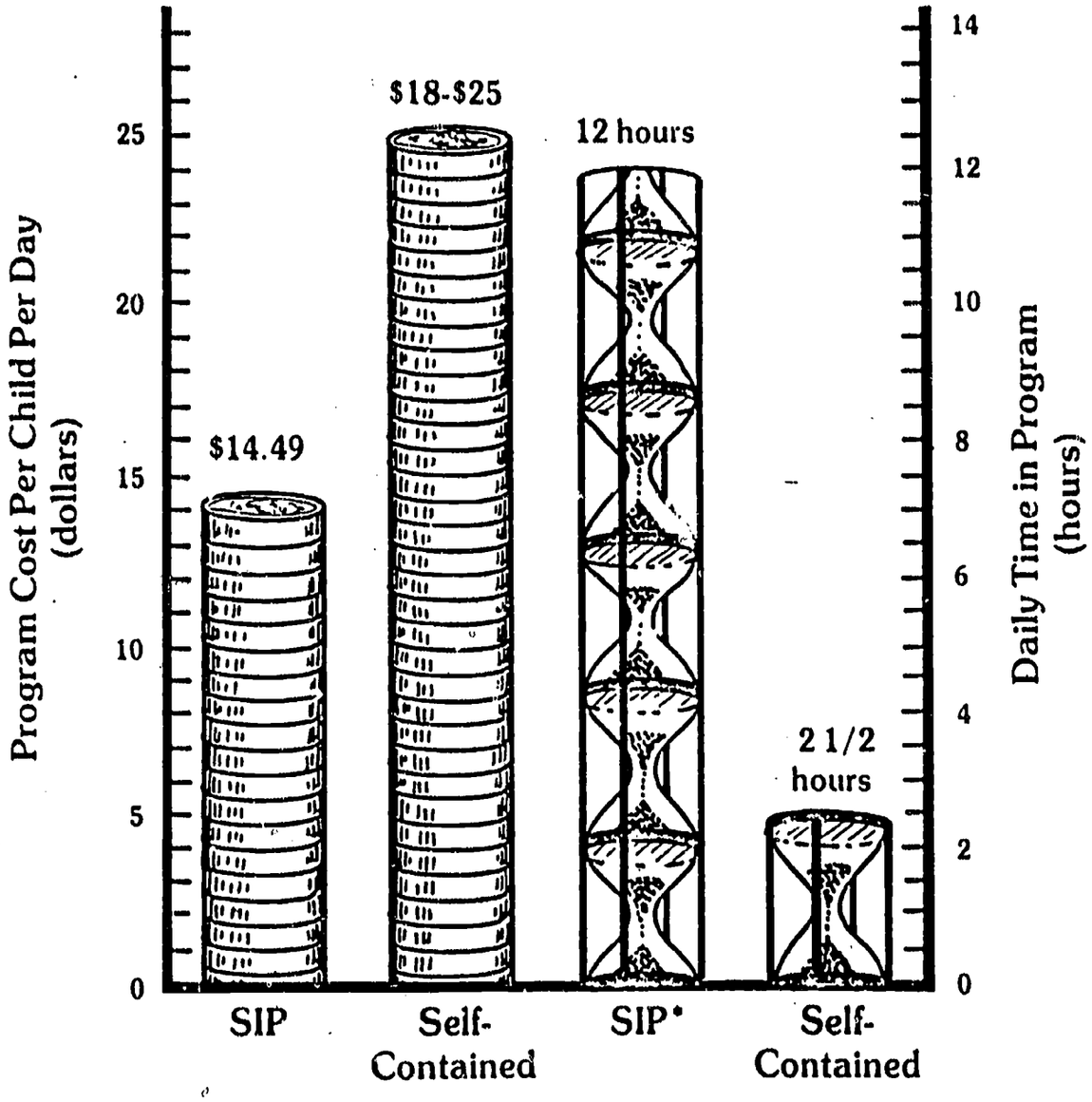
[b]Placed in unit for physically handicapped but could be offered mainstream first grade

Figure Captions

Figure 1. Percent of instructional objectives mastered during the 1982-83 school year by the sixteen children having IEP's (individual educational plans).

Figure 2. Costs and daily program time available to children in SIP model and Utah self-contained preschools for handicapped children.


Percent Mastered
100
90
80
70
60
50
40
30
20
10
0
69%
70%
84%
78%
89%
86%
97%
29 out of 42 obj.
33 out of 47 obj.
221 out of 263 obj.
62 out of 79 obj.
51 out of 57 obj.
181 out of 211 obj.
33 out of 34 obj.
Reading
Math
Language
Fine Motor
Gross
Self Help
Social
SKILL AREA



*Range of daily attendance for handicapped children was 3-10 hours.

Appendix C

A Naturalistic Study of the Relation Between Setting Events and Peer Interaction in Four Activity Contexts

A Naturalistic Study of the Relation Between Preschool Setting Variables and Peer Interaction in Four Activity Contexts

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Running Head: Peer Interaction; Setting Variables

Researchers have studied social competence in terms of those factors that lead to interaction among peers (e.g., Hendrickson, Strain, Tremblay, & Shores, 1981; Greenwood, Todd, Hops, & Walker, 1982; Tremblay, Strain, Hendrickson, & Shores, 1980, 1981). A functional analysis of these factors was initiated by researchers who studied the effect of different toys on peer interaction (Hendricksor et. al., 1981; Kerr & Strain, 1977; Quilitch, Christopherson, & Risley, 1977; Quilitch & Risley, 1973). These studies are characterized by the manipulation of type of toy use and the observation of resulting levels of peer interaction. Recently, behaviors which are exhibited by children when they interact with peers has been a focus of researchers (Greenwood et al., 1982; Tremblay et al., 1980, 1981). A result of this research has been the identification of behaviors that reliably lead to peer interaction. These behaviors can then be taught to low interacting children such that they can increase their rates of interaction (e.g., Greenwood et al., 1982).

These investigations of specific child behaviors and materials related to social interaction are necessary, but, as Hops (1983) has pointed out, other variables which may affect social interaction also need to be investigated. One variable which has not been examined is how the preschool environment may affect social interaction. These environmental factors can be referred to as setting variables.

In a review of the literature, Mischel (1968) presented overwhelming evidence that behavior tends to be a function of the specific situation(s) in which it occurs. Educators have investigated the effects of such setting variables as classroom stimulus conditions, physical arrangement of the classroom, and level of classroom structure on childrens' academic performance (e.g., Doyle, 1979, 1981; Weinstein, 1979). Walker and Rankin (1983) examined the setting variable of teacher standards and expectations as they relate to children's social behavior and suggested these setting variables be considered when mainstreaming handicapped children. Clearly, setting variables can influence child behavior in classroom environments.

In a preschool any of a number of different setting variables may be present when children interact. The way the teacher is behaving toward the children or a specific child, the materials in use, or the physical location of a child in regard to his peers may all be considered setting variables which can affect peer interaction. If the setting variables which reliably occur with peer interaction were known, remediation strategies for children with low peer interaction skills could focus on ensuring that these setting events are present in the environment, either alone or in combination with interventions to increase specific skills.

The purpose of the present study was to determine what setting variables may affect preschoolers' peer interaction. The setting

variables of teacher behavior, material use, and peer related factors, along with peer interaction, were observed in four preschool classroom activity contexts. Data on the frequency of occurrence of the setting variables and peer interaction was obtained and empirical probabilities of each setting variable with interaction determined in order to identify setting variables which reliably occur with peer interaction.

