

EFFECTS OF A CONSENSUS-BUILDING PROCESS ON TEAM DECISION-MAKING: PRELIMINARY DATA

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ABSTRACT

This article introduces the Vermont Interdependent Services Team Approach (VISTA), a cross-disciplinary method for planning and making consensus decisions regarding the type, mode, and frequency of related services required to support a student's education program. The present study was conducted to evaluate the effects of inservice training and guided practice using VISTA on the knowledge and perceptions of six student planning teams making related service decisions for students with multiple disabilities. Using a quasi-experimental design (one group, pretest/post-test), knowledge, confidence, and satisfaction data were analyzed using paired t-tests and descriptive statistics. Results indicate that after using VISTA, team members knew more about the specific functions served by related service team members, had higher levels of confidence in their group's teamwork practices, and had greater satisfaction with their decision-making process. Additionally, the data indicate decisions made by team consensus differed an average of 47.9% from service delivery decisions individually made by specialists.

PRELIMINARY DATA

Making decisions about the need for related services, the frequency of service, and the mode of service delivery (e.g., direct, consultative) is crucial to the development and implementation of appropriate educational programs for many students, especially those with more severe or multiple disabilities. Existing models for making related service decisions (American Occupational Therapy Association, 1989; Carr, 1989; Effen, 1984) lack research support and share a common conceptual

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orientation. These models examine decision-making exclusively from the perspective of a single discipline, such as occupational or physical therapy (Letters to the Editor, 1990). Such unidisciplinary decision-making does not account for the fact that many of the functions served by educational team members from various disciplines can overlap with other disciplines. A unidisciplinary orientation limits an individual team member's ability to make educationally relevant related service delivery decisions because it fails to address the interrelationships among the disciplines involved in a student's education. Recent data suggest that individual disciplinary control over service delivery recommendations is favored by many specialists working in educational settings (Giangreco, 1990). When professionals make related service delivery decisions individually, there is an increased probability of undesirable and unnecessary overlaps and gaps in services, contradictory recommendations from service providers, and conflicts among team members. Bailey (1984) suggests this phenomenon exists, in part, because team members have ambiguous roles. To date, no interdependent related service decision models have been presented in the literature.

The purpose of this study was to test the *Vermont Interdependent Services Team Approach* (VISTA) as a tool to facilitate interdependent related service decision-making (e.g., types of services, frequency, mode of service) by teams serving students with multiple service needs. VISTA is designed to: (a) increase team members' confidence that their related service delivery decisions are educationally relevant and necessary; (b) increase reliability among a team regarding which aspects of a student's program require support from various members and what functions those members need to serve; (c) reduce unnecessary or undesirable overlaps, gaps, and contradictions in related service delivery recommendations; (d) reduce conflicts among team members by focusing communication on student-specific information; (e) assist in matching the mode and frequency to the functions of related service involvement required to support an individual student's education program; and (f) increase team members' satisfaction with their decision-making practices.

VISTA is rooted in a value system designed to produce service recommendations that are *only-as-special-as-necessary* (Biklen, 1987; Giangreco & Eichinger, 1990). This value system acknowledges the contributions made by various disciplines, but it also recognizes that providing more specialized services than are necessary may have inherent drawbacks. Providing more services than are necessary may: (a) decrease time for participation in activities with nondisabled peers, (b) cause disruption in acquiring, practicing, or generalizing other important educational skills, (c) cause inequities in the distribution of scarce resources when some students in need remain unserved or underserved, (d) overwhelm families with an unnecessarily high number of professionals, or (e) unnecessarily complicate communication and coordination among team members.

VISTA is based on five major features: (1) a shared understanding of student's educational program components (i.e., IEP goals, other learning outcomes beyond IEP goals, access/instructional management needs); (2) analysis of functions served by related service personnel (e.g., making adaptations, transferring skills/information to others, being a resource/support to families); (3) use of decision-making criteria consistent with the federal definition of related services; (4) consensus decision-making based on a shared set of educational program components for an individual student; and (5) a match between the related service delivery recommendations (i.e., the need for service, mode of delivery, frequency) and functions serving to support a student's educational program.

