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UTILIZATION AND EFFECTIVENESS OF MULTIDISCIPLINARY TEAMS IN EDUCATING SPECIAL NEEDS STUDENTS

Iowa State University PH.D. 1985

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Utilization and effectiveness of multidisciplinary teams in educating special needs students

by

Candice Ann Spencer-Dobson

A Dissertation Submitted to the
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TABLE OF CONTENTS

INTRODUCTION

The Education for All Handicapped Children Act, Public Law 94-142, requires that an individualized education program (IEP) be developed for all handicapped students and that these students be educated in the least restrictive environment. Handicapped students are to be educated with nonhandicapped students to the maximum extent possible. In other words, handicapped students are to be mainstreamed into regular education classes in accordance with the student's individual ability.

PL 94-142 also states that handicapped students are to be provided with related services and special education. Transportation, speech pathology, psychological services, physical therapy, counseling, health services and social work services are some of these services. Special education includes specially designed instruction to meet the needs of the handicapped child.

According to Section 121a305 of PL 94-142, each public agency shall ensure that handicapped children have available to them the variety of educational programs — art, music, industrial arts, consumer and home-making education and vocational education — that are available to non-handicapped children. If necessary, vocational education programs must be specifically designed to enable handicapped students to fully benefit from these programs.

This act also specifies that a team of at least four individuals will be involved in developing, reviewing and revising a student's IEP. The following participants are required at each multidisciplinary team (MDT) meeting: special education provider or supervisor, the child's

teacher, the parents and the child when appropriate. It is not required that individuals who implement the IEP be involved in the MDT meetings; this decision is left to the discretion of the agency. Although PL 94-142 has mandated that a minimum of four members serve on a MDT, a more appropriate size may be five (Abelson & Woodman, 1983). A team of this size would allow individuals directly involved in implementing the IEP to be a part of the planning team. For example, a vocational educator into whose class a handicapped student is mainstreamed would be on the MDT.

Although teams have been criticized because of the cost involved and the lack of utilization of members' expertise, several benefits of MDTs that include individuals who implement the IEP as team members have been identified. According to Maher and Yoshida (in press), staff members are more apt to implement a program if they were involved in the development or evaluation process. Secondly, the use of MDTs that contain IEP implementers may increase the likelihood that planning and evaluation will address the needs and concerns of service providers. Thirdly, this MDT approach can improve the communication among different groups within the school. Lastly, few staff members have the time needed for the evaluation and planning of group and individual programs.

It is also important to be aware of the possible drawbacks when using MDTs. First, team members often have been appointed by administrators and serve as unwilling participants. Second, members sometimes are unaware of the team process, goals, expectations and their role in team functioning. Finally, team involvement could result in role conflict as well as tension with co-workers.

Yoshida (1983) found that the most frequent problem related to MDTs concerned the level of participation of regular education teachers on MDTs. Regular educators frequently did not attend meetings or were in attendance but did not participate. The results of studies concerning vocational educators were similar. Inconsistency in the education of a special student is possible if regular teachers do not participate on the MDT.

According to Yoshida (1983), little research is available on how MDTs function in schools. Abelson and Woodman (1983) suggest that a need exists to learn how to effectively use MDTs in schools. Therefore, this study will focus on the identification of schools where the multidisciplinary implementation team approach is used, and the assessment of elements perceived by team members from vocational education and special education as critical factors contributing to effective utilization of a MDT.

Objectives

1. Identify schools that use the multidisciplinary implementation team approach.

2. Explore factors that contribute to effective MDTs as perceived by team members from vocational education and special education.

Definitions

Individualized education program (IEP)
: Written statement for a handicapped child that includes present educational performance, annual goals, special education and related services and evaluation procedures (PL 94-142, 1977).

Learning disabled (LD)
: Disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language (PL 94-142, 1977).

Mentally handicapped (MH)
: Subaverage intellectual functioning existing concurrently with deficits in adaptive behavior adversely affecting the child's educational performance (PL 94-142, 1977).

Multidisciplinary team (MDT)
: Group of individuals with different professional backgrounds involved in the development, implementation, review and revision of a student's IEP.

Assumptions

All respondents will respond completely and honestly to the questionnaires.

Limitations

Results of the study are limited to secondary schools and the perceptions of special educators and vocational educators in the midwest.

EXPLANATION OF HUMAN SUBJECTS REVIEW

The Iowa State University Committee on the Use of Human Subjects in Research reviewed this project and concluded that the rights and welfare of the human subjects were adequately protected, that risks were outweighed by the potential benefits and expected value of the knowledge sought, that confidentiality of data was assured and that informed consent was obtained by appropriate procedures.

EXPLANATION OF THE ALTERNATE DISSERTATION FORMAT

This dissertation will be presented in the alternate dissertation format approved by the Graduate College at Iowa State University. The alternate dissertation format allows for the inclusion of papers that have or will be submitted to refereed scholarly journals for possible publication.

The first paper, "Utilization of Multidisciplinary Teams in Educating Special Needs Students," will be submitted to the Journal of Vocational Special Needs Education. This paper describes the functions of teams in providing services to special needs students, subject matter areas into which mentally handicapped (MH) and learning disabled (LD) students are mainstreamed and composition of MDTs. "Effectiveness of Multidisciplinary Teams as Perceived by Vocational and Special Educators," the second paper, reports on the roles of team members, decision making within a team and determination of team goals. The second paper will be submitted to the Journal of Vocational Education Research.

REVIEW OF LITERATURE

The review of literature was concerned with the use of MDTs in providing general education programs and more specifically vocational education programs to secondary mentally handicapped (MH) and learning disabled (LD) students. Included in the review are concerns identified with the MDT approach, research on the services provided by MDTs to special needs students and the participation of vocational educators on MDTs. At present, there seems to be little research dealing specifically with MDTs that include IEP implementers as team members. This review will be divided into two sections: 1) use of MDTs to provide services for special needs students and 2) participation of vocational educators on MDTs.

Use of MDTs to Provide Services for Special Needs Students

Literature that addresses problems in the utilization of the MDT approach was reviewed by Fleming and Fleming (1983). Team members were faced with four general challenges. Lack of time to fulfill the duties required of members was the first. The quality of the decisions being made was affected by the need to stay on schedule. The second challenge was the inadequate skills and knowledge base of all team members. Skill and knowledge deficits in the areas of obtaining, organizing and presenting information often doomed decision-making to failure before group discussions took place. Assignment of available personnel resources was identified as the third challenge. MDTs needed to meet in order to analyze members' strengths and team require-

ments. Assignment of responsibilities of team members should be based on skill and interest. The last challenge involved techniques for the reduction of team member stress. Stress-related issues included the long, comprehensive evaluations that members complete and the amount of time spent on MDT activities versus the rewards of professional growth and success. Resolution of team difficulties was identified as an important part of the MDT process.

Yoshida (1983) reviewed literature investigating the worth of MDTs. Although teams made more consistent decisions, there was insufficient evidence to indicate that decisions made by MDTs were better than those made by individuals. He suggested the need for more research to compare individual and team eligibility placement and program decisions. Yoshida found that MDTs operated as an organizational unit instead of a participatory group, with school psychologists contributing the most and classroom teachers and parents contributing the least. Some studies found that the degree of MDT participation was related to decision satisfaction. MDT decision-making seems to be influenced by the understanding of team goals by team members, membership expectation and type of team leadership. Teachers who are the lowest in both satisfaction and participation may not implement MDT decisions.

Several organizational barriers that need to be overcome if MDTs are to operate as planned were identified by Yoshida. Teachers who implement portions of the IEP need to be integrated into the MDT process and made aware of their responsibilities as team members. Planning time should be allocated so teachers have time to prepare for MDT meetings. Training experiences about team operations and interpersonal skills

should be provided for team members. A system for conflict resolution should be in place before the need for it arises. MDTs are a change from loosely coupled decision-making to cooperative and coordinated planning. Research is needed to determine changes in behavior that contribute to effective MDT functioning.

Maher and Yoshida (in press) summarized several MDT approaches that have been used in school settings. Educational services are provided at the organizational level, group level and individual level.

Organizational level services are those that have been provided to enhance performance of an entire school or department within a school. MDTs at the organizational level are involved in the planning and evaluation of school and district activities.

Educational services provided to groups of pupils, teachers and parents have been categorized as group level services. The intent of group-level planning and placement teams is to organize pupils into groups for instruction and related services, to review educational needs of students to determine appropriate class arrangements and to identify personnel or management difficulties existing in programs. The purpose of building-level teacher consultation and support teams is to assist teachers with instruction, behavior and administrative management difficulties that can arise when teaching special education students in groups.

Individual level services are categorized as providing pre-referral support services or implementation of individualized programs. Pre-referral support teams are involved in the provisions of services to students, to regular education teachers that are teaching special

needs students and to other personnel. The organization of a pre-referral support team usually would be within a building and would be made up of teachers, a building administrator and pupil personnel staff.