Method

Subjects and Settings

Fifty-three children, from six daycare and preschool programs, participated. Children ranged in age from three to five years with the majority being four years of age. A relatively equal distribution of males and females were selected at each setting, for a total of 26 males and 28 females. Children represented a broad range of socioeconomic backgrounds, from lower to upper middle income families.

Teachers at each school were given a list of children who had parent permission to be involved in the study, and were asked to rank each child, from lowest to highest, on their social interactions with peers. Teachers were provided with examples of positive peer social interactions to help structure their judgements; a procedure that has been found to result in accurate rankings (Greenwood, Walker, Todd, & Hops, 1978). From this list the five

lowest and five highest interactors at each school were selected for observation. Subject attrition pared down the total number of subjects, but was equally distributed among programs.

The six daycare or preschool programs were located in urban areas of northern Utah. Two of these programs were half-day and focused on child enrichment; two were full-day and also focused on child enrichment; and two were full-day with a pre-academic component in addition to child enrichment activities. Five of these programs were privately owned, the other (a half-day program) was affiliated with Utah State University.

Behavioral Measure

The behavioral measure for this study was an observation procedure designed to obtain information regarding selected preschool setting variables concurrent with observations of childrens social interaction with peers. Four groups of observation categories were used, three pertained to setting variables and the fourth to childrens social interaction with peers. The setting variables were: 1) teacher behavior as it relates to interacting with children, 2) type of material use, and 3) peer presence and physical orientation.

Four teacher behavior categories were observed, these were defined as:

Group: teacher verbalizations directing a group to engage in some behavior, to decrease some behavior, to call attention to some ongoing activity, or to provide direct instruction during

an activity when a child designated as the target child (the subject of observation) was participating in the group.

Directed: teacher verbalizations or motor behavior specifically directing the target child to engage in or decrease behaviors related to instruction or general class activity, including specific questions, prompts, or reprimands of the target child. "Small talk" with the target child is included in this category. Behaviors related to peer interactions are not included.

Interaction: teacher behavior directed at the target child to prompt him/her to engage in an interaction with peers or teacher praise for peer interactions.

No teacher presence: the teacher is not engaged in verbal or motor behavior directed toward the target child or group in which the target child is a participant.

The materials being used by the children were also observed as a setting variable. Materials were coded as either those intended for individual use, those intended for use by more than one child (multiple-use), or the absence of materials use by the target child. A list of potential preschool materials to be encountered and into what category they should be placed was prepared for observation purposes. Materials encountered that were not on the list were coded based on the intended use of the material. Individual use materials included such items as a puzzle, book, crayon and paper,

lunch items, etc. Multiple-use materials included items conducive to sharing as identified by Hendrickson et al. (1981) and outdoor apparatus, as examples. No material use was coded when the teacher controlled the material (e.g., reading a book, presenting numbers) or when the children were interacting while no materials were present.

The third setting variable observed was related to peer presence. The three categories coded were:

Proximity: one or more children within an imaginary circle, with a four foot radius, around the target child.

Orientation: Eye contact between the target child and a peer in proximity, where eye contact is defined as the observer being able to draw an imaginary straight line from the center of the target child's pupils to the center of the peer's pupils.

Alone: no children in proximity of target child.

The definition for interaction was adopted from a definition utilized by Strain, Shores, and Kerr (1976). Interaction was coded as either positive or negative and whether the target child initiated the interaction or reciprocated to another initiation. More than one type of interaction could be scored during an interval. These categories were defined as:

Positive responses: overt verbal and/or gestural acts of cooperation, compliance, shares, touch with hand(s), hugs, waves, kisses, and mutual play with an object.

Negative responses: hits, kicks, bites, or vocalizations such as "stupid" or "you dummy".

Initiations: any time the target child began an interaction, either verbally or motorically, with another child or children.

Reciprocations: a response made by the target child directed toward a peer after receiving an initiation from that peer.

To distinguish between initiations and reciprocations the convention if three or more seconds elapsed between interaction episodes (e.g., initiation - reciprocation - reciprocation) then the next occurrence of interaction was considered a new interaction.

In addition to the above categories, interaction could be coded as continuous when interaction begun in one interval continued into other intervals. A final category of interaction that could be scored was the absence of any interaction during a given interval.

Observational Procedures

Each child was observed for eight separate occasions, termed rounds, in four activity contexts. A round was five minutes in length and was broken into 10 second intervals. Interaction categories were scored on a continuous basis. More than one category of interaction could occur during an interval. The three other measurement categories were scored using a time sampling procedure. At the beginning of the interval an audible cue sounded through an earphone connected to a tape recorder. The observer recorded teacher behavior, materials, and peer proximity/orientation measures

occurring when the cue sounded. Only one category could be scored for teacher behavior and material measures. For the peer presence measure, proximity and orientation could have been scored simultaneously. Observations were conducted over a three month period, with approximately one round being completed each week.

The four activity contexts identified for observation were: freeplay, snack/lunch, teacher directed individual activity, and teacher directed group activity. Activities observed were program specific, but can be characterized in the following manner:

Freeplay: teacher plays main role of observer to prevent problems but does not otherwise play a supervisory role.

Snack/lunch: teachers role is similar to freeplay, except that the children are consuming food during this time.

Teacher directed individual activity: children are engaged in an individual activity while the teachers emphasis is tutorial, moving from child to child to provide assistance or praise. Small group and table activities such as art, structured games, and paperwork related to numbers, letters, or shapes are included in this context.

Teacher directed group activity: teachers are providing direct instruction to a group of children at one time. Examples include reading stories, "morning circle", and the teaching of new concepts.

Some overlap can and did occur between categories. For an observa-

tion to be included as an example of an activity context, the ongoing activity must have fell within an activity context definition for a minimum of 80% of the observation period.

Reliability

Reliability measures were taken by having two observers simultaneously record the target child's behaviors. A double jack earphone connected to the tape recorder cued the intervals. Observers were trained in all the preschool settings on the observational procedures prior to beginning the study. Since the observational procedure resulted in a score for measures in each observational category, four areas for agreement were available. On observation categories where more than one measure could be scored simultaneously, an agreement was scored only when observers concurred on all measures. Reliability was determined using the formula: number of agreements divided by number of agreements plus disagreements, then multiplied by 100. Prior to beginning the study each observer demonstrated four consecutive days of 80% or better reliability on all observation categories in each context. During the study, reliability was assessed for an average of 15% of observations across rounds and activity contexts.

Results

Reliability

Average reliability scores and their ranges for each observation category and context are presented in Table 1.

Insert Table 1 about here

Occurrence of Behavioral Measures

Table 2 presents the means and standard deviation, in percent, for each behavioral measure in each context across eight rounds of observation. Only children on which eight rounds of data were obtained are included. The measure of total interaction was determined by adding initiations and reciprocations, both positive and negative, with episodes of continuous interaction. Peer interaction as measured by total interaction, continuous interaction and positive initiations occurred most frequently in freeplay, followed by snack/lunch, teacher directed individual activity, and teacher directed group activity, peer interaction decreased by approximately half of the mean score of the measure from the preceding context. The positive reciprocation interaction measure also followed the trend of peer interaction. Teacher behavior directed toward the group showed an opposite trend, occurring most frequently in teacher directed group activity, followed by teacher directed individual activity, snack/lunch, and freeplay. Not surprisingly, the teacher behavior of no teacher presence followed a trend similar to that of peer interaction. The frequency of occurrence of other behavioral measures did not occur in clearly identifiable patterns across contexts. Three measures are notable because of their infrequent

occurrence. The teacher behavior interaction measure, the peer behavior orientation measure, and negative interaction measures all occurred less than 1% of the time observations were conducted on the average.