VISTA was developed using the federal definition of related services which describes them as developmental, supportive, or corrective services that are "...required to assist a child with disabilities to benefit from special education..." (Individuals with Disabilities Education Act, 1990), the code of federal regulations (Code of Federal Regulations §300.13, 1987), Supreme Court rulings (*Board of Education of the Hendrick Hudson Central School v. Rowley*, 1982; *Irving Independent School District v. Tatro*, 1984), and descriptive research (Giangreco, 1989; 1990; Giangreco, Cloninger, Mueller, Yuan, & Ashworth, 1991; Giangreco, Edelman, & Dennis, 1991). Step-by-step directions for completing VISTA are beyond the scope of this article.¹

METHOD

STUDY PARTICIPANTS

The 35 people who participated in this study were members of six different student planning teams. Four other teams, including 23 people, participated in pilot testing (data not reported here). Study participants were identified through regional educational consultants of the Vermont State Interdisciplinary Team for Intensive Special Education. Teams were eligible to participate if: (a) the student they served had severe and/or multiple disabilities; (b) the student they served received a minimum of three related services (e.g., OT, PT, S/LP); (c) all related service personnel who worked with the student and at least one educator who was familiar with the student's educational program were willing to participate in data collection and inservice training; (d) the team was willing to complete a series of activities in the weeks preceding data collection and intervention; and (e) the team's current practice was that specialists made related service delivery decisions for their respective disciplines and then shared and discussed them with the team. While VISTA can be used for students receiving any number of related services, a minimum of three services was selected to test VISTA under more complex circumstances. Table 1 provides basic descriptive information about the six students as well as the disciplines represented on each team.

TEAM ACTIVITIES CONDUCTED PRIOR TO DATA COLLECTION AND TRAINING

In the weeks preceding data collection and intervention, each team engaged in a series of IEP preplanning activities designed to identify components of the student's educational program; all teams used the same process, known as COACH (Version 6.0) (Giangreco, Cloninger, & Iverson, 1990).² A member of the Vermont Interdisciplinary Team for Intensive Special Education who was skilled in administration of COACH facilitated its use with each team. The components of the students' educational programs were determined by the team (including the family) and included: (a) IEP goals (family-centered, top priorities), (b) other learning outcomes (not top priorities), and (c) access/instructional management needs. The identified components of the students' educational programs were used by the team as the basis for pretesting and use of VISTA. This preparatory step was crucial because the VISTA process can only be used by teams that pursue shared student goals, learning outcomes, and management needs. VISTA is not intended to be used in situations where each discipline (e.g., occupational therapy, physical therapy, speech/language pathology) establishes its own distinct agenda as reflected in separate sets of goals for each discipline.

DESIGN AND DATA COLLECTION

The one-group, pretest/post-test design (Cook & Campbell, 1979) was repeated with each of the six teams between November 1989 and October 1990.

Pretest

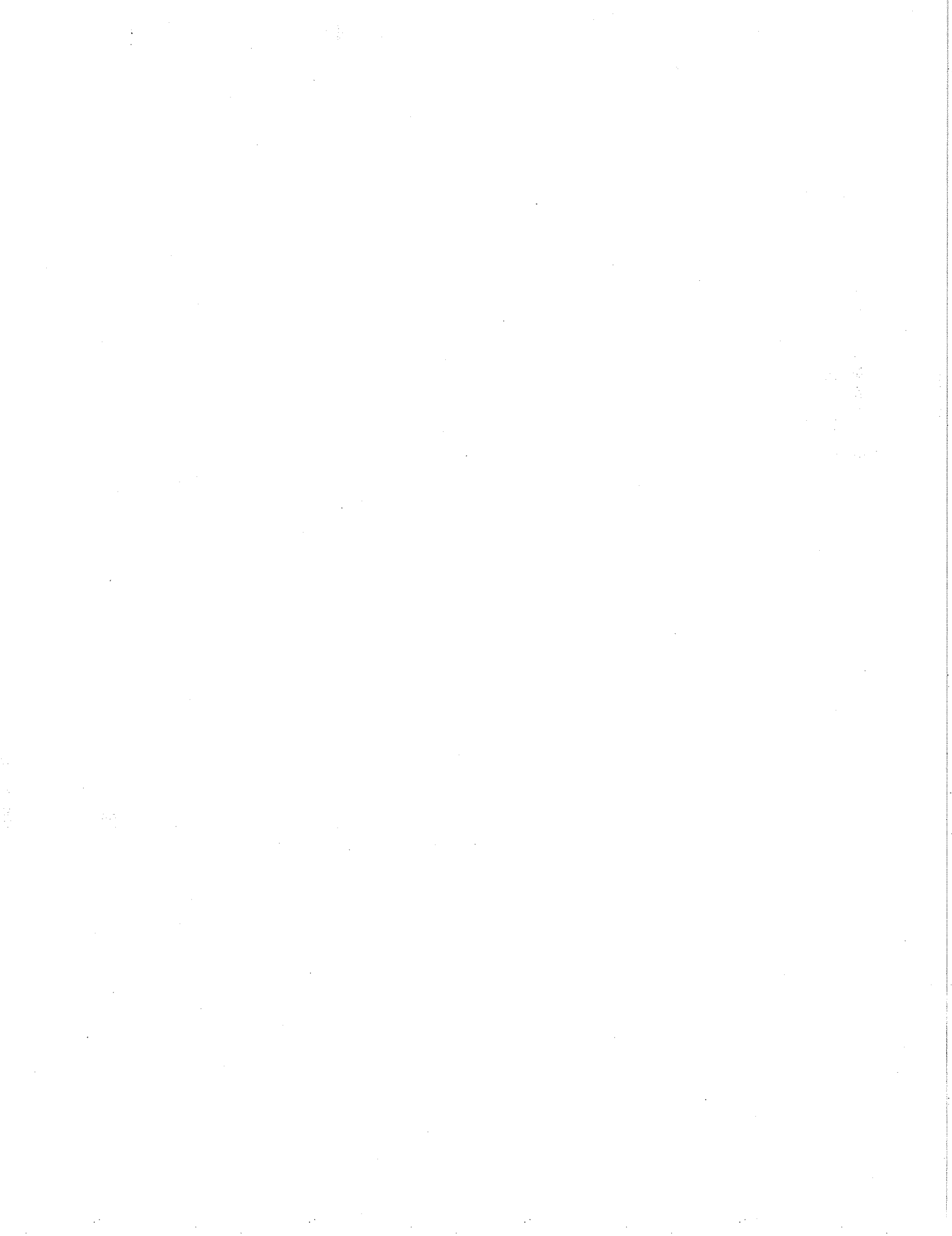
Pretest data collection took approximately 20-25 minutes and consisted of four sections. Participants were provided with: (a) a data collection sheet listing the student's educational program components agreed to by the team using COACH (6.0), with columns for each of the related service disciplines represented on the student's team; (b) a scoring key; and (c) a list of four major functions served by related service personnel (i.e., development of adaptations/equipment to enhance participation and/or prevent regression, deformity, discomfort, or pain; transfer specialized skills and/or information to others; serve as a resource and/or support to the family; and apply discipline-specific methods and/or techniques to enhance participation and/or prevent regression, deformity, discomfort, or pain). The data collection materials were reviewed verbally by the investigator, who answered the participants' questions.