Teams that ensure that an individualized education program (IEP) is implemented can be further divided into categories. Members that serve on a program consultation team meet regularly to ensure that program activities are carried out. Another MDT approach is the inter-organizational case management team that coordinates services both within the school as well as outside the school system. The third MDT approach is the program implementation team, composed of a member of the assessment and planning team, the pupil's teacher(s), others providing service(s) to the pupil and the pupil. This approach may be useful in enhancing the degree of collaboration and exchange among program planners and implementers as well as promoting a greater sense of responsibility for individualized program implementation, outcome assessment and revision.

Maher and Yoshida (in press) also found that the program implementation team was especially useful at the secondary level because students were provided individualized services in various settings. They indicated that MDT members with higher levels of participation were more satisfied and committed to implementation of team decisions. Regular education teachers often did not attend MDT meetings nor did they receive clear communication of the MDT decisions. Those that did attend were not encouraged to participate and consequently would sit through an entire meeting without participating. However, they also

found that in some districts regular education teachers were active in the MDT process.

A survey of 1344 planning team (PT) participants to determine the relationship between participation and satisfaction with team decisions was completed by Yoshida, Fenton, Maxwell and Kaufman (1978). The results showed that participation does relate to satisfaction and that attendance at a meeting does not translate into participation or satisfaction. The findings also revealed that regular education teachers were low in participation and were not satisfied with the PT process in spite of the fact that these individuals were responsible for implementing PT decisions.

Pfeiffer (1981) surveyed 147 MDT members in large urban school districts to determine what team members felt were the major problems facing teams. In contrast to previous studies, insufficient input by regular educators was identified by only 15% of the respondents. Unorganized dissemination of information among team members was a concern of 22% of the participants. He concluded that the results of this study suggested that team members felt a need to become more involved in implementation and follow through activities.

Research articles on MDT effectiveness were reviewed by Abelson and Woodman (1983). Group decisions have been shown to be superior to individual decisions for several reasons: a greater total of knowledge and experience present within a group, more approaches offered to a problem, increased acceptance due to group participation and better communication and acceptance of decisions because of group problem solving. Drawbacks to group decisions were the increased length of time

needed to make a decision and the possibility that an individual with a strong personality could dominate the team process.

It has been suggested that the effectiveness of the team is a result of the effort team members make, knowledge and skill available within the group and the way the team approaches the task. The effectiveness of MDTs could be influenced by a lack of trust and collaboration among members, a lack of involvement by team members in the team process, undetermined goals and role expectations for team members and haphazard data collection. Abelson and Woodman concluded that further research on effective use of MDTs in school is needed.

Through a review of research, Pfeiffer (1980) identified regular educators' involvement on an interprofessional team as an area of concern. Regular education teachers were usually the least involved in the team decision-making process, tended to contribute very little to the recommendations and saw team activities as not appropriate to their discipline. Regular educators can provide an assessment of the student's performance in the classroom and school. Success of an intervention plan can be enhanced by the involvement of the classroom teacher who has contact with the student on a daily basis.

Ysseldyke, Algozzine and Allen (1982) conducted a study to observe the special education team decision-making process and the extent and nature of participation of regular classroom teachers. Twenty-four placement team meetings were videotaped and viewed at a later time. They found that the average amount of participation by teachers was 27%, based on 10-second intervals in which the teacher spoke. The mean number of questions eliciting information from teachers was six. The majority

of teacher comments dealt with classroom data (43%) or subject/irrelevant information (47%), while 10% of the time was spent by teachers discussing assessment information. Test data and recommendations were not discussed by teachers in 67% of the meetings. Team meetings were held in which regular teachers either did not participate or did so only in a superficial manner.

The nature and extent of regular teacher involvement in IEPs for mildly handicapped students was investigated by Pugach (1982). Slightly over half (52%) of the 33 teachers surveyed had attended the most recent IEP meeting of students in their class. Two-thirds (67%) of the regular education teachers reported that no goals or objectives were written on the IEP for the time the handicapped student attended regular classes. Teachers expressed concern that special and regular education program goals lacked coordination. Another concern expressed by 52% of the respondents was a lack of time to plan and develop IEPs with coordination of goals for regular and special education. The results of Pugach's study showed that teachers seldom used the IEP in planning and monitoring instruction for mildly handicapped students. Based on the findings, she concluded that the majority of the teachers were not systematically involved in the IEP, the IEP did not reflect the total instructional program because goals and objectives were seldom written for the time the student was in the regular classroom and that a coordinated educational program was unlikely since regular education teachers were not involved in the IEP process. She recommended that classroom teachers be included in all aspects of the IEP.

Participation of Vocational Educators on MDTs

Differential programming for handicapped students placed in vocational classes has been outlined by Warden, Kinnison and Accord (1982). Differential programming is based on several assumptions. Successful educational programming according to PL 94-142 and PL 94-482 (Education Amendments of 1976) requires the use of a multidisciplinary team. Since handicapped learners have access to vocational programs, they will receive instruction from vocational educators. Vocational educators should request assistance from experts in the field of special education as needed. It was also assumed that each team would be comprised of a school psychologist, special education teacher and vocational educator.

Many school districts have found it difficult to develop and implement vocational programs to serve handicapped students in spite of the increase in existing opportunity. Minner and Beane (1983) reviewed articles that addressed this issue. With the passage of PL 94-142, regular education teachers have the opportunity to play an important role during placement, IEP and other meetings where handicapped students are discussed. They indicated that vocational educators were occasionally involved in evaluation and placement of handicapped students. Some teachers were unaware that these activities were taking place and had no idea of the process used to mainstream a handicapped student. Vocational educators also felt they had little to do with the mainstreaming process.

Albright and Preskill (1982) conducted a study to examine the nature and extent of vocational educator involvement in the development

and implementation of IEPs in Vermont vocational centers. They surveyed 184 instructors at 15 regional vocational centers. The findings revealed that a majority (56%) of the vocational educators with handicapped students in their classes reported being involved in placement decisions; 61% had been involved in developing the IEP while only 12% had been involved with the IEP team in establishing the vocational component of the IEP. Nearly half of those interviewed stated the lack of communication between vocational and special educators as the major obstacle to cooperative planning.

The results showed that many vocational teachers were providing indirect input in the IEP meetings via communication with special education personnel even though they were not participating members in the IEP meetings. Over one-third (39%) of the vocational educators with handicapped students in class remained isolated from the IEP.

A total of 93 home economics teachers in Iowa were surveyed by Howell (1981) to determine teachers' attitudes and practices when working with mentally disabled students. The mainstreaming practices portion of the questionnaire was completed by 72 teachers who had mentally disabled students mainstreamed into their classes. The findings indicated that 48 of those surveyed never referred to the student's IEP when working with mainstreamed students. She also found that 54 never planned activities according to the student's diagnostic test results and 51 never asked others to help develop materials. However, the results showed that 55 consulted the resource special education teacher on a weekly to monthly basis and 47 discussed student evaluation with the resource teacher on a weekly to monthly basis. She concluded that

most home economics teachers were not being encouraged to consult the student's IEP or to make use of diagnostic test results when working with mainstreamed mentally disabled students. Howell recommended that further research is needed to determine the degree of participation of home economics teachers in staffings for handicapped students.

SECTION I.

UTILIZATION OF MULTIDISCIPLINARY TEAMS IN EDUCATING SPECIAL NEEDS STUDENTS

Abstract

This study investigated the use of multidisciplinary teams (MDTs) to include individuals who implement the individualized education program (IEP) as team members in providing educational services to mentally handicapped (MH) and learning disabled (LD) students in three midwestern states. The findings indicated that most (93.2%) of the districts surveyed were using teams to provide services and 95.0% were meeting at least once a year as specified by federal legislation. MH and LD students were mainstreamed into all subject matter areas with the most frequent vocational education placements being home economics and industrial education. A typical team would include a counselor, psychologist, regular educator, school administrator, special educator and two additional members depending on the specific needs of the child.

Introduction

Public Law 94-142, The Education for All Handicapped Children Act, requires the development of an individualized education program (IEP) for each handicapped student. According to Section 121a305 of PL 94-142, handicapped children will have available to them the same educational programs including art, music, industrial arts, consumer and homemaking education and vocational education as do nonhandicapped. To ensure that handicapped students will fully benefit from these vocational education programs, they must be specially designed to meet each student's needs.

A multidisciplinary team (MDT) of at least four individuals including the special education provider or supervisor, the child's teacher, the child's parents and the child are to be involved in the development, review and revision of a student's IEP. PL 94-142 has required the use of teams comprised of individuals from different disciplines to provide services for special needs students. The decision on whether or not to include teachers who implement components of the IEP on the MDT is left to the discretion of each educational agency. According to Maher and Yoshida (in press), effective implementation of a student's IEP is more likely if staff members are involved in the development and evaluation process.

Administrative or organizational problems were identified as a major barrier to the integration of handicapped students into vocational programs by Minner and Beane (1983) in a review of literature on handi-

capped students in vocational education. Logistics of mainstreaming were often poorly handled and vocational educators were only occasionally involved in evaluation, placement and IEP meetings. In some cases, integration involved the special educator, counselor or administrator informing the vocational educator that a handicapped student was being placed in a vocational program. In a study to examine vocational educators' involvement in the IEP process, Albright and Preskill (1982) found that over one-third of the 184 responding vocational educators providing services to handicapped students were isolated from the IEP process.