Insert Table 2 about here

Behavioral Measures Interaction Probability

To obtain information on what behavioral measures occurred concurrently with peer interaction, empirical probabilities were determined for each of the teacher behavior, materials, and peer proximity/orientation measures with peer interaction. Empirical probabilities were determined for all measures with each interaction category. Table 3 presents the empirical probabilities for each measure with total interaction; all interaction categories are not presented as differences between them were small and would not aid explanatory purposes. Table 3 is read, using the context of free-play and the materials category individual measure as an example, as when interaction occurred in freeplay, during 40.5% of these interactions the target children were using individual use materials. These empirical probabilities indicate that in all contexts, except teacher directed group activity, that interaction occurred primarily when no teacher was present and, in all contexts, when peers were in proximity. Interaction did not occur frequently when the target

children were oriented toward another peer, when the target children received direct teacher attention, or when the teacher was prompting or praising peer interaction. The occurrence of interaction with other measures varied by context.

Insert Table 3 about here

Discussion

Preschool children were observed in the activity contexts of freeplay, snack/lunch, teacher directed individual activity, and teacher directed group activity to determine the relation between peer interaction and behavioral measures from three setting variables: teacher behavior, type of materials in use, and peer proximity/orientation. Interaction occurred most frequently in freeplay and successively less in each of the contexts of snack/lunch, teacher directed individual activity, and teacher directed group activity. The occurrence of peer interaction was inversely related to teacher behavior directed toward the group in which the target child was part, and directly related to the teacher not interacting with the children. The greatest amount of interaction occurred the contexts where the teacher directing the children least and was not interacting with the children, i.e., freeplay. In the teacher directed group activity context where teacher direction toward the group was highest, peer interaction occurred the least.

No other measures showed as clear a relation with peer interaction as teacher behaviors. These data suggest that teacher presence/absence is a critical variable to peer interaction.

The empirical probability data should be interpreted with caution. The frequency that a behavior occurs during a context can affect the empirical probability. For example, if only multiple-use materials were used during freeplay, the empirical probability of multiple-use materials with interaction would be 100%, but this would not be evidence for stating that multiple-use materials are a setting variable for interaction when taken as the only source of data. In the present data, the empirical probability of materials with interaction corresponds closely with the frequency each material occurs in each context, making the determination of the role of each material type on interaction impossible. Discrepancies between the frequency with which a behavior occurs and its corresponding empirical probability, while considering the frequeny of occurrence of the behavior related in the empirical probability (i.e., interaction), are factors to be considered in examining the empirical probability data. Consider the following case, the empirical probability of interaction occurring with the teacher absent in a teacher directed group activity is 34%, fairly high considering that the teacher is absent during 23.5% of all intervals and that interaction occurred during only 7.5% of all intervals.

The empirical probability data support the contention that the

teacher is a critical variable to peer-peer interaction. Of the two measures that interaction is most likely to occur with are the absence of the teacher and having a peer in proximity. The teacher behavior that peer interaction is least likely to occur with is behavior directed to an individual child. Only during teacher directed individual activity is teacher behavior directd to a child not clearly related to interaction because of its frequency of occurrence and this may partly be due to the structure of this context. The activities of this context are characterized by the child working on an individual activity while the teacher moves around the group. Teacher behavior, especially verbalizations, directed to a specific child may not be easily descriminable by the target of the behavior. The child may continue to interact with peers because she is unaware that the teacher behavior is directed to her.

Taken together the frequency data and empirical probability data suggest that teacher behavior is a critical setting variable to peer interaction or the lack of it. This presents a dilemma, if a teachers role is to promote peer interaction, yet his/her presence retards this interactior, what is a teacher to do? One type of teacher behavior which seldom occurred was teacher behavior used to prompt peer interaction to occur or praise ongoing peer interaction. This result is surprising in light of preschools traditional emphasis on socialization. Teacher behavior of this type may play a

significant role in the facilitation of peer interaction and in maintaining positive social skills in children who already interact regularly with peers. Some programs designed to teach social skills such as Let's Be Social (Killoran, Rule, Stowitschek, Innocenti, Striefel, & Boswell, 1982) make direct use of teacher prompting and praising of peer interaction. Other programs, e.g., Getting Along With Others (Jackson, Jackson, & Monroe, 1983) and SKIPPY (Day, Powell, & Stowitschek, 1980), make use of teacher prompting and praising in semi-structured teaching interventions. The teacher, in these programs, must learn to be a facilitator of interaction without becoming the focus of interaction.

A question raised by this study is related to how a teacher should structure the way he/she behaves during different activity contexts. If one goal of preschool is to aid the development of interaction between peers, then teacher prompting and praising of peer interaction should be used during all activity contexts. This is especially true for children who exhibit low rates of peer interaction and who, studies suggest, are at risk for later life adjustments (Cowen, Pederson, Babizian, Izzo, & Trost, 1973; Roff, 1970; Westman, Rue, & Berman, 1967).

On the other hand, teachers of school-aged children do not view peer interaction as a critical school skill citing skills such as attending and the ability to work individually as more crucial to school success (Fourness, 1978; Walker & Ranklin, 1982; Walter &

Vincent, 1981). Peer interaction during teacher directed contexts may be incompatible with school success skills such as attending and working individually. If this is the case then preschool teachers must question whether facilitating peer interaction during teacher directed activity contexts, and perhaps even freeplay, will be detrimental to a child's later school success. Peer interaction and school success skills, though they seem incompatable, can be taught simultaneously. Stowitschek, Czajkowski, and Innocenti (1981) trained teachers to prompt and praise peer interaction among mildly handicapped children in the context of ongoing programs for academic and self help skills. All children demonstrated increases in peer interaction while performance on these other tasks was not disrupted and learning continued at expected rates.

There are no easy solutions for the preschool teacher. One determining factor of how the preschool teacher decides to behave may be related to a specific preschool philosophy, but if the ultimate goal is to aid children in reaching their fullest potential in life as well as school, then both peer interaction and school success skills need to be developed. The demands of each activity context must be accompanied by the teacher changing his/her behavior in accordance with these demands.

The way in which a teacher behaves toward children is a strong setting variable for peer interaction. Preschool teachers need to learn how to alter their behavior to effect changes in child

behavior. Teacher behavior is crucial not only in teaching social skills but for teaching other skills as well. This setting variable, frequently overlooked, is one that should be considered in as much detail as the skills that are to be taught to the child.