For each educational program component, the participants first indicated whether they were at least 80% confident a particular related service was needed (+), at least 80% confident a particular related service was not needed (-), or not at least 80% confident in either direction (?). This scoring was completed in refer-

Table 1. Information about Teams

Student Age	Student Characteristics	Student Placement	No. of months team worked together before using VISTA	Team members participating in VISTA meeting	Special Educator	Educ./Integration Specialist	General Educator	Occupational Therapist	Physical Therapist	Speech/Language Specialist	Vision Specialist	Hearing Specialist	Employment Specialist	Parents	Regional Educational Consultant
Team #1 7	DSI PMR Severe Ortho.	Grade 2	2	X	X	X	R	X	X	X	X	X	X	R	
Team #2 12	Severe MR Severe Ortho. Hearing Imp.	Grade 7 and Resource Rm.	4	X	X	X	R	X	X	X		X		R	X
Team #3 6	Profound MR Visual Imp. Severe Ortho.	Kindergarten (1/2) Special Class (1/2)	7		X	X	R	X	X	X				X	
Team #4 6	Profound MR Severe Ortho.	Kindergarten (Transition to Grade 1)	9		X	X		X	X	X	X			R	
Team #5 6	Severe MR Severe Ortho.	Kindergarten	2	X	X	X		X	X	X				R	
Team #6 13	DSI Severe MR	Grade 7 and Resource Rm.	2	X	X	X	R	X	X	X		X	X	R	

Key:
DSI: Dual Sensory Impaired (deaf-blind)
Ortho: Orthopedic Disabilities
MR: Mental Retardation
X: Participated in VISTA meeting
R: Reviewed results and gained approval following VISTA meeting



ence to each related service discipline represented on the team for each of the educational program components identified for the student.

Team members who were themselves related service providers (e.g., OT, PT) scored columns representing their own discipline as well as columns representing other related service disciplines. Team members who were not related service providers (e.g., special educators, parents) scored columns representing each of the related service disciplines. Since pretesting was not meant to measure participants' recall, the participants were allowed to refer to and/or share any written documents (e.g., student's IEP, evaluation reports, progress reports) to assist them in completing the pretest data sheet. However, participants were not allowed to confer with each other during pretesting.