The Purpose

The purpose of this study was to determine the extent to which implementation MDTs that include vocational educators as team members are utilized to provide services for mentally handicapped (MH) and learning disabled (LD) students.

Specific objectives were to determine:

1) the functions performed by MDTs,

2) classes into which MH and LD students are mainstreamed,

3) the composition of MDTs and

4) the influence of state and school district size on MDT functions, students mainstreamed and team composition.

Instrumentation

A seven-item postcard questionnaire was developed to collect data on the functions of teams, team composition and subject matter areas into which MH and LD students were typically mainstreamed. Areas included were determined from an inspection of legislative requirements found in PL 94-142 and recommendations found in the literature (Albright & Preskill, 1982; Maher & Yoshida, in press; Minner & Beane, 1983; Warden, Kinnison & Accord, 1982).

The questionnaire requested information as to whether the school district used teams to provide services for MH and LD students. Participants were asked to indicate which of five recommended functions were performed by MDTs in their school and the number of times a student's team normally met during a year.

Two items were developed to ascertain the subject matter areas into which MH and LD students would typically be mainstreamed. Areas included were academic subjects, fine arts and vocational education areas. Respondents were asked to indicate all subject matter areas that applied.

Items dealing with team composition also were included. Participants were asked to indicate the number of individuals in each of 11 professional areas that would serve on a typical team. They were also requested to indicate the individual who typically chairs the team.

The questionnaire was reviewed by individuals with expertise in administration, evaluation and special needs to assess content validity and usability. Suggested revisions were made following this review.

Data Collection

The invited sample consisted of 300 school districts; 100 in each of three midwestern states. Using state assigned school district numbers, 25 school districts were randomly selected in each of four school district size categories in each state: small (under 499), medium small (500-999), medium large (1000-1999) and large (over 2000).

The questionnaires were mailed to either the high school principal or the district director of special education. In districts without special education directors and with several high schools, the first regular high school listed in the state directory was selected. Two weeks after the questionnaires were mailed, postcard reminders were mailed to all nonrespondents. Of the 222 (74.0%) returned questionnaires, only one was unusable.

Of the usable questionnaires, 69 (31.2%) were from Iowa, 78 (35.3%) were from Minnesota and 74 (33.4%) were from Wisconsin. More questionnaires were returned from larger districts than from smaller districts: 49 (22.2%) from communities under 499; 52 (23.5%) from communities of 500-999; 58 (26.2%) from communities of 1000-1999 and 62 (28.1%) from communities of over 2000.

Data Analysis

Descriptive statistics including frequencies, percentages and means were calculated for all items on the questionnaire. Chi-square tests of independence were performed to determine whether team function, team

composition and subject matter areas into which MH and LD students were mainstreamed related to state or size of school district.

Results and Discussion

Team functions

Of the 222 responding districts, 205 (93.2%) used teams composed of people from different disciplines to provide services for MH and LD students. Composition of the MDT may vary based on team function. Student evaluation is to be conducted by a MDT including at least one teacher or specialist in the area of disability. Placement decisions are to be made by a MDT comprised of persons knowledgeable about the child, about the meaning of evaluation data and about placement options. IEP meetings are to include those individuals stated earlier with the addition of an evaluation person if the child is being evaluated for the first time. It is not required that those individuals directly involved with program implementation be MDT members.

Teams were utilized in over 80% of the districts for development of a student's IEP (87.4%) and for diagnosis and/or assessment of a student (86.0%). A total of 156 (72.9%) districts used teams for implementation of student programs, 150 (70.1%) to evaluate student progress in relation to the IEP and 143 (66.8%) to monitor student progress in programs.

While over 90% of the districts were using teams to provide services for MH and LD students, there seems to be disparity in the functions served by teams and those necessary to comply with PL 94-142.

Team functions mentioned in the law include: public agencies shall develop and implement an IEP (section 121a341); districts are responsible for the development, review and revision of an IEP (section 121a343); and evaluation and placement decisions are to be made by a MDT (sections 121a532, 533). Maher and Yoshida (in press) identified facilitating the implementation of IEPs as one of two tasks they felt were needed to provide services to special needs students. Monitoring the student in the program used in two-thirds of the districts may have been interpreted by respondents as a part of the annual IEP review. Crisler (1979) has identified it as an important team function because he found that once a program has been implemented, often no other contact is made by team members with the student. Crisler's interpretation of the monitoring function would appear to include more frequent contact with the student than just the annual review.

Results of the chi-square test of independence ($\chi^2 = 9.35$, $p \leq .05$) show that a greater number of small districts and a smaller number of medium districts used teams to evaluate students than would have been expected (82.6% under 499, 55.8% 500-999, 67.9% 1000-1999 and 75.0% over 2000). While all districts are required to provide services for handicapped students including evaluation, some may send their students to other districts or to education cooperatives for these services. This could explain why less than 80% of the districts indicated they are performing selected functions such as evaluating student progress within the district itself.

Respondents were asked to indicate the number of times a student's

team would meet during a year. Approximately 70% of the teams met either once (36.4%) or twice (33.5%). A highly significant chi-square ($\chi^2 = 22.85$, $p \leq .01$) indicates that teams in Minnesota (83.9%) met more often than those in Iowa (55.3%) or Wisconsin (43.1%). Review of state regulations in conjunction with PL 94-142 did not reveal why this occurred. Size did not seem to be related to the number of times a team met. PL 94-142 requires that a team meet at least once a year to review each child's IEP. Nearly all the responding districts (95.0%) indicated that teams met at least once; however, only 70% of the teams evaluated student progress in relation to the IEP. The number of times a student's team meets would seem to be related to the functions that the team is serving. More frequent meetings could enable the team not only to better comply with the functions required by PL 94-142, but also to provide better services to special needs students.

Mainstreaming

MH and LD students were mainstreamed in all subject matter areas listed on the questionnaire (see Table 1). MH students were most often mainstreamed into physical education classes followed by art, industrial education and home economics. Less than one-third of the districts placed students in the regular academic classes of history, science, mathematics and English. LD students were mainstreamed into more classes than were MH students. Over 80% of the districts mainstreamed MH and LD students into four areas: home economics, industrial education, art and physical education. Over two-thirds of all districts placed LD students in English, mathematics, history and science. MH students

Insert Table 1 Here

were placed into home economics and industrial education by more than 85% of the school districts, while 87% mainstreamed LD students into these classes.

Regular educators were involved with the education of MH students to a lesser degree than with the education of LD students. This finding probably reflects the fact that special educators generally teach regular academic subjects in self-contained MH classes. MH students generally are not able to function in regular academic classes because they are several years behind grade level in basic academic skills.

Vocational educators were providing services to both MH and LD students. At least 85% of the responding districts placed students in industrial education and home economics, with fewer districts placing students in agriculture and business. The handicapping conditions and skills needed could explain the smaller number of MH students placed in business classes. MH students often have problems with abstract concepts and many times lack the basic mathematics skills needed in business classes.

Results of the chi-square tests of independence by school size suggest that the degree to which MH students were mainstreamed into vocational education varies by content area. Students were placed in agriculture classes less often in small districts and more often in medium small districts ($\chi^2 = 9.93$, $p \leq .05$). Agriculture may not be offered in all districts and this may explain the number of MH and LD students being mainstreamed. In small districts, MH students were mainstreamed significantly less often into home economics

(χ^2 = 16.30, $p \leq .01$), industrial education (χ^2 = 18.76, $p \leq .01$) and physical education (χ^2 = 21.45, $p \leq .01$) classes. This may be explained by the fact that smaller districts may send their handicapped students to other districts for educational services. No significant relationships were found between school size and the regular academic areas of English, mathematics, history and science.

While no significant chi-square results were found in the academic areas into which MH students were mainstreamed, three were found for LD students. LD students in smaller districts were less often placed in English (χ^2 = 13.11, $p \leq .01$) and history (χ^2 = 10.97, $p \leq .05$), while students in large districts more often were in mathematics classes (χ^2 = 9.53, $p \leq .05$). LD students in small and large districts were mainstreamed less often into agriculture (χ^2 = 10.87, $p \leq .05$).

State also appeared to be related to the academic area into which MH students were placed. In Iowa, fewer districts mainstreamed MH students into history (χ^2 = 9.67, $p \leq .01$) and science (χ^2 = 6.29, $p \leq .05$), while in Minnesota more districts placed students in these classes. A chi-square test (χ^2 = 9.19, $p \leq .05$) also revealed that fewer districts in Iowa enrolled MH students in regular physical education classes than in Minnesota and Wisconsin. J. Despins (personal communication, June 26, 1984), Department of Public Instruction, indicated that Wisconsin has adaptive physical education incorporated in the regular physical education program to meet the needs of the handicapped students.

Team composition

The size of the teams ranged from 3 to 15 members. The computed average team size was 7.13 members with the most frequently occurring size being 7. A typical team would be comprised of a counselor, psychologist, regular educator, school administrator and special educator. Additional team members would be a social worker, speech therapist or vocational educator depending on the student's needs. According to Maher and Yoshida (in press), a school administrator, regular and special educators, a pupil personnel staff member and in some cases, a parent would make up a typical team.