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Table 1

Mean and Range of Observer Reliabilities, in Percent, in Each Activity Context for Each Behavioral Measure

		Freeplay	Snack/Lunch	Individual Activity	Group Activity
Teacher Behavior	M	98.6	97.9	96.0	94.7
	R	70 - 100	86 - 100	66 - 100	66 - 100
Material	M	95.1	99.5	99.8	99.9
	R	60 - 100	80 - 100	66 - 100	90 - 100
Peer Behavior	M	98.0	100	99.8	99.9
	R	80 - 100	100	96 -100	96 - 100
Interaction	M	86.4	89.7	91.4	96.8
	R	50 - 100	66 - 100	56 - 100	63 - 100

Table 2

Means and Standard Deviations, in Percent, for Frequency of Occurrence of each Behavioral Measure in Each Activity Context Across All Intervals Observed. Only Children Where Eight Rounds of Observation in a Context Were Obtained are Included.

	Freeplay(51)*		Snack/Lunch(47)		Individual Activity(53)		Group Activity(50)	
	M	SD	M	SD	M	SD	M	SD
Teacher Behaviors								
Group	0.8	1.2	5.7	3.9	14.7	11.3	75.2	12.6
Directed	2.9	3.2	1.9	1.6	5.8	4.4	1.4	1.5
Interaction	0.03	0.1	0	0	0	0	0.02	0
No Teacher Presence	96.2	11.9	92.4	3.9	79.6	11.2	23.5	11.8
Materials								
Individual	48.3	22.7	87.1	20.0	71.9	16.6	8.7	9.7
Multiple-Use	24.9	15.2	1.2	3.8	3.1	6.3	0.3	1.3
Absent	26.8	15.9	11.7	10.3	25.0	15.3	91.0	9.7
Peer Proximity/Orientation								
Proximity	83.2	19.1	98.7	2.2	97.3	4.3	99.5	1.1
Orientation	0.06	0.2	0.3	0.7	0.04	0.1	0.1	0.3
Alone	16.8	11.9	1.3	4.3	2.7	4.3	0.5	1.1
Interaction								
Positive Initiation	11.5	6.1	9.3	5.2	5.8	3.4	2.7	2.9
Negative Initiation	0.4	0.7	0.1	0.2	0.1	0.2	0.1	0.2
Positive Reciprocation	4.9	3.1	4.8	5.8	2.9	2.8	1.3	2.5
Negative Reciprocation	0.3	0.4	0.1	0.3	0.2	0.3	0.2	0.2
Continuous Interaction	23.2	14.6	11.0	8.0	6.5	5.1	3.2	6.0
Total Interaction	40.4	22.0	25.4	15.1	15.5	8.9	7.5	6.0

* Context

Table 3

Empirical Probabilities for Teacher Behavior, Materials, and Peer Proximity/ Orientation Measures with Peer Interaction by Context.

	Freeplay	Snack/Lunch	Individual Activity	Group Activity
Teacher Behavior				
Group	0.9	2.8	5.5	65.0
Directed	0.6	0.6	5.5	0.8
Interaction	0.1	--*	--*	0.0
No Teacher Response	98.6	96.5	88.8	34.0
Materials				
Individual	40.5	86.0	72.8	8.8
Multiple-Use	29.5	0.8	4.5	1.3
Absent	30.3	13.0	22.3	90.0
Peer Proximity/Orientation				
Proximity	96.0	98.2	99.6	99.8
Orientation	0.1	0.5	0.2	0.4
Alone	4.0	1.8	0.4	0.3

* Measure did not occur.

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Appendix D - Advisory Committees

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Appendix E

Relationship Between Teacher Attitudes Toward Mainstreaming and Special Education Support

An Inservice Training Program for Mainstream Teachers: Positive Teacher Attitudes and Child Outcome[1]

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Formerly entitled "Relationship Between Teacher Attitudes Toward Mainstreaming and Special Education Support"

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Running head: INSERVICE TRAINING FOR MAINSTREAM TEACHERS

Abstract

Surveys of teacher attitudes towards mainstreaming have reported that "regular" classroom teachers do not necessarily favor the practice. It is suggested in the literature that teachers might feel more competent to teach mainstreamed handicapped students if given training and support from special educators. The Social Integration Project developed a model to integrate handicapped preschool children into day care centers. The model provided inservice training for regular classroom teachers through workshops and extensive in-classroom feedback and consultation (microsession training and transfer). In-classroom training was conducted by a special educator whose role was analogous to a resource teacher. Two positive model outcomes are described: the progress of handicapped children served and uniformly positive attitudes of participating teachers. While these outcomes cannot be directly attributed to inservice training, it is suggested that such training contributes to favorable teacher attitudes toward the integration of handicapped students.

An Inservice Training Program for Mainstream Teachers: Positive Teacher Attitudes and Child Outcome

When handicapped children are included in mainstream classrooms, "regular" classroom teachers may be expected to provide much, and perhaps all, of their instruction. Few would question that the attitudes and behaviors of regular classroom teachers are critical to successful integration of handicapped children into the mainstream. Raver (1980) suggests that "teacher attitudes will probably determine, as much as any other single variable, whether integration will work successfully, since a teacher's attitude will eventually shape all aspects of the emotional climate of a program" (p. 51).

Unfortunately, investigations of mainstream teachers' attitudes have not demonstrated their support for integration, especially when teachers have been asked about their attitudes toward the inclusion of educable mentally retarded children (Shotel, Iano, & McGettigan, 1972; Childs, 1981). Reporting about an effort to mainstream visually handicapped preschoolers, Simon and Gillman (1979) wrote, "Pupils and teachers, although well intentioned, become anxious, resort to stereotypic behaviors, and demonstrate avoidance of handicapped students" (p. 464) and these tendencies were said to have increased over time.

Support and Teacher Attitudes

If mainstreaming is to be successful, it is important to investigate why teacher's attitudes are unfavorable and to develop integration procedures which will alleviate conditions which may produce unfavorable attitudes. In some cases, teachers have articulated sources of dissatisfaction; in other cases, retrospective examination of integration procedures suggests alterations that might have influenced teachers' attitudes. Simon and Gillman (1979) for example, reported that mainstream preschool teachers were

notified that handicapped children would be placed in their classrooms, but they were not trained to teach them. The teachers surveyed by Shotel and associates (1972) received an explanation of the goals of the program (mainstreaming with resource room support) prior to the integration of handicapped children. At the end of the year they did not feel competent to teach handicapped students, particularly EMR students as opposed to emotionally handicapped or learning disabled pupils. When given support, however, they said they felt more competent to teach handicapped children. Virtually all teachers reported that they needed special materials for handicapped students. Shotel et al. suggested that teacher attitudes might have been improved by providing workshops on teaching methods, having mainstream teachers observe in the resource room, and facilitating communication among special educators and mainstream teachers.

The teachers surveyed by Childs (1981) expressed attitudes consistent with those reported by Shotel et al. (1972). Only 40% said they were adequately prepared to teach handicapped children although 44% had taken some special education courses. Only 46% reported having "the necessary consultant services" to teach the handicapped students in their classes (p. 226). More than half taught the same content to EMR and nonhandicapped students and 60.5% said they used the same texts for all students. Childs reported that the mainstream teacher "seems to be still unprepared and unsupported" (p. 227).

The aforementioned surveys of experienced mainstream teachers define specific needs: (a) for preparation for the mainstream experience, and (b) for support from special educators. Gickling & Theobald (1975) found similar needs expressed by "regular" educators who had not yet taught in mainstream classrooms. Though they felt self-contained classrooms were restrictive settings for handicapped students, only 15% thought they had the skills neces-

sary to teach such students. However, 80% felt they would be "more comfortable" if they had assistance from special educators and 95% said they would work with a special educator "if time were available" (p. 322).