Second, each participant was asked to indicate his or her level of confidence regarding five questions using a 10-point Likert-style scale where "1" was anchored with the phrase "Not Confident" and "10" was anchored with the phrase "Very Confident." The five questions were, "Based on pretraining methods (i.e., the way your team operates prior to inservice and use of VISTA), how confident are you that: (1) the present processes used by your group avoid unnecessary gaps and overlaps in services? (2) the present processes used by your group avoid potentially contradictory recommendations? (3) you know what student learning outcomes and management needs are addressed by others? (4) you know the functions served by others on the team? and (5) the present processes used by your group avoid unnecessary conflicts among group members?"

Third, each participant was asked to indicate his or her level of satisfaction using a 10-point Likert-style scale where "1" was anchored with the phrase "Not Satisfied" and "10" was anchored with the phrase "Very Satisfied." This was done using the question, "How satisfied are you with the present (pretraining) approach to making related service decisions?" Lastly, space was available for participants to share any written comments or to elaborate on their responses. Pretest data sheets were collected immediately upon completion and prior to training and use of VISTA.

Intervention Procedures

Intervention consisted of inservice training on the tenets of VISTA (see Table 2), followed by guided practice and facilitation of VISTA by the author.

Table 2

VISTA : Inservice training components necessary to be a participant in VISTA process

- 2.1 Background Information and Rationale for an Interdependent Model**
 - 2.1.1 Definition of Related Services from P.L. 94-142 (EHCA, 1975) was provided.
 - 2.1.2 A small number of nondata-bases decision-making models exist (AOTA, 1989, Carr, 1989; Effen, 1984). They are limited because of their focus on decision-

making within a single discipline. They do not address potential overlaps among the responsibilities of various disciplines (Giangreco & Eichinger, 1990).

Use of undisciplinary decision-making increases the likelihood of unnecessary gaps and overlaps in services, contradictory recommendations, and conflicts among team members.

A variety of professional practices are believed to interfere with the integrated delivery of related services based on individual professional judgment (e.g., related service decisions are often made prior to determining IEP goals and are based on priorities valued by the various disciplines) (see Giangreco, Edelman & Dennis, in press, for seven interfering practices).

2.2 Value Base

VISTA is based on an "Only-as-Special-as-Necessary" value system (Giangreco & Eichinger, 1990). This means that specialized services should be provided only to the extent they are needed to support the student's education, based on the belief that too much service may have a negative impact on the student's education.

2.3 Defining a Student's Education Program

The team, including the family, agrees on educational program components for the student. IEP goals, which represent discipline-free priorities, are the focus of the program. Other, less extensively documented, learning outcomes reflect the "breadth of the curriculum." Instructional management needs refer to aspects of the educational program that are done to or for the student (e.g., feeding the student, caring for their bowel and bladder management needs) (Giangreco, Cloninger, & Iverson, 1990).

2.4 Functions of Related Service Providers

Some functions of related service personnel include: (a) making adaptations or equipment/materials to enhance participation and/or prevent regression, deformity, discomfort, or pain; (b) transferring specialized skills and/or information to others (e.g., professionals, clinic, assistants, peers); (c) serving as a resource or support to the family; (d) applying discipline-specific methods or specialized techniques to enhance participation and/or prevent regression, deformity, discomfort, or pain; and (e) other functions as agreed to by the team (Giangreco, 1989, pp. 58-73; 1990). Considering a variety of functions can avoid putting a disproportionate emphasis on remediating deficits (Giangreco, 1989, p. 64).

2.5 Criteria Used in VISTA

Essential criteria include: (a) the need for services to support the educational program and (b) consideration of overlaps and potential interdependencies among various disciplines, recommendations and involvement. Other criteria (e.g., chronological age, history, and prognosis for remediation) may be used in a discretionary manner. Some criteria are inappropriate (e.g., level of intelligence, level of parental involvement) (Giangreco, 1989, p. 153-158).

2.6 Decision-Making Authority

Consensus decision-making reduces individual errors in judgment (Giangreco, 1990; Pfeiffer, 1982).

2.7 Matching Service Delivery Mode to Functions Served

2.7.1 Mode of service delivery (e.g., direct, indirect) should be based on the function served by professionals (e.g., if the PT's function is to transfer information and skills to others, provide support to the family, and serve as a liaison with physicians, the matching service mode would be indirect).

Post-testing

Following intervention, post-testing was conducted which paralleled the procedures used during pretesting. The only difference was that post-test responses were all based on information and documents generated through the inservice and use of VISTA. Participants were also asked to visually interpret a portion of the completed VISTA forms and verbally indicate which disciplines were designated to support particular education program components. The total time for pretesting, training, use of VISTA, and post-testing took between three and four hours per team.