State and district size were not related to team size. Although 94-142 requires that a minimum of four people be included on the MDT, Abelson and Woodman (1983) suggested five individuals would be a more appropriate team size. This would allow individuals involved in implementing the student's program to become involved in the decision-making process. The teams in the present study did include more than the four members required by law, suggesting that some educators involved in implementing the student's program may have input into the IEP process.

Psychologists were team members most often (see Table 2) followed by counselors, school administrators and special educators. Due to the nature of PL 94-142, psychologists are frequently members of the original placement team but not as often members of MDTs involved with the annual review of IEPs. Other educators were placed on teams to different degrees depending on their area of expertise. The inclusion of social workers, speech therapists, nurses and physical therapists on MDTs appears to be related to the specific needs of the individual student.

Insert Table 2 Here

While students were placed in all subject matter areas, educators from all areas were not members of all teams. Over 85% of the districts placed LD and MH students in home economics and industrial education classes while less than 42% had vocational educators as team members. All individuals who work with handicapped children are not required to attend IEP meetings but are to be informed and involved with IEP implementation (PL 94-142). Educators who are not team members may not be involved in the implementation of IEPs as recommended by Maher and Yoshida (in press). Several studies have indicated the regular educators and vocational educators remain isolated from the IEP process, do not attend IEP meetings and do not provide input into the IEP (Albright & Preskill, 1982; Yoshida, 1983; Minner & Beane, 1983; and Pugach, 1982).

Chi-square procedures were computed to determine if state or district size were related to team composition. Fewer nurses ($\chi^2 = 13.61$, $p \leq .01$) were members of teams in small districts, while more nurses and social workers ($\chi^2 = 8.09$, $p \leq .05$) were team members in large districts. Speech therapists ($\chi^2 = 7.82$, $p \leq .05$) were more often MDT members in small districts and less often members in medium large districts. Small districts might not have nurses on staff while large districts would have nurses and social workers on staff and more readily available to serve on a MDT.

Physical therapists ($\chi^2 = 8.62$, $p \leq .05$), psychologists ($\chi^2 = 13.63$, $p \leq .01$), regular educators ($\chi^2 = 24.56$, $p \leq .01$), speech therapists ($\chi^2 = 6.46$, $p \leq .05$) and vocational educators ($\chi^2 = 9.45$, $p \leq .01$) were

less often team members in Iowa and more often members of MDTs in Wisconsin. State funding patterns for special education vary slightly and may explain some of these differences. In Wisconsin, funding for psychologists and social workers comes directly to the school district from the state based on the percentage of time spent working with special needs students.

According to J. Lee (personal communication, September 17, 1984), Iowa Department of Public Instruction, psychologists are employed by Area Education Agencies (AEAs) based on the service area (rural or urban), enrollment and budget. Special education funding in Minnesota (B. Burke, Department of Public Instruction, personal communication, September 18, 1984) is based on 70% reimbursement of the teacher's salary regardless of load. Included in the category of teacher are social workers and psychologists.

Physical therapy cannot be given unless there is a medical prescription. The greater inclusion of physical therapists as MDT members in Wisconsin would indicate that either more students with that specific need have been identified or that the needs of those students are being met better by having a physical therapist on the team. Wisconsin also carefully screens any student suspected of having a speech problem. This would account for more speech therapists being members of Wisconsin teams. A significant chi-square ($\chi^2 = 30.37$, $p \leq .01$) indicated that social workers were more often members of Iowa teams and less often members of Minnesota and Wisconsin teams. According to F. Vance (personal communication, July 23, 1984), Iowa Department of Public Instruction, most of the Area Education Agencies (AEAs) responsible

for providing services to special needs students employ social workers and this may explain why more Iowa teams had social workers as members.

The special educator served as team chair (28.4%) more often than the psychologist (26%) or the school administrator (21.6%). The counselor (2%), social worker (1%) and vocational educator (.5%) seldom acted as team chair. The nurse, physical therapist, regular educator and speech therapist never acted as team chair.

A significant chi-square ($\chi^2 = 133.08$, $p \leq .01$) indicated that individuals who serve as team chair varies by state. School administrators served as chair more often in Iowa, special educators in Minnesota and psychologists in Wisconsin. Building principals in Iowa are encouraged to become involved with each team staffing in their building. According to implementation of PL 94-142 in Minnesota, a district may assign a teacher to act as case manager for a student. In Wisconsin, the team chair has traditionally been the psychologist because of the special education funding pattern and they do not have the responsibilities of a classroom. School size was not related to the selection of team chair.

Implications

Results indicate that the school districts involved in the study may need to increase the variety of functions performed by MDTs to comply with those mentioned in PL 94-142. More than one meeting per year will be needed if MDTs are to be responsible for the development, implementation, review and revision of an IEP as well as evaluation and

placement decisions. Maher and Yoshida (in press) suggest the frequency of communication between team members and classroom teachers should be increased for effective implementation of the IEP by those directly involved in the provision of educational services to handicapped students.

The results of the present study support the limited involvement of vocational educators in the IEP process found by other researchers. This occurs even though more than 85% of the school districts in the present study placed MH and LD students in home economics and industrial education classes. It is important that vocational educators be actively involved in the decisions regarding a student's program as well as the implementation and evaluation of IEPs for MH and LD students placed in their classes. Maher and Yoshida (in press) concluded that persons more often carry out decisions when they have had input into decisions rather than having decisions made for them. The inclusion of vocational educators in MDT meetings could help to ensure that goals and objectives are realistic for the special needs student in vocational education classes. Vocational educators would be able to better implement the program because of their involvement in the decision-making process and could be more involved in the evaluation of the student's progress based on IEP goals.

Table 1. Areas into which special needs students are mainstreamed

Subject matter area	Mentally handicapped		Learning disabled	
	Number[a]	Percentage	Number[a]	Percentage
Academic				
English	51	25.5	146	69.5
History	66	33.0	163	77.6
Mathematics	53	26.5	152	72.4
Science	60	30.0	165	78.6
Art	172	86.0	180	85.7
Music	131	65.5	165	78.6
Physical education	187	93.5	179	85.2
Vocational				
Agriculture	94	47.0	122	58.1
Business	86	43.0	155	73.8
Home economics	170	85.0	184	87.6
Industrial education	172	86.0	184	87.6
Other	35	17.5	49	23.3

[a]MH: 200 cases; LD: 210 cases.

Table 2. Professional members of MDTs

Member	Number on MDT	Number of districts[a]	Percentage
Counselor	0	22	10.3
	1	182	85.0
	2 or more	10	4.7
Nurse	0	130	60.7
	1	84	39.3
Physical therapist	0	183	85.5
	1	31	14.5
Psychologist	0	17	7.9
	1	196	91.6
	3	1	.5
Regular educator	0	57	26.6
	1	114	53.3
	2 or more	43	20.1
School administrator	0	27	12.6
	1	182	85.0
	2	5	2.3
Social worker	0	107	50.0
	1	107	50.0
Special educator	0	12	5.6
	1	181	84.6
	2 or more	21	9.8
Speech therapist	0	108	50.5
	1	106	49.5
Vocational educator	0	126	58.9
	1	84	39.3
	2	4	1.9
Other	0	171	79.9
	1	40	18.7
	2	3	1.4

[a]214 cases.

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SECTION II.

EFFECTIVENESS OF MULTIDISCIPLINARY TEAMS AS PERCEIVED BY VOCATIONAL AND SPECIAL EDUCATORS

Abstract

Components of multidisciplinary team (MDT) effectiveness as perceived by 218 special and vocational educators from three midwestern states were investigated using a 72-item instrument. Four factors with acceptable reliability coefficients emerged: Components of Team Functioning, Team Decision-Making, Administrative Support, and Relationships between Regular and Special Educators. Special educators had significantly higher scores on the Team Decision-Making Factor while vocational educators placed significantly greater importance on Administrative Support in the form of inservice and preparation time.

Introduction

Handicapped students must have available to them the same vocational educational opportunities including industrial arts and consumer and homemaking education as nonhandicapped (Public Law 94-142). Handicapped students are those who have been evaluated as being mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, other health impaired, deaf-blind, multihandicapped or as having specific learning disabilities. This legislation also requires the use of a multidisciplinary team (MDT) to provide appropriate education for handicapped students. A MDT is a group of individuals with different professional backgrounds involved in the development, implementation, review and revision of a student's individualized education program (IEP). Public Law 94-142 specifies that a MDT be composed of four individuals including the special education provider, the child's teacher, parents and in some cases the child. The decision to include other teachers such as vocational educators on a MDT is left to the discretion of the agency providing the services.

Literature on the use and value of MDTs in providing education for handicapped students was reviewed. Kabler and Genshaft (1983) surveyed research regarding MDT decision-making practices. They concluded that simply requiring the use of a MDT approach does not ensure effective group functioning and does not result in better decisions than those made by individuals. Identification and establishment of functional decision-making processes which assist in guiding team interactions and

individual activities are necessary to increase the likelihood of delivery of appropriate education to handicapped needs students.