When asked, mainstream teachers can define certain needs with regard to teaching handicapped children. A number of studies have suggested that inservice training addressing these needs is associated with positive teacher attitudes toward mainstreaming (Stewart, 1983; Hummel, 1982; Kane, 1982).

Various forms of inservice training must be studied to determine which best meet teachers' needs. After surveying 243 elementary teachers, Bass (1981) reported that they preferred to have resource specialists deliver training through informal discussion and demonstration. Hummel (1982) has advocated "job-embedded inservice" in which teachers have the chance to practice techniques and receive feedback. Ellis (1977), too, has suggested that inservice training should take place in classrooms so teachers can implement techniques and receive "immediate", "low-inference feedback" about their performance from peer-observers (pp. 11, 14). The inservice training described in this paper emphasized on-the-job training including modeling and feedback provided by a special educator.

The Social Integration Project

The Social Integration Project (SIP), integrated 22 handicapped children into ten classrooms in two day care centers in Utah over a two year period. The children included eight severely handicapped, 11 mild to moderately handicapped, and three children with communication disorders. Classifications were based on the Utah Office of Education Guidelines. All but two children met the Utah criterion for developmentally disabled persons: a year or more delay in three or more developmental areas (such as language, motor, and self-help

skills).

The project provided a special educator whose role in the day care center was analogous to a resource teacher. The special educator developed all individual educational plans (IEPs) in conjuncton with parents. The special educator was also responsible for determining which IEP objectives could be addressed through regularly scheduled day care activities and which required special programs. The special educator located or developed all additional programs necessary to address IEP objectives and served as instructor for some programs while training teachers to conduct others, as described under "Inservice Training" below.

Only one of the 30 teachers who participated in the model during the first two years had previous training for teaching handicapped children. In fact, because state day care licensure does not require teacher certification, only half of the teachers had formal teacher training. Eleven had no post-high school education.

Inservice Training

Three types of inservice training were implemented: (a) a one day workshop, (b) a series of 5 mini workshops conducted during regularly scheduled school staff meetings, and (c) microsession training and transfer, an in-classroom instructional procedure for children and training procedure for staff. These are explained below.

Workshop. During the workshop, teachers visited an early intervention center. Workshop activity included observation in classrooms for handicapped children and one-hour presentations on mainstreaming, behavior management, prompting and praising techniques, and individual instruction (microsessions). The sessions were primarily short lecture and discussion sessions with the exception of the session on prompting and praising. This session included

instructional simulation during which teachers practiced prompting and praising techniques. Teacher ratings of the interest and value of the workshop were favorable; the mean ratings of the interest of each session on a 5-point Likert-type scale (1=low, 5=high) ranged from 4.6 to 4.9. Mean ratings of the value of each activity ranged across activities from 4.4 to 5.0.

Mini-Workshops

The mini workshops were 45 to 90-minute sessions on the following topics: overview of the Social Integration Model; introduction to exceptionalities; overview of instructional processes including IEP development, programming and measurement; positive discipline; and incidental teaching. (Incidental teaching sessions are short instructional sessions given when naturally occurring opportunities for a child to use a skill, such as zipping a coat before going outdoors, arose during the school day.) Mini-workshops were informal lecture and discussion sessions conducted during regularly scheduled day care staff meetings.

Microsessions

The most intensive form of inservice training was the microsession training and transfer procedure (Stowitschek and Killoran, 1983). Microsessions are systematic instructional sequences directed toward single IEP objectives. They are implemented either individually or in small groups. The teaching techniques employed in microsessions are consistent with practices associated with effective mainstream teaching (Larrivee, 1982). These include questions directed to students' individual skill levels, confirmation of correct answers, "clarifying feedback" or prompts when incorrect answers occurred, and no criticism (p. 6). All microsessions were designed and initially implemented by the special educator.

The microsession transfer procedure provided for the gradual transfer of instructional responsibility to regular classroom personnel using a five-step procedure: 1. Observe, 2. Probe, 3. Chart results, 4. Consequate correct responses, 5. Present stimuli, and 6. Consequate errors. First, the regular classroom teacher observed the special educator as he conducted the session. During subsequent sessions the regular teacher took over successive instructional steps, while the special educator continued to model the remainder of the steps. The takeover began with step 1, an initial skill probe. When the mainstream teacher implemented that step corectly for two successive days as measured through direct observation and recorded on a criterion checklist, he or she began recording children's responses in addition to probing. When recording plus probing were correctly implemented for two successive days, the next step, consequating the child's correct responses was added. Transfer proceeded in this manner until the regular classroom teacher conducted the entire microsession. This procedure was implemented each time a new instructional program was begun, though it might have been implemented faster as the regular teacher became more experienced.

Other Support

The special educator made frequent informal visits to the classrooms. These visits provided opportunities for discussion of instructional programs, gi g assistance with classroom management and proposing solutions to problems teachers might have experienced.

In addition to support and training provided by the special educator, teachers received several types of materials. All materials needed for conducting individual instructional programs, including written lesson plans and data forms, were given to the teachers as they learned to conduct the prog-

rams. A social skills curriculum (Killoran, Rule, Stowitschek, Innocenti, Striefel, & Boswell, 1982; Innocenti, Rule, Killoran, Stowitschek, Striefel, & Boswell, 1982) was provided for all children in the classrooms.

Effects Associated with Training

Inservice training was associated with at least two results of model implementation: (a) progress of children taught and (b) positive teacher attitudes. Measures of child progress included: (a) IEP objectives mastered, (b) pre-post changes on a criterion-referenced test derived from objectives in The Program Planning and Assessment Guide for Developmentally Disabled and Preschool Children (Striefel & Cadez, 1983) and (c) pre-post changes on norm-referenced tests. Teacher attitudes were assessed on a project-developed questionnaire. The results are described below.

IEP objectives met. During year one, the ten handicapped children served attempted 368 IEP objectives. A total of 276, or 75%, were mastered. During year two, the 15 handicapped children served attempted 703 IEP objectives and mastered 582 or 83%.

Criterion-referenced test. The test derived from the Program Planning and Assessment Guide (Striefel & Cadez, 1983) was used as a pre and posttest only during the second year of the program. The fine motor, reading and receptive language subtests were administered. There were 15 handicapped children tested. Test-retest reliability was .99 using a Pearson product moment correlation. There was a statistically significant difference (in the direction of improvement) in children's test scores from pre to post testing. The t for dependent measure was -3.65 ($p < .003$; pretest mean = 38.1; posttest mean = 47.7).

Normative tests. Normative tests yielding a mental age or equivalent

score administered to children included the Stanford Binet Intelligence Scales (Merrill, 1973), the Bayley Scales of Infant Development (Bayley, 1969), the McCarthy Scales of Children's Intelligence (McCarthy, 1972) and the Hiskey-Nebraska Test of Learning Aptitude (Hiskey, 1966). It was not possible to administer the same test to all children because of the disparities in their mental ages. The same instrument was used as pre and posttest for each child but different instruments were used across children. There is a high positive correlation among the tests as explained in the test manuals. However, the validity of grouping mental age or equivalent scores obtained from different tests may be questioned.

During the first project year, only 7 children were enrolled for a sufficient length of time to conduct normative pre and posttests. These children were enrolled for a mean of 6.9 months and showed a mean gain in mental age (or equivalent score) of 11.7 months. The range of gain was 3 months to 2 years. No statistical tests were conducted due to the small sample size.