Data Analysis

Using the data collected in the first step of pretesting (perceptions of the need for various related services), reliability scores were calculated for each participant using an item-by-item comparison and then dividing the number of agreements by the total number of items and multiplying by 100. Individual reliability scores compared a person's scores regarding the need for a related service to the corresponding related service team members' scores about his or her own discipline's perceived need for involvement. A "pretest reliability score" was calculated for each person by averaging all of his or her individual reliability scores. The same procedure was used to determine each participants' "post-test reliability score."

Pretest and post-test reliability scores were compared using a two-tailed, paired t-test (SAS, 1985) to determine if there were significant changes in reliability between the responses of team members following intervention. The level of confidence and satisfaction scores from the Likert-style scales in pre- and post-testing also were analyzed using a two-tailed, paired t-test (SAS, 1985). To control for experimentwise error rate, the alpha level (.01) was divided by the number of t-tests conducted to set a new, more stringent alpha level. In this case (.01/7 = .0014), therefore, only t values with probability levels less than .0014 were considered significant.

A pre/post-test *intradiscipline reliability* score was generated by comparing each related service professional's perceived need for his or her discipline based on individual decision-making (pretest) and what he or she ultimately agreed to following consensus decision-making using VISTA (post-test). Pre/post-test intradiscipline reliability scores were calculated for each related service professional using an

item-by-item comparison, then dividing the number of agreements by the total number of items and multiplying by 100. An *intradiscipline difference* score was determined by subtracting each related service provider's pre/post-test intradiscipline reliability score from 100. This score indicated the percent of difference between what each related service provider indicated based on individual decision-making (pretest) and consensus decision-making (post-test). For example, during pretesting, team #3's occupational therapist scored 16 educational program components. The same occupational therapist scored the same 16 items during post-testing, based on reaching team consensus using VISTA. A matched-item comparison of the pre/post responses indicated that 43.75% of the occupational therapist's responses were the same before and after intervention. This intradiscipline reliability score (43.75%) was subtracted from 100 to calculate a pre/post intradiscipline difference score. This example indicates that the occupational therapist's own responses were 56.25% different following intervention.

RESULTS

As depicted in Table 3 (item 3.1), there was a significant difference between pretest and post-test reliability means among team members regarding the need for the involvement of related service disciplines. During the pretest condition, participants' mean reliability score was 52.34%. This was increased to 100% reliability during post-testing. Similarly, significant pre/post differences were identified on all five confidence level variables as well as overall satisfaction (see Table 3, items 3.2 to 3.7). Higher post-test mean scores with corresponding decreases in standard deviations indicate that the variance of difference within teams decreased following intervention.

Figure 1 (Intradiscipline Differences) indicates that related service decisions made by team consensus averaged 47.9% different than the decisions made individually by related service providers. Mean differences within teams ranged from 39.92% to 54.17%. Individual participant pre/post intradiscipline differences ranged from 29.42% to 63.16%.

Narrative comments of participants supported the positive confidence and satisfaction results. Participants reported that VISTA "focuses the team on specific issues," helps "people feel more confident about their roles," and may assist people to "actually feel as a team for the first time." Some team members projected that their experience with VISTA would facilitate case management and team coordination, since it explicitly defines related service functions for students.

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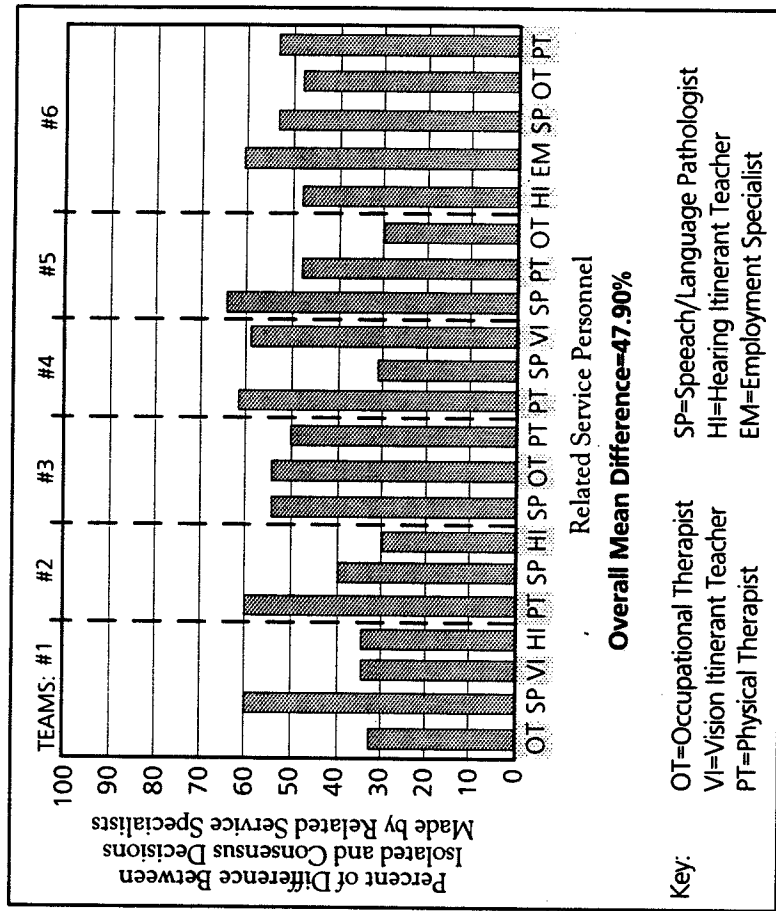
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Table 3. Pretest/Post-test Data