In a review of practitioners' views, Fleming and Fleming (1983) identified problems facing MDTs. The area of time management encompassed several basic problems — lack of team planning, ambiguous case processing formats, unclear team behavior and insufficient time. There was a need to improve team functioning by recognizing the importance of handling ambiguity or team conflict. MDTs need to meet for the purposes of analyzing and classifying individual team members' strengths and team requirements.

Maher and Yoshida (in press) focused on the essential nature of teams in an investigation of the use of MDTs in schools. In designing a MDT approach, they drew from information on the use of teams in business, industry and mental health. They suggested that teams should develop a procedure manual which would include the following information: team purpose, goals and objectives; roles, relationships and responsibilities of team members; and rules and procedures for monitoring team processes and assessing team outcomes. While Maher and Yoshida suggested the need for defined roles and goals, Pfeiffer (1981) found that members of the 40 MDTs he surveyed indicated restrictive team goals and roles as an area of major concern.

A review of current research was conducted by Yoshida (1983) to investigate the monetary worth of MDTs and the value of team versus individual decision-making. The results of this review indicated that MDTs operated as an organizational unit instead of a participatory group. The degree of MDT participation was found to be related to decision

satisfaction. Individuals such as teachers who are low in participation and satisfaction may not implement MDT decisions. Teachers who implement portions of the IEP need to be integrated into the MDT process and made aware of team responsibilities. Planning time should be allocated so teachers have time to prepare for MDT meetings. Training experiences about team operations and interpersonal skills is needed for team members.

According to Abelson and Woodman (1983), the effectiveness of a team is a result of the efforts team members make, knowledge and skill available within the group and the way the team approaches the task. MDT effectiveness could be influenced by a lack of trust and collaboration among members, a lack of involvement by team members in the team process, undetermined team goals and unclear role expectations for team members.

While a number of authors have summarized studies regarding the use of teams in business and education, the team decision-making process, problems facing teams and relationships within teams, little research was found which specifically investigated components of MDT effectiveness as perceived by team members. Therefore, the present study explored factors that contribute to effective MDTs as perceived by team members from vocational education and special education and investigated the impact of selected demographic variables on vocational and special educators' perceptions of team effectiveness.

Methodology

Instrumentation

Variables that contribute to MDT effective functioning were measured by a 72-item instrument that utilized a 9-point Likert response format. The 9-point format was selected because it provides for greater variation in the response and permits clearer delineation of factors.

Six major dimensions of team effectiveness were identified from the literature (Abelson & Woodman, 1983; Armer & Thomas, 1978; Crisler & Settles, 1979; Fleming & Fleming, 1983; Johnson & Johnson, 1975; Kleman, 1983; Maher & Yoshida, in press; Pfeiffer, 1981; Smith & Debacco, 1974; Yoshida, 1980): perceptions of regular and special educators; roles of members; team relationships including communication, cooperation and conflict resolution; team decision-making; administrative support and team operating procedures. Ten to 15 items were written for each of the dimensions. Items were judged by several experts in the fields of vocational education and special education for content validity.

The questionnaire was pilot tested with 15 graduate students in vocational education who had taught at the secondary level. As a result of the pilot test, items were refined and those that appeared not to discriminate between respondents were eliminated.

The second part of the questionnaire requested demographic information from each respondent. Participants were asked to indicate the highest level of education attained, number of years taught, primary area of expertise, number of years involved with MDTs and if they had ever served as a chair of a MDT.

Data collection

High school principals or district special education directors from 100 randomly selected schools in each of three midwestern states were asked to provide the names of two individuals (one vocational educator and one special educator) currently serving on the same MDT. In some cases, the name of one educator was provided by an administrator instead of the two names requested. Therefore, the invited sample consisted of 312 educators (130 vocational educators and 182 special educators) in three midwestern states. Although MDT members were not randomly selected within schools, there is no basis for expecting MDTs containing both vocational and special educators would be different from one another.

Questionnaires were mailed to the educators identified by the principal or special education director. Postcard reminders were mailed to all nonrespondents two weeks later. Of the 218 (70.0%) returned questionnaires, two were unusable in the data analyses.

More questionnaires were returned by educators in larger districts than from those in smaller districts — 36 from school districts under 499, 54 from districts of 500-999, 57 from districts of 1000-1999 and 69 from districts of over 2000. Respondents from Iowa represented 31.5% of the total, Minnesota 33.8% and Wisconsin 34.7%.

Sample

Of the 216 respondents, 13 held a bachelor's degree, 102 had completed credits beyond a bachelor's degree, 29 had earned a master's degree and 71 had completed credits beyond a master's degree. Sixty percent of the responding educators had taught 10 or more years.

Respondents were asked to indicate their primary area of expertise. Approximately 38% indicated vocational education and 62% special education. Of the 81 vocational educators, 30 were from home economics, 25 from industrial education, 10 from business, 6 from agriculture and the remaining were unspecified. There was a discrepancy in the area of expertise indicated by the respondents and the information provided by administrators regarding type of educator. In Wisconsin, designated vocational instructors (DVI) are considered by some administrators to be vocational educators rather than special educators. However, DVIs often indicated their primary area of expertise as special education rather than vocational education. It appears that some respondents may have replied to this question on the basis of their educational training rather than their current job designation.

Respondents were also asked the number of years they had served on a MDT and if they had served as a team leader. Of responding educators, 38 had been involved on MDTs for 0-2 years, 70 for 3-5 years, 56 for 6-9 years and 46 for 10 or more years. Less than half (44.8%) of those completing the questionnaire had served as a team leader. Special educators had served on MDTs longer than vocational educators and also served as team leaders more often than vocational educators.

Data analysis

Descriptive statistics including frequencies, percentages and means were calculated for all questionnaire items. Scoring of negatively written items was reversed so high scores indicated agreement. The 72 items assessing perceptions of MDT effectiveness were factor analyzed

using the principal components method and varimax rotation procedure. Factor reliabilities were determined using Cronbach's alpha. One-way analysis of variance procedures were computed to determine if area of expertise, state, years as a MDT member and MDT leadership influenced responses to each factor. Post hoc Tukey tests were computed to examine the impact of years on a MDT and state on factor scores.

Findings and Discussion

MDT effectiveness factors

Twelve factors with eigenvalues of 1.0 or greater resulted from the factor analysis of the 72 items assessing MDT effectiveness. Items were placed into factors based upon size of factor loadings and rationality of fit. A minimum factor loading of .40 or greater was established for determination of factor content (Mumaw & Nichols, 1972). Two factors contained only one item each, so items with the next highest factor loading were retained. Factors were labeled to describe the components of MDT effectiveness represented by the items in the factor. Proposed dimensions, actual factors, number of items in each factor and factor reliabilities appear in Table 1.

Insert Table 1 Here

Inspection of the proposed theoretical dimensions of effective MDT functioning and the resulting factors shows that educators' responses were classified into 12 areas rather than the six dimensions that guided

instrument development. Components of Team Functioning (Factor I) contained items from all the proposed dimensions with more items from the roles, relationships and decision-making dimensions. Based on the number of items, the varied content of the items and the high factor reliability estimate, it appears that Factor I includes participants' perceptions of the major components of MDT effectiveness. Three factors contained items from only one of the proposed dimensions, while remaining factors drew questions from two or more dimensions. Factors that contained items from only one dimension are Team Decision-Making, Administrative Support and Administrator's Role in Team Selection.

Four factors had a coefficient alpha reliability estimate of .65 or greater, the minimum recommended for research purposes (Gronlund, 1981; Nunnally, 1982). The four factors are:

Factor I. Components of Team Functioning. This factor refers to the establishment and use of team goals, team procedures, relationships of team members, cooperation and communication of members, roles of team members and the roles of the team leader.

Factor II. Team Decision-Making. This factor deals with the involvement of all team members in the decision-making process.

Factor III. Administrative Support. This factor relates to administrative support that individuals believed was important. The items state the need for inservice and team preparation time.

Factor IV. Relationships of Regular and Special Educators. This factor deals with conflict resolution, perceptions of regular and special educators' competence and roles of regular and special educators.

Only these four factors will be discussed further. Table 2 includes the items in each of these factors, factor loadings, average item scores and the percentage of total variance removed by each factor after rotation. The four factors accounted for 18.42% of the total variance.

Insert Table 2 Here

Average item scores in Table 2 provide insight into vocational and special educators' perceptions of team effectiveness. The high mean score on the Components of Team Functioning factor suggests agreement by educators with the establishment and understanding of team goals, need for operational procedures, delineation of roles and the importance of cooperation, effective communication and conflict resolution strategies. Team Decision-Making was also perceived as an important contribution to effective MDT functioning. Respondents felt that all team members should be involved in decision-making and should be responsible for carrying out team decisions.

An average item score of 6.68 on the Administrative Support factor suggests that educators perceived a need for administrative support provided as inservice and as scheduled team preparation time. Relationships of Regular and Special Educators with an average item score of 7.04 also were considered important aspects of effective MDT functioning. Educators reported that communication, clarification of opinions and ideas, positive perceptions of members' competence and expertise and lack of competition were important aspects of regular and special educator relationships.