During the project's second year 15 children were tested. Their mean pretest mental age or equivalent score was 34.5; their posttest mean was 40.9 for a mean gain of 6.4 months. The t test for dependent measures indicated that this difference in score was significant ($t = 3.76$, $p < .002$). In sum, the various measures indicated that handicapped children served made progress. They mastered most objectives taught and made gains in mental age.

Survey of Teacher Attitudes

At the end of the second year, 20 of the 30 teachers who participated in the SIP project were surveyed to probe their attitudes about their mainstream experience. The remaining 10 teachers could not be located. Teachers' length of association with the model ranged from two years to a few weeks in the case of one recently employed teacher. Most had at least an academic year's exper-

ience in the model.

Survey questions derived from issues described in the literature on teacher attitudes toward mainstreaming are summarized in Table 1. Each question was followed by a four-point Likert-type rating scale. Responses to the survey were anonymous. Table 1 shows a frequency distribution of teachers' responses to questions about their attitudes. Not all items had 20 responses because the one inexperienced teacher chose not to answer several questions.

Insert Table 1 about here

Teachers were candid when asked about how much work was involved in teaching handicapped children in the mainstream. They responded that it required more work. However, all said that they would encourage inclusion of handicapped children if they were asked by someone considering integrating a day care center. None reported that teaching in the mainstream had adversely affected their opinions of the handicapped, and 15 of the 20 said their attitudes had been improved by the experience. All but one said the training they had received had helped their teaching skills and all but two felt this training had improved their teaching skills with nonhandicapped children as well. All teachers felt that mainstreaming had been good for handicapped and nonhandicapped children alike.

Discussion

The preceding data do not represent an experimental analysis of the effects of inservice training. Therefore, no causal inferences can be made about the effects of training on child progress and teacher attitude. However, given that many day care staff members had little or no formal training except for

inservice training, and studies suggesting teachers are not favorably inclined toward mainstreaming in the absence of training (Shotel et al., 1972; Child, 1981), it seems unlikely that the outcomes were independent of training.

There are suggestions in the literature that preschool teachers might have more favorable attitudes toward handicapped children than teachers of older children. Peck and Cooke (1983) have cited two authors who reported that mainstream preschool teachers' attitudes are "largely positive" (p. 14). However, prior to the inception of inservice training during the SIP project's first year, many preschool teachers complained about serving handicapped children.

The attitudes of the SIP teachers may have been influenced by the results they achieved with the children. Larrivee and Cook (1979) found that teachers' attitudes were positively correlated with their perceptions of success in teaching handicapped children. Children in the SIP model made progress as indicated by mastery of IEP objectives and test results. When asked an open-ended question regarding what they liked best about the Social Integration Model, the most frequent response of teachers surveyed in the present study was that they liked seeing the progress and achievement of the children. One teacher wrote that this "was a new experience for me, not having any type of handicapped training. I found the model most helpful. I believe being around handicapped children, working with them and learning from them is what I liked best. Seeing their progress and knowing I helped them learn to do something was most rewarding for me." Apparently, when children made progress, teachers perceived themselves as successful. Some teachers referred directly to the support provided by the model. One teacher commended the "step by step" procedure of the programs; another liked "the special educator's coming into individual classrooms to talk about individual problems," and another liked

the individualized programs "and the record keeping so one can see the progress."

While not conclusive, the attitudes of teachers participating in the model are consistent with earlier surveys suggesting that inservice training and support from special educators can be translated from the literature into practice. On-the-job training as delivered in the SIP model was associated with effective teaching as indicated by children's progress. Such training may help teachers develop and maintain positive attitudes toward mainstreaming.

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Table 1

Frequency Distribution of Teacher Ratings of Experiences with the SIP Model

Questions	Ratings			
Work involved with handicapped children	1 a lot more work	2 a little more work	3 same	4 less work
	f=6	f=13	f=1	
Your advice on including handicapped children in day care centers	1 don't	2 neutral	3 include	4 strongly encourage including
		f=1	f=10	f=9
How working with handicapped children affected your opinions about the handicapped	1 like less like less	2 hasn't changed opinion	3 like more	4 like a lot more
		f=5	f=5	f=10
How training has affected your teaching skills	1 not helpful	2 hasn't changed	3 a little helpful	4 improved skills
		f=1	f=5	f=13
How training has affected skills with nonhandicapped children	1 made harder to work with	2 no change	3 helped	4 helped a lot
		f=2	f=9	f=9
How having handicapped children at the center affected "normal" children	1 made harder to work with	2 no effect on them	3 has been a little bit good for them	4 has been very good for them
			f=5	f=15
How being around "normal" children affected handicapped children	1 hasn't been good for them	2 no effect on them	3 has been a little bit good for them	4 has been very good for them
			f=3	f=17

Appendix F

Replication Data and Instruments

Appendix F. Replication Data and Instruments

Pre-post data on replication activities. As noted in Table 12, staff at only three sites collected data for evaluating the impact of the LBS curriculum on childrens' behavior. Within these sites, data collected at the beginning of the year did not always correspond with end-of-year data, prohibiting some pre-post comparisons. The fact that such a small amount of pre-post evaluation data was collected and even less was usable makes it clear that future evaluations will need to be conducted by project staff.

Four classrooms completed pre-post evaluation using the Let's Be Social Skill Rating. The Skill Rating is a teacher completed checklist which asks questions about skills taught as part of the LBS curriculum. Teachers respond to these questions on a Likert-type scale indicating the degree to which a given skill is exhibited--from never (0) to all of the time (3). Reliability and validity have not been established for this rating instrument. The classrooms returning this data were: a mainstream preschool classroom for three year olds, a mainstream preschool classroom for four year olds, a preschool classroom for four and five year olds integrated with handicapped and nonhandicapped children; and an alternative kindergarten classroom for handicapped children. A total of 54 Skill Ratings were evaluated from these four classrooms. Individual questions were summed for a total score on each checklist. A t-test for dependent measures was performed. The increase in childrens' scores from pre to post evaluation was statistically significant ($t = -7.91$, $p < 0.0005$). This indicates that children did gain in social skill during the time the Let's Be Social curriculum was in use.

For three of the classes (N = 43) which collected Skill Rating data, all except the alternative kindergarten, it was possible to separate checklist questions into those that corresponded to units which had been taught and those

that corresponded to units which had not been taught. Pre-post scores were obtained for each set of questions. These scores were divided by the number of questions comprising each set, and pre-scores were subtracted from post-scores to provide an average per question change for questions corresponding to skills taught and for questions corresponding to skills not directly taught. A t-test for dependent measures was conducted and a statistically significant difference (t = -5.54, p <0.0005) was found in change scores, favoring questions corresponding to skills not directly taught (mean change of 0.41 to 0.16).

It is difficult to interpret the above data without data from a control group which did not participate in the Let's Be Social curriculum. It is clear the childrens' social skills did increase while the LBS curriculum was implemented. That there was greater change on questions that did not directly assess LBS units taught may be related to a "halo effect" caused by teachers using a systematic social skills program and thus sensitizing them to skills that a child may have when completing the checklist. It is also possible that some of these other skills were informally taught outside of the curriculum. Teachers did know about the content of the lessons they had not taught and may have included this content in other classroom activities. Other explanations for the change data are possible, but until more thorough evaluations of the LBS curriculum are completed all explanations remain speculation.