Variable	n	Pretest M(SD)	Post-test M(SD)	Mean Difference	t
Pretest/Post-test Reliability					
3.1 Reliability among team members regarding learning outcomes to be supported by related service disciplines	35	52.34(8.70)	100.00(0.00)	47.66	32.42*
Pretest/Post-test Levels of Confidence (based on a 1 to 10 Likert-style scale)					
3.2 Avoids unnecessary gaps and overlaps in services	35	4.03(1.87)	9.00(1.00)	4.97	17.42*
3.3 Avoids potentially contradictory recommendations	35	4.00(2.07)	8.86(1.35)	4.86	12.92*
3.4 Knowledge of student learning outcomes and management needs addressed by others	35	4.46(2.15)	9.43(1.01)	4.97	12.96*
3.5 Knowledge of functions served by others on team	35	4.49(2.09)	9.20(0.96)	4.71	14.09*
3.6 Avoids unnecessary conflicts among group members	35	4.97(2.04)	9.17(1.07)	4.20	12.26*
Level of Satisfaction (based on a 1 to 10 Likert-style scale)					
3.7 Overall satisfaction	35	4.25(1.96)	9.11(0.96)	4.86	13.15*

*p<.0001

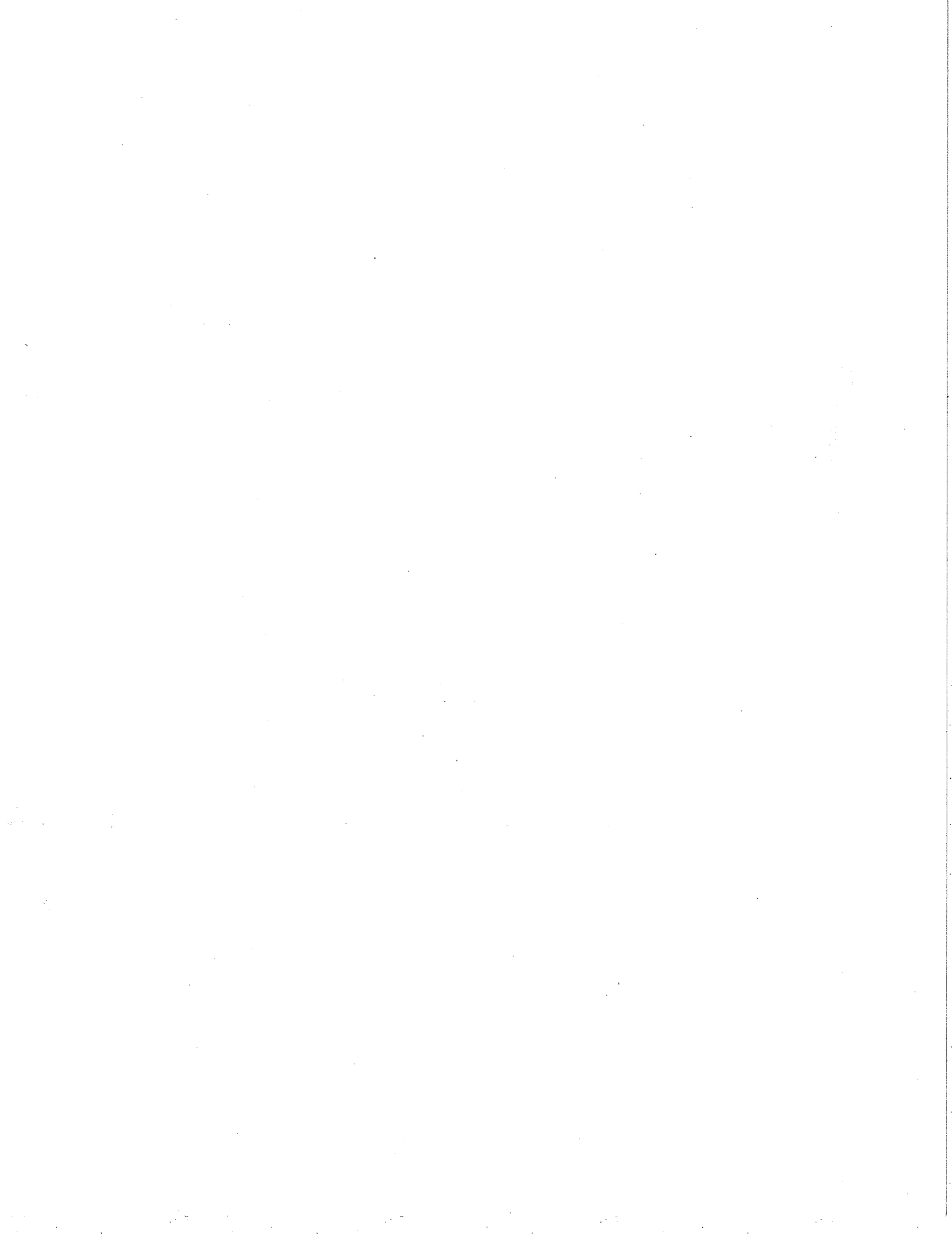
Figure 1. Intradiscipline Differences



DISCUSSION

History and maturation, two common threats to internal validity associated with one-group, pretest/post-test designs, were minimized by having a short (three to four hour) pretest/post-test time interval (Cook & Campbell, 1979). Statistical regression is not controlled for in pre/post designs that do not have a control group. The most significant threats to internal validity were the unknown effects of testing and the participants' potential expectation that they would leave the session with a "better way" of making related service decisions. Further, readers are advised that subject selection was limited geographically to Vermont. Since the inservice training and guided practice were conducted by the developer of VISTA, it remains unknown whether the steps required to facilitate VISTA are written with sufficient clarity to be replicated with similar results by others. It seems evident that the effective use of VISTA requires competent group facilitation skills and practice enhanced by ongoing evaluation feedback.

Despite the threats to internal validity associated with one-group, pre/post designs, the data presented in Table 3 and Figure 1 offer evidence that the use of



