This is to certify that the

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THE DEVELOPMENT AND STUDY OF COMPETENCIES
NEEDED BY TEACHERS OF STUDENTS WITH
AUTISTIC CHARACTERISTICS

presented by

Margaret Joanne Smith

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THE DEVELOPMENT AND STUDY OF COMPETENCIES

NEEDED BY TEACHERS OF STUDENTS WITH

AUTISTIC CHARACTERISTICS

By

Margaret Joanne Smith

A DISSERTATION

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ABSTRACT

THE DEVELOPMENT AND STUDY OF COMPETENCIES
NEEDED BY TEACHERS OF STUDENTS WITH
AUTISTIC CHARACTERISTICS

By

Margaret Joanne Smith