Influence of demographic variables on factor scores

Results of the one-way analyses of variance performed to determine the impact of selected demographic variables on each of the four factors are shown in Table 3. A significant difference based on area of expertise or educational training was found for the Team Decision-Making factor. Special educators perceived the involvement of team members in the decision-making process as more important than vocational educators as shown by mean scores of 7.99 and 7.43, respectively. According to Albright and Preskill (1982), vocational educators were not actively involved in the IEP process. Since they have not been involved in the IEP process, vocational educators might not view team decision-making as important as those individuals such as special educators who have been actively involved.

Insert Table 3 Here

Administrative Support was considered more important by vocational educators ($\bar{\chi}$ = 7.10) than by special educators ($\bar{\chi}$ = 6.53). Albright and Preskill (1982) found that over 70% of the vocational educators with mainstreamed special needs students in class had not completed any workshops or formal courses in educating special needs students. Lack of training could explain the reported differences in need for administrative support in the form of inservice education between vocational and special educators.

Results of the post hoc Tukey comparison for the significant difference found between educators on the Components of Team Functioning factor determined that educators who had served on a MDT for 6-9 years

were significantly different in their responses from those who had served 10 or more years. Educators with 10 or more years experience on a MDT had a higher mean score suggesting greater agreement with the need for establishment of team goals, cooperation and communication among members and delineation of member roles.

A significant difference also was found between educators who had served as chair of a MDT and those who had not on the Team Decision-Making factor. MDT chairs perceived team decision-making as more important than individuals who had not served as a team chair. Differences in skill, status and knowledge often set team members apart. Team chairpersonship might be viewed as a position of authority, power or influence by individuals who have chaired MDTs. Therefore, the team decision-making process may be perceived by these individuals as an opportunity to exert their authority (Maher & Yoshida, in press).

Implications

The results of this study on perceptions of components of MDT effectiveness suggest that preservice and inservice education related to MDT should be structured to include the concepts found in the factors on Components of Team Functioning, Team Decision-Making, Administrative Support and Relationships of Special Educators. For example, inspection of the items in the Components of Team Functioning factor suggest that educators need assistance in learning how to establish a MDT goal statement, determining the roles and responsibilities of team members, establishing flexible and team operating procedures, dividing tasks to

accomplish team goals and constructive handling of conflicts among team members. Inspection of the items found in the other factors provides additional concepts related to preservice and inservice education.

Second, the present findings reiterate vocational educators' perceived needs for inservice education on working with handicapped students in general and as a MDT member specifically. This need was previously identified in research by Albright and Preskill (1982). This inservice needs not only to be provided before vocational educators begin working as part of a MDT, but also during the time when they are serving as a MDT member.

Finally, it appears that both vocational and special educators need training on the team decision-making process in terms of understanding the responsibilities of team members and the involvement of all team members in the decision-making process. Only when both vocational and special educators understand and respect one another's competence, feel free to share ideas and opinions and consider all team members' suggestions as important can MDTs be most effective in providing appropriate vocational education for handicapped students.

Table 1. Multidisciplinary team effectiveness: a comparison between proposed dimensions and empirical factors

	Factors	Reliability	No. of items						
				Proposed dimensions[a]					
			Total	A	B	C	D	E	F
I.	Components of team functioning	.94	25	1	6	7	6	2	3
II.	Team decision-making	.74	2	–	–	–	2	–	–
III.	Administrative support	.69	3	–	–	–	–	3	–
IV.	Relationships of regular and special educators	.64	5	2	–	3	–	–	–
V.	Team dynamics	.40	2	–	–	1	–	1	–
VI.	Shared responsibilities	.54	3	–	1	–	1	1	–
VII.	Membership satisfaction	.43	2	1	–	1	–	–	–
VIII.	Roles of members	.37	3	1	1	–	1	–	–
IX.	Need for clarity and flexibility	.33	3	–	1	–	–	1	1
X.	Administrator's role in team selection	.30	2	–	–	–	–	2	–
XI.	IEP development	.45	2	1	–	–	1	–	–
XII.	Accepting attitudes	.08	2	1	1	–	–	–	–

[a]Dimension A is Perceptions of Regular and Special Educators, B is Team Member Roles, C is Team Relationships, D is Decision-Making, E is Administrative Support and F is Operating Procedures.

Table 2. Multidisciplinary team effectiveness factors

Factor	Item	Loading	Average item score[a]	% total variance removed
I. Components of Team Functioning	Understanding of team goals	.804	7.68	11.08
	Team motivation	.719		
	Direction provided by goals	.716		
	Cooperation for effective functioning	.697		
	Involvement in goal setting	.679		
	Respect for each member's contribution	.661		
	Attitude of professionalism	.658		
	Understanding of actions necessary to achieve goals	.645		
	Open, honest and accurate communication	.638		
	Understanding of roles	.615		
	Responsibility of leader to keep team on task	.607		
	Establishment of operational procedures	.605		
	Acceptance of operational procedures	.592		
	Level of trust	.585		
	Identification of goals	.582		
	Availability of resources	.566		
	Importance of being listened to	.559		
	Flexible, effective team procedures	.556		
	Member preparation and contribution to meetings	.550		
	Division of tasks to accomplish goals	.469		
	Conflicts as a hinderance	.462		
	Administrative moral support	.453		
	Orientation of new members by leader	.430		
	Constructive handling of conflicts	.424		
	Resource knowledge of leader	.410		

[a]Scores could range from 1 to 9 with 9 being agree completely.

Table 2. Continued

Factor		Item	Loading	Average item score[a]	% total variance removed
II.	Team Decision-Making	Responsibility of members for team decision	.616	7.82	2.61
		Involvement of members in decision-making	.604		
III.	Administrative Support	Need for inservice during year	.666	6.68	2.46
		Professional preparation time	.656		
		Need for inservice before commencing	(-).625		
IV.	Relationships of Regular and Special Educators	Responsibility of members to share opinions	.586	7.04	2.27
		Exploration and clarification of differences	.511		
		Understanding of professional expertise of members	.447		
		Lack of competition among members	.431		
		Importance of all members' suggestions	.400		

Table 3. F-ratios for demographic variables related to multidisciplinary team effectiveness factors

Demographic variables	Effectiveness factors			
	I. Components of Team Functioning	II. Team Decision-Making	III. Administrative Support	IV. Relationships of Regular and Special Educators
Area of expertise	.02	11.49**	8.50**	2.14
Years on MDT	3.99**	1.40	1.28	.20
MDT chair	.02	6.18*	.02	.01

*$p \leq .05$.

**$p \leq .01$.

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SUMMARY AND RECOMMENDATIONS

Although The Education for All Handicapped Children Act (PL 94-142) requires the development of an IEP by a team of professionals, not all educators providing services to handicapped children are involved in the IEP process or as members of multidisciplinary teams (MDTs). The involvement of more than the four members required by federal legislation is left to the discretion of the state. The literature has indicated that vocational educators with handicapped students in their classes often are not members of MDTs and that many regular educators in attendance are nonparticipating MDT members (Albright & Preskill, 1982; Minner & Beane, 1983; Yoshida, 1983; Pugach, 1982). Implementation of IEP decisions will be more likely if vocational educators who provide services to special needs students are involved in the decision-making process.

A review of literature related to team functioning in business identified delineation of team goals and roles of members as two elements perceived to influence effective team functioning. It seems that these elements of team functioning would merit investigation in the educational setting in relation to providing services to handicapped students. Little is known about the functions teams serve in schools and MDT effectiveness as perceived by vocational and special educators. The purpose of this study was two fold: 1) to identify schools that use the multidisciplinary implementation team approach and the relationships of team functions, team membership and mainstreaming to the size of the school district and state and 2) to explore factors that were perceived by

vocational and special educators as contributing to effective MDT functioning. The two phases of the study will be summarized individually.

Phase I. Utilization of MDTs

Recommendations from PL 94-142 and the literature were used to determine team functions, team composition and subject matter areas into which mentally handicapped (MH) and learning disabled (LD) students were typically mainstreamed. Experts in the fields of administration, evaluation and special needs reviewed the questionnaire for content validity and usability. Information was collected using a seven-item postcard questionnaire (Appendix A). A random selection of 25 school districts from each of four size categories in three midwestern states resulted in an invited sample of 300 districts. The special education director or the high school principal in each selected district was mailed a questionnaire. Data collection resulted in 222 (74.0%) respondents; 69 from Iowa, 78 from Minnesota and 74 from Wisconsin.

Analysis of data included descriptive statistics and chi-square tests of independence to determine differences based on school district size and state.

Most districts (93.2%) were using teams to provide services for MH and LD students; however, not all districts were using teams in accordance with all of the functions mentioned in PL 94-142. Between 70% and 90% were using teams to develop a student's IEP, for diagnosis and/or assessment of a student, for implementation of a student's program and to evaluate student progress in relation to the IEP. Ninety-five percent

of the districts indicated meeting at least once a year in compliance with federal legislation. MH and LD students in the responding districts were placed in all subject matter areas; home economics and industrial education placements were the most frequent. LD students were mainstreamed into academic areas (English, mathematics, science and history) more often than MH students. Fewer MH students in Iowa were placed in history, science and physical education. Students were also mainstreamed less often in smaller districts than in larger districts.