VISTA had a significantly positive effect on related service decision-making for the teams and individuals who participated in the study. During pretesting, there were low levels of reliability ($M = 52.34$, $SD = 8.70$) between the perceptions of need reported by related service personnel and the corresponding perception of need reported by other team members. This finding in combination with the generally low levels of satisfaction and low levels of confidence in the ability of current practices to avoid conflict (see Table 3, item 3.6 pretest) supports the contention of previous authors that a factor contributing to team dysfunction is ambiguous roles/functions (Albano, Cox, York, & York, 1981; Bailey, 1984; Bray, Coleman, & Gots, 1981; Hutchinson, 1978). VISTA specifically addresses the issue of clarifying roles/functions of related service team members.

It is not surprising that 100% reliability was achieved during post-testing since VISTA is not complete until the team reaches consensus. In doing so, VISTA documents "who is doing what to whom," and it indicates the functions to be served by each related service discipline. Since participants were allowed to refer to any documents during pre- and post-testing, they were easily able to determine exactly what each related service discipline was responsible for by reading and interpreting the VISTA forms. Even though they were given the same opportunities to review existing documents, this is something study participants were unable to do during pretesting.

The t-test data, comments of study participants, and anecdotal observations further support the contention that VISTA is a practical, time efficient method for making related service delivery decisions. The actual use of VISTA took between one and one and a half hours to complete per team. Although VISTA demonstrated it could result in a reliable interdependent set of related service delivery recommendations, acceptance and use of such an innovation relies only in part on product outcome. Of equal or greater importance is how the innovation is perceived by consumers. Data indicate that participants perceived that VISTA helped them do what it purported to accomplish (e.g., reduce gaps, overlaps, contradictions, conflicts; increase intrateam knowledge of educational program components and functions served by related service disciplines; and raise levels of satisfaction regarding team process).

CONCLUSION AND FUTURE NEEDS

These initial data supporting the usefulness of VISTA are not offered as evidence that this process is thoroughly refined; rather, given the sparsity of data on related service decision-making, VISTA is offered as an innovation that warrants further study in order to develop related service practices that support students' educational programs.