One classroom of preschool handicapped children used a rating form other than the Skill Rating. The rating scale this classroom used is shorter than the Skill Rating and was adapted from a teacher rating scale originally devised for use with the SCIPPY social skills program (Day, Powell, & Stowitschek, 1980). Pre-post data on this rating scale was completed on six children. A t-test for dependent measures was conducted on this data and changes were found to be nonsignificant (t = -2.02, p = 0.10). The limited number of children assessed with this rating scale and the fact that the questions were not specific to

skills addressed in Let's Be Social makes it difficult to interpret the results of this statistical analysis. Five of the six children did make gains on pre to post scores.

In addition to the Skill Rating, direct observation data was collected on six children. Four children were from the integrated preschool classroom for 4 to 5 year olds and the other two were from an alternative kindergarten for handicapped children. The direct observation data were collected using the LBS Skill Checklist. To use this checklist children are observed for a 15 to 20 minute period in a freeplay or a snack/lunch setting, after which the teacher completes the checklist based on his/her observations. Four observation are recommended to obtain a reliable sampling of a child's skills. The six children were observed, from two to four times at pre and post evaluations. For each question on the skill checklist a +1 is given for a yes, a -1 is given for a no, and 0 is given for other responses. Pre or post scores are summed across checklists for pre or post evaluation and are divided by the number of observations. Thus, the score a child may receive can vary from -26 to +26. Total checklist scores for pre and post observations, as well as scores on checklist items correspond to social skills not directly taught are presented in Table 13. All children made gains on their total checklist score from pre to post observation. An analysis comparing scores on items assessing social behavior that were taught to children versus those that were not taught revealed that four children made larger gains on items which corresponded to skills taught than on items corresponding to units not directly taught. These gain scores were, respectively, 6.4 to 2.3 for S1, 8.29 to 1.75 for S2, 3 to -1.17 for S4, and 6.5 to 2.5 for S6. For the other two children this pattern of scoring was reversed, 0.17 to 4.5 for S3 and -0.17 to 5.5 for S5, indicating greater gains on items not directly taught. Overall, these results imply that children may make

greater observable gains on skills which are directly taught then those which are not. Also, direct observation may be a more sensitive indicator of skill changes than a rating measure. The number of subjects in this sample was small and more data are needed to verify these results.

Teacher Implementation Questionnaire. To determine if teachers were using the Let's Be Social curriculum in the manner outlined in the workshops, an implementation questionnaire was sent to teachers. Seven teachers from three sites (Table 12) returned the questionnaire. A sample questionnaire and a summary of responses are presented in this Appendix. Though some variations occurred, and were expected, the LBS curriculum was implemented in the prescribed way. Only one teacher deviated from the way in which warm-up sessions were to be conducted, using these once or less per week, but this teacher was the one working exclusively with handicapped preschoolers.

Teacher Satisfaction Questionnaire. Teacher satisfaction with the LBS social curriculum was assessed by questionnaire. This questionnaire gauged teacher satisfaction with the LBS workshop and the implementation of LBS, as well as providing a measure of social validation on some of the social skills in the LBS curriculum. Ten teachers from four sites (Table 12) returned this questionnaire. A sample questionnaire with a summary of responses is presented in this Appendix.

Teacher satisfaction with the training workshop was mixed. Although all felt the purpose of LBS was well presented, many would have liked more detail on the teaching techniques used in LBS. A number of teachers indicated they would have liked feedback from the presenters while they used the teaching techniques. This information will be incorporated into future workshops.

Regarding implementation of the LBS curriculum, most teachers found the material given them clear and that enough information was included to use the units. Some teachers did report difficulties in including the LBS curriculum

in their daily schedules, but none found it overly difficult. No teacher reported dissatisfaction with Let's Be Social.

On the social validation section of the questionnaire, thirteen skills were presented. On ten of these skills teachers were of the opinion that the LBS curriculum did have impact for changing a skill. No skill was reported to have deteriorated as a result of Let's Be Social.

Teachers were also provided with some open ended questions. Responses to the question of what "you liked best about Let's Be Social" were met with praise for the program and its impact on the children. The question of what "you liked least about Let's Be Social" elicited a variety of responses. They ranged from complaints about the pictures used to the data collection procedures, and from the simplicity of the curriculum to the difficulty of the program.

Appendix G

Dissemination Summary

Let's Be Social

Teacher Implementation Questionnaire

Please complete the following questions.

1. How many children in your classroom were involved in the Let's Be Social program (please write in a number)? 35, 15, 40, 13, 10, 15, 8

2. What are the ages of these children? 3, 4-5, 4-5, 4-5, 3, 4, 3-5

3. Of these children how many were handicapped? 0, 5, 0, 0, 0, 0, 8

4. If there were handicapped children in your class, what types of handicaps did they have (check all that apply)?

   _____ Mentally handicapped
   _____ Physically handicapped
   _____ Language impaired
   _____ Hearing impaired
   _____ Other (please describe briefly)

The following addresses how you used the Let's Be Social (LBS) program and measurement forms.

Part A

Assessment: The following questions deal with the LBS skill rating (checklist of child skills) and ranking (ordered listing of children by social ability) procedures.

5. How did you identify the children who were low social interactors.

   Used rating and ranking forms X X X X X
   With another assessment device _____
   Name of device _____
   Did not identify low interactors _____
   Other (please explain) "general knowledge" "knowing the kids"

6. How many children were in the Let's Be Social program? _____

7. Of those children in the program, how many were judged to be low interactors? 12, 6, 4, 4, 4, 4

8. Do you have any additional comments about the way in which you selected low interactors for the Let's Be Social Program.

   "low were those expected" "a lot that were low I know before hand"

Part B

Implementation: The next set of questions deals with use of "warm-up" sessions and co-incidental teaching.

9. How often did you do the "warm-up" sessions?

Daily X X
Four times each week
Two to three times each week X X X X
Once or less per week X

10. If you spent more than one week on a unit, how long did it take you to complete one unit?

Two weeks X
Three weeks X X
Four weeks
More than four weeks

11. At what time of day (or activity) did you do the "warm-up" sessions? ____

early morning; between snack and freeplay; early morning; early morning; morning; morning; morning

12. How often did you do co-incidental teaching?

More than once per day X
Once per day X X
At least one every two to three days X X X
At least one every four to five days X
Never did co-incidental teaching
None of the above

13. If you answered "None of the above" on question 11, how did you use co-incidental teaching?

14. On what children did you use co-incidental teaching procedures?

All low interactors X X
A few low interactors
Any child X X X X X
Other (please explain)

15. At what time(s) of the day (or activity) were you able to do co-incidental teaching? playtime; snacktime; freeplay; anytime; freeplay; varied; art, freeplay; free choice activities and snack

16. If you did co-incidental teaching, did these teaching episodes focus on:

Only current units _____
Current and past units X X X X X X
Any unit from the program X

17. Have you been selecting units to teach:

a) in the order presented in the manual. X X X X X X X

b) according to class needs. _____

18. Do you have any additional comments about the way in which you've been implementing the Let's Be Social Program. (Please comment on any changes you may have made.)

"two unit lesson per week and then ideas in classroom"

"too simple for 5 year olds--place 2 or 3 lessons together"

"for handicapped group [all] units could be extended"

Let's Be Social

Teacher Satisfaction Questionnaire

Please complete the following questions.