A typical team would include a counselor, psychologist, regular educator, school administrator, special educator and social worker or speech therapist or vocational educator depending on the specific needs of the student. Although MH and LD students were mainstreamed into all subject matter areas, regular and vocational educators were not members of all MDTs. This would suggest a lack of input into the IEP process by all professionals providing services to handicapped students. Individuals involved in the decision-making process were more willing to implement decisions that they had helped to make.

To provide the most appropriate education for MH and LD students, all individuals providing services to handicapped students should be MDT members and involved in the decision-making and implementation process. Membership should be based on individual student need and should not be limited to only the four professionals required by PL 94-142. To adequately perform all functions mentioned in the legislation, the number of times an individual's team meets should be increased beyond the one annual meeting mandated by law. Findings suggest that some districts had a wider variety in MDT membership and that MDTs

were performing more functions and were meeting more than once each year.

Phase II. Effectiveness of MDTs

A review of literature related to team use, team decision-making, problems facing teams and relationships within teams was conducted to obtain a pool of topics that would represent the theoretical dimensions of effective MDT functioning. The proposed major dimensions and sub-dimensions were:

1. Perception of competence
    a. special educators
    b. regular educators
    c. special/regular educators
2. Roles
    a. leader
    b. other
3. Relationships
    a. communication
    b. cooperation
    c. conflict
4. Decision-making
    a. team involvement
    b. goals
5. Administrative support
    a. resources/time

b. morale/recognition

6. Procedures

Items were written to correspond with each theoretical dimension. Items were judged for content validity by experts in home economics and special needs education. The device was field tested with graduate students in vocational education who had had secondary teaching experience. Items that appeared to discriminate between respondents were retained. The instrument found in Appendix C contained 72 Likert-type items that assessed educators' perceptions of MDT effectiveness and selected demographic items.

District administrators participating in Phase I were requested to provide the name of one vocational educator and one special educator serving on the same MDT. Identified educators (N = 312) were mailed an Effective MDT Functioning Instrument. Correspondence related to the data collection procedures is found in Appendix D. Data collection resulted in 218 (70.0%) returned questionnaires: 68 from Iowa, 73 from Minnesota and 75 from Wisconsin.

In addition to descriptive statistics, analysis of the instrument included factor analysis using the principal components method and varimax rotation procedure, factor reliability estimates using Cronbach's alpha, average item scores for each factor, mean factor scores and analyses of variance to ascertain the effect of the demographic variables on factor scores.

The four factors identified with a coefficient alpha reliability estimate of at least .65 were:

I. Components of Team Functioning. This factor addressed what

individuals perceived to be important components of overall team functioning. Items related to the establishment of team goals, team procedures, relationships of team members, cooperation of members and roles of all team members.

II. Team Decision-Making. A high score indicated agreement that all team members should be involved in the decision-making process.

III. Administrative Support. This factor addressed the need for administrative support in the form of inservice and team preparation time.

IV. Relationships of Regular and Special Educators. This factor referred to conflict resolution, roles of regular and special educators and perceptions of regular and special educator competence.

Factor loadings and items in each factor are shown in Appendix E. The reliabilities for Factors I, II, III and IV were .94, .74, .69 and .64, respectively.

The resulting factors suggest that the respondents' perceptions of effective MDT functioning can be viewed in terms of overall team functioning, involvement of all members in the decision-making process, need for inservice and team preparation time and the competence of regular and special educators as perceived by other team members.

Mean factor scores for Factors I-IV provide insight into team effectiveness as perceived by vocational and special educators. Establishment of team goals and procedures, cooperation and effective communication between members, involvement of team members in decision-making, acceptance of responsibility in carrying out team decision,

the need for inservice and the perceptions of regular and special educators' competence were perceived to be important aspects of effective MDT functioning. Team Decision-Making was considered to be more important by special educators than vocational educators, while Administrative Support was more important to vocational educators. The findings suggest that vocational educators need training on their roles as MDT members and as participants in the team decision-making process.

Recommendations for Further Study

The Effectiveness of MDTs instrument is in need of further refinement if the entire instrument is to be used in further studies. Additional items of comparable quality should be written for three of the resulting factors to increase the reliability of each factor. The reliability of the Team Decision-Making, Administrative Support and Relationships of Regular and Special Educators factors which had alpha reliability coefficient estimates of .65 or greater with two or three items each would be increased if more comparable items were developed.

It seemed that Factor I, Components of Team Functioning, contained items addressing the essential elements of MDT effectiveness. The study could be repeated using only the 25 items from Factor I and the results compared with those obtained using the longer device.

Respondents indicated that many elements are perceived to be important aspects of MDT functioning. A study could be conducted that compared the perceived effectiveness functions with actual team functioning.

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My husband, Richard, for his support during my doctoral studies.

APPENDIX A.

MDT UTILIZATION QUESTIONNAIRE

1. Does your school/district use teams composed of people from different disciplines to provide services for mentally handicapped and learning disabled student?

_____ (1) No _____ (2) Yes

2. What type of function(s) does/do the team serve? (Check as many as apply)

_____ (1) diagnosis/assessment of student
_____ (2) development of student's IEP
_____ (3) implementation of student program
_____ (4) monitor student in program
_____ (5) evaluate student progress in relation to IEP

3. How many times does a student's team meet in a year?

_____

4. Please place the number one (1) by the subject matter area(s) in which mentally handicapped students are typically mainstreamed.

_____ (1) English
_____ (2) History
_____ (3) Mathematics
_____ (4) Science
_____ (5) Art
_____ (6) Band/Music
_____ (7) Phys. Ed.
_____ (8) Agriculture
_____ (9) Business
_____ (10) Home Economics
_____ (11) Indus. Arts
_____ (12) Other

5. Using the list in 4, please place the number two (2) by the subject matter area(s) in which learning disabled students are typically mainstreamed.

6. Please indicate the number of individuals in each category that serve on a typical team.

_____ (1) counselor
_____ (2) nurse
_____ (2) nurse
_____ (3) physical therapist
_____ (4) psychologist
_____ (5) regular educator (math, science, etc.)
_____ (6) school administrator
_____ (7) social worker
_____ (8) special educator (EMH, LD)
_____ (9) speech therapist
_____ (10) vocational educator (home ec., business, etc.)
_____ (11) other (specify _____)

7. Please place a circle around the individual in question 6 who usually chairs the team.

8. Please provide names of a vocational educator and a special educator that are currently serving on the same team.

Vocational Educator

Name _____

School _____

Special Educator

Name _____

School _____

APPENDIX B.

CORRESPONDENCE – MDT UTILIZATION

IOWA STATE UNIVERSITY

Department of
Home Economics Education
219 MacKay Hall
Ames, Iowa 50011
Telephone 515-294-6444

March 23, 1984

We are aware that as an administrator your time is valuable. Hopefully you will be able to take a few moments to answer several questions or to forward the enclosed questionnaire to the appropriate individual.

Public Law 94-142 has required the use of teams, comprised of individuals from different disciplines, to provide services for special needs students. Since these students are often mainstreamed into vocational classes we are looking at the preservice and inservice needs of educators in providing programs to students.

We would like to investigate the extent to which teams are being used to provide services for secondary educable mentally handicapped and learning disabled students. We are particularly interested in the degree of involvement of special educators and educators from vocational areas (industrial arts, home economics, business, etc.) in the team process. It is not necessary that your school have an approved vocational program in these areas.

Please take about five minutes to complete the enclosed postage-paid questionnaire and return by April 6, 1984. Even though the instruments have been coded, your responses will remain anonymous. If you have any questions, please call one of us at 515-294-4757 or 515-294-6444.

Thank you for your cooperation and prompt reply.

Sincerely,

Jerelyn B. Schultz
Associate Professor
Home Economics Education

Candice Spencer-Dobson
Graduate Assistant
Home Economics Education

JBS/CSD:da
Enclosure

Jerelyn B. Schultz
Candice Spencer-Dobson
219 MacKay Hall
Home Economics Education
Iowa State University
Ames, IA 50011

_____ I have already mailed the questionnaire.

_____ I am getting the questionnaire in the mail today.

_____ I will complete the questionnaire within two days and mail it to you.

_____ Something happened to the questionnaire. Please send me another.

Name _____

Address _____

_____

APPENDIX C.

MDT EFFECTIVENESS QUESTIONNAIRE

MULTIDISCIPLINARY TEAM FUNCTIONING

Jerelyn B. Schultz and Candice Spencer-Dobson
Iowa State University

The following statements are related to the functioning of multidisciplinary teams (MDTs). Place a number from 1 to 9 in the blank following the statement indicating how much you agree or disagree with it. Use the following scale:

Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree
1	2	3	4	5	6	7	8	9

Definitions:

Special Educator -- Individual that teaches mentally handicapped and/or learning disabled students.

Vocational Educator -- Individual that teaches one or more of the following subject matter areas: agriculture, business, home economics and industrial arts.