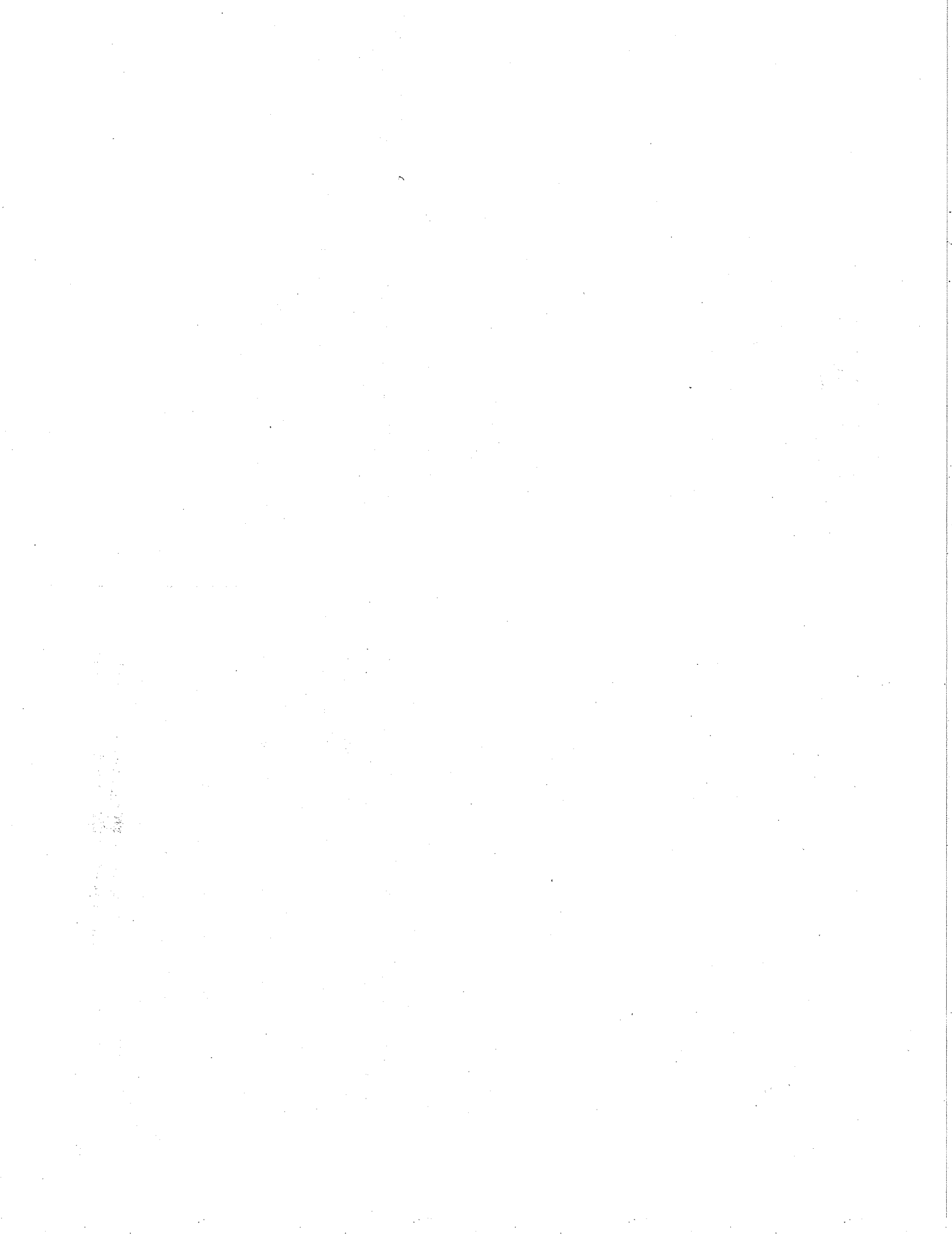
While VISTA continues to require clarification and refinement to improve its usefulness, its basic features hold promise for improving certain aspects of service delivery for students with educational support needs. With the passage of P.L. 99-457 which is designed to support young children with disabilities, the increasing numbers of students with traumatic brain injuries, the unmet needs of students identified as severely emotionally disturbed, and a new population of students with severe disabilities caused by substance abuse (e.g., cocaine, heroin), the need both to provide and coordinate educationally related services will continue to be a pressing concern. Future efforts may focus on applying the concepts embedded in VISTA to these and other groups of children who require specialized supports in order to access and benefit from instruction in schools. Future research efforts will need to determine what impact the use of VISTA has on students, families, and professionals.

FOOTNOTES

- 1 Complete instructions, examples, and blank forms for completing VISTA are available on a cost-recovery basis from the author at the University of Vermont, The University Affiliated Program of Vermont, 499C Waterman Building, Burlington, Vermont 05405.
- 2 Since the completion of this study a more recent, retitled version of COACH is available: Giangreco, M.F., Cloninger, C.J., & Iverson, V.S. (1993). *Choosing options and accommodations for children: A guide to planning inclusive education*. Baltimore: Paul H. Brookes Publishing.

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