1. How many Let's Be Social (LBS) lessons have you completed (cross out those completed)?

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

2. What ages are the children you teach? _____

3. How many children did you involve in the LBS program? _____

4. Were any of these children handicapped? Yes No

   How many? _____

5. If you answered yes to #4, what types of handicaps did the children have? (Check all that apply)

   _____ Mental handicaps
   _____ Physical handicaps
   _____ Language handicaps
   _____ Hearing impaired
   _____ Other (please describe briefly) _____

   _____

The following questions are designed to measure your satisfaction with Let's Be Social. Please "X" those responses that best describe your feelings about the program.

Part I - These questions deal with the Let's Be Social workshop.

6. Was the purpose of Let's Be Social well presented?

Well Presented Purpose	Purpose Adequately Presented	Purpose Presented Was Weak	No Purpose Presented
8	2	0	0

7. Did the instruction in prompting and praising provide you with enough information to use these techniques?

Excellent Information Provided	Information was Adequate	Information weak, but able to put in use	More Information Needed
2	7	0	1

8. Was the information in daily "warm-up" sessions enough to get you started?

More than Enough Information	Adequate Information	Would Like More Information	Not Enough Information Given
3	4	3	0

9. Was the information in co-incidental teaching enough to get you started?

More than Enough Information	Adequate Information	Would Like More Information	Not Enough Information Given
3	6	1	0

10. If you received direct feedback on your use of the Let's Be Social program, based on observation of your using it, was the feedback:

Very Useful	Useful	Helpful, But More Needed	Not Useful	Not Applicable
2	3	1	0	4

11. Please check those items which you would like to see used more heavily in the workshop.

a. Instruction from the presenter	3
b. Videotape demonstrations	2
c. Role-playing	2
d. Hands on instruction while you do program	5

12. Overall, how well did the workshop meet your needs for teaching the Let's Be Social program.

Excellent	Good	Adequate	Poor
2	3	4	1

Part II - The next set of questions deal with the implementation of the Let's Be Social program.

13. How useful were the classroom ranking and skill rating assessment procedures in identifying low interactors for the Let's Be Social program?

Very Useful	Useful	Some Usefulness	Not at all Useful
3	5	0	2

14. Did the guide for the "warm-up" activities provide a clear description of what to teach?

Very Clear	Clear	Clear, but More Information Desired	Not Clear
5	4	1	0

15. Did the examples of how to do co-incidental teaching provide enough information on how to do these activities?

Good Information Given	Adequate Information Given	Could be done, but more Information Desired	Not Enough Information Given to do those
4	4	1	1

16. Were the units presented at an appropriate understanding level for children in your education classrooms?

All Lessons Appropriate	Most Lessons Appropriate	Some Lessons Appropriate	All Lessons Too Difficult
2	4	4	0

17. If you can remember lessons that were too difficult for the children, please write them in below.

"Good morning lesson was difficult"

18. How easy was it for you to include the Let's Be Social program in your daily schedule?

Very Easy	Easy	Moderately Difficult	Very Difficult
1	4	5	0

19. Did the children find the Let's Be Social activities enjoyable?

Most Children Enjoyed Them	Some Children Enjoyed Them	A Few Children Enjoyed Them	Nobody Enjoyed It
5	3	2	0

20. Overall, how satisfied were you with the Let's Be Social program?

Very Satisfied	Satisfied	Satisfied, but Would Like to See Some Changes	Not Satisfied
2	4	3	0

21. Additional comments about the Let's Be Social teaching format.

"I want to use it again."
"[4-5 year old preschool teacher] . . lessons too simple for most . . difficult to present in large group [38] due to children losing interest."
"Too high functioning for my program [all handicapped preschool]. Need smaller increments of progress."
"[3 year old preschool teacher] . . . Some of the games too advanced."
"[3 year old preschool teacher] . . . Some [lessons] may have been too difficult."

Part III - This last section investigates the effect the Let's Be Social program has had on children involved in the program. Please rate the effect you think Let's Be Social has had on children in your class.

Since you've been using Let's Be Social, what has happened to children's . . . .

22. Initiating or joining in play with others?

X Don't Know	0 Has Made Them Worse	1 No Change	2 Improved Some	3 Improved A Lot
0	0	1	8	1

23. Sharing and taking turns?

X Don't Know	0 Has Made Them Worse	1 No Change	2 Improved Some	3 Improved A Lot
0	0	0	8	2

24. Listening to directions and asking if they don't understand?

X Don't Know	0 Has Made Them Worse	1 No Change	2 Improved Some	3 Improved A Lot
0	0	3	7	0

25. Saying nice things to friends, giving compliments, and avoiding name calling?

X Don't Know	0 Has Made Them Worse	1 No Change	2 Improved Some	3 Improved A Lot
0	0	3	6	1

26. Table manners?

X Don't Know	0 Has Made Them Worse	1 No Change	2 Improved Some	3 Improved A Lot
0	0	4	5	1

27. Use of social amenities (please, thank you, excuse me, I'm sorry)?

X Don't Know	0 Has Made Them Worse	1 No Change	2 Improved Some	3 Improved A Lot
0	0	2	6	2

28. Playing rough in appropriate places (outdoors, not indoors) and playing rough without hurting others?

X Don't Know	0 Has Made Them Worse	1 No Change	2 Improved Some	3 Improved A Lot
0	0	7	3	0

29. Helping others?

X Don't Know	0 Has Made Them Worse	1 No Change	2 Improved Some	3 Improved A Lot
0	0	1	8	1

30. Talking to people they know but not to strangers?

X Don't Know	0 Has Made Them Worse	1 No Change	2 Improved Some	3 Improved A Lot
3	0	1.5	4.5	0

31. Greeting others (saying hi, goodbye)?

X Don't Know	0 Has Made Them Worse	1 No Change	2 Improved Some	3 Improved A Lot
0	0	1	4	5

32. Play skills such as playing board games, engaging in fantasy play?

X Don't Know	0 Has Made Them Worse	1 No Change	2 Improved Some	3 Improved A Lot
2	0	6	2	0

33. Saying no politely and accepting others' refusals?

X Don't Know	0 Has Made Them Worse	1 No Change	2 Improved Some	3 Improved A Lot
2	0	4	4	0

34. Ignoring teasing and name calling?

X Don't Know	0 Has Made Them Worse	1 No Change	2 Improved Some	3 Improved A Lot
0	0	6.5	3.5	0

35. What have you liked best about Let's Be Social?

"Systematic way of teaching social skills."
". . . having a program . . . growth in low interactors."
"Brevity yet completeness of lessons."
"Helped children understand and handle certain situations."
"Improvement that I have seen in kids social behavior."
"Easy to follow, required little preparation."
"Topics were skills children can use."
"Shows how to use feelings in a constructive way."
"Lessons were clear as to what the lessons wanted me to do on my part, and the way to go about it."
"That it helps kids to become aware that other people have feelings also."

36. What have you liked least about Let's Be Social?

"Presented another thing to do . . . not programs fault."
"Collecting data."
"Black and white pictures."
"Presentation too difficult at times for 3 year olds."
"Too repititious."
"Need more advanced lessons for older children."
"Testing and ranking."
"That my children didn't benefit more [teacher of 3 year olds]."
"Not task analyzed in small enough increments of progress."