1. Special educators should act as a professional resource for vocational educators. 1._____
2. Leadership responsibilities should not be shared by team members. 2._____
3. A casual and relaxed atmosphere during team meetings promotes participation from all team members. 3._____
4. Team members should share the work load equally. 4._____
5. The best team leader is the special education teacher. 5._____
6. All team members should be actively involved in the decision making process for special needs students. 6._____
7. All team members should feel responsible for carrying out team decisions. 7._____
8. Vocational educators often expect too much from special educators. 8._____
9. Overlap of team member roles is needed to prevent fragmentation of services to students. 9._____
10. All team members should participate in the resolution of conflicts. 10._____
11. Vocational educators should be involved in determining objectives on an IEP. 11._____
12. Vocational educators must be responsible for class instruction for special needs students. 12._____
13. Team preparation time before the school year and/or semester begins is not necessary. 13._____
14. The administration expects vocational educators to see that special educators follow through with team responsibilities. 14._____
15. Conflicts among team members hinders team effectiveness. 15._____
16. The administration should change the composition of a team if members are incompatible. 16._____
17. Vocational educators are unable to provide appropriate instruction to special needs students. 17._____

18. Over conformity to operational procedures stifles new ideas. 18.____

19. Rigid role definition by team members does not reduce the flexibility of the team. 19.____

20. It is not necessary to explore and clarify differences in opinions and ideas of team members. 20.____

21. Members are more likely to accept operational procedures they have helped to establish. 21.____

22. Individual team members do not need to let other team members know when they agree or disagree with something that was said or done. 22.____

23. There should be a high level of trust among team members. 23.____

24. Team members should have the same philosophy of education. 24.____

25. It is important to know how other team members are reacting to your behavior and actions. 25.____

26. Individual team members should feel that other team members listen to them. 26.____

27. Adequate, appropriate resources need to be available for use by team members. 27.____

28. Time needs to be provided for team planning during the semester. 28.____

29. Special educators should provide the major input needed for development of an IEP. 29.____

30. An attitude of professionalism on the part of each team member is needed for effective team functioning. 30.____

31. Participation in setting goals produces a better understanding of team actions needed to achieve goals. 31.____

32. Team goals provide direction for individual members. 32.____

33. Procedures for team operation need to be established shortly after the team is formed. 33.____

34. Well-established team operating procedures are not necessary for harmonious team work. 34.____

35. Inservice training should be provided before teams begin working together. 35.____

36. Individual team members do not need to understand the professional expertise of other members. 36.____

37. Administration needs to provide a common preparation period for team members. 37.____

38. Cooperation is needed for teams to function effectively. 38.____

39. Team members should have a clear understanding of all team members' roles, including their own. 39.____

40. Controversy is a useful catalyst to broaden the alternatives available to team members. 40.____

41. Team procedures should be flexible so effective procedures can be substituted for ineffective ones. 41.____

42. Suggestions of some team members should be considered more important than those of others. 42.____

43. Team members should identify problems that could interfere with team goals. 43.____

44. Team members should have a clear understanding of team goals. 44.____

45. Team members should be motivated to work together as a team. 45.____

46. Special educators should adapt materials for vocational education classrooms. 46.____

47. Constructively handled conflicts can improve a team's working relationships. 47.____

48. The team leader should know which materials and what kinds of information are most relevant to the team. 48.____

49. Team members do not need to have a clear understanding of the leader's responsibilities. 49.____

50. Team members need moral support from the administration. 50.____

51. Competition among team members is an important aspect of team functioning. 51.____

52. A relationship should exist between the status of an individual and the role of that person on a team. 52.____

53. Each team member should come to a team meeting prepared and ready to contribute. 53.____

54. Each member's contribution should be taken seriously and respected. 54.____

55. Team members should divide tasks to accomplish team goals. 55.____

56. Inservice training is not needed during the year for MDTs to function effectively. 56.____

57. The team leader should keep the team on task. 57.____

58. Administrators should consult with teachers regarding their placement on a team. 58.____

59. Team members will be more committed to team goals if they are involved in determining goals. 59.____

60. It is not necessary for team members to know what the administration expects from the team. 60.____

61. Special educators should become familiar with all aspects of the regular curriculum. 61.____

62. A major role of the team leader is to promote a climate of acceptance. 62.____

63. The team leader should determine team goals. 63.____

64. The team leader should help inexperienced members understand how the team functions. 64.____

65. Open, honest and accurate communication is needed for team functioning. 65.____

66. Team decisions should be controlled by one or two individuals. 66.____

67. A team can be productive even if some team members have negative attitudes. 67.____

68. All team members should be involved in the development and implementation of IEPs. 68._____

69. Team members should follow their personal feelings in the decision making process. 69._____

70. The administration should determine which teachers will be placed together on teams. 70._____

71. Team members should be satisfied with all aspects of team membership. 71._____

72. It is important that the administration recognizes the efforts of team members. 72._____

---

1. What is the highest level of education you have attained?

_____ 1. bachelor's
_____ 2. bachelor's plus
_____ 3. master's
_____ 4. master's plus

2. How many years have you taught?

_____ 1. 0-2
_____ 2. 3-5
_____ 3. 6-9
_____ 4. 10 or more

3. What is your primary area of expertise?

_____ 1. Agriculture
_____ 2. Business
_____ 3. Home Economics
_____ 4. Industrial Arts
_____ 5. Mentally Handicapped
_____ 6. Learning Disabled

4. How many years have you been involved on multidisciplinary teams?

_____ 1. 0-2
_____ 2. 3-5
_____ 3. 6-9
_____ 4. 10 or more

5. Which grade level do you teach?

_____ 1. middle/junior high
_____ 2. senior high
_____ 3. both junior/senior high

6. Have you ever been a team leader?

_____ 1. No
_____ 2. Yes

APPENDIX D.

CORRESPONDENCE – MDT EFFECTIVENESS

IOWA STATE
UNIVERSITY

Department of
Home Economics Education
219 MacKay Hall
Ames, Iowa 50011
Telephone 515-294-6444

April 20, 1984

We are aware that as an educator your time is extremely valuable. Hopefully you will be able to take time to complete the attached questionnaire regarding effective multidisciplinary team (MDT) functioning.

Public Law 94-142 has required the use of teams, comprised of individuals from different disciplines, to provide services for special needs students. We are investigating factors that contribute to effective functioning MDTs in an effort to design appropriate preservice and inservice programs.

Since you have been identified by your principal as a member of a team in your school, we feel your perceptions of such factors should be especially valuable. Please take about 20 minutes to complete the questionnaire, place it in the enclosed postage-paid envelope and return by May 2. Even though the instruments have been coded, your responses will remain anonymous. The identification number is used to help us keep track of those individuals who respond to the questionnaire. Responses will be reported in summary and not identified with individuals. If you have any questions, please call one of us at 515-294-4757 or 515-294-6444.

Thank you for your cooperation and prompt reply.

Sincerely,

Jerelyn B. Schultz
Associate Professor
Home Economics Education

Candice Spencer-Dobson
Graduate Assistant
Home Economics Education

JBS/CSD:lvm
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_____ I am getting the questionnaire in the mail today.

_____ I will complete the questionnaire within two days and mail it to you.

_____ Something happened to the questionnaire. Please send me another.

Name _____

Address _____

_____

APPENDIX E.

MULTIDISCIPLINARY TEAM EFFECTIVENESS FACTORS

Multidisciplinary team effectiveness factors

Factor	Item	Loading	Average item score[1]	% total variance removed
I. Components of Team Functioning	Understanding of team goals	.804	7.68	11.08
	Team motivation	.719		
	Direction provided by goals	.716		
	Cooperation for effective functioning	.697		
	Involvement in goal setting	.679		
	Respect for each member's contribution	.661		
	Attitude of professionalism	.658		
	Understanding of actions necessary to achieve goals	.645		
	Open, honest and accurate communication	.638		
	Understanding of roles	.615		
	Responsibility of leader to keep team on task	.607		
	Establishment of operational procedures	.605		
	Acceptance of operational procedures	.592		
	Level of trust	.585		
	Identification of goals	.582		
	Availability of resources	.566		
	Importance of being listened to	.559		
	Flexible, effective team procedures	.556		
	Member preparation and contribution to meetings	.550		
	Division of tasks to accomplish goals	.469		
	Conflicts as a hinderance	.462		
	Administrative moral support	.453		
	Orientation of new members by leader	.430		
	Constructive handling of conflicts	.424		
	Resource knowledge of leader	.410		

[1]Scores could range from 1 to 9 with 9 being agree completely.

Continued

Factor	Item	Loading	Average item score[1]	% total variance removed
II. Team Decision-Making	Responsibility of members for team decision	.616	7.82	2.61
	Involvement of members in decision-making	.604		
III. Administrative Support	Need for inservice during year	.666	6.68	2.46
	Professional preparation time	.656		
	Need for inservice before commencing	(-).625		
IV. Relationships of Regular and Special Educators	Responsibility of members to share opinions	.586	7.04	2.27
	Exploration and clarification of differences	.511		
	Understanding of professional expertise of members	.447		
	Lack of competition among members	.431		
	Importance of all members' suggestions	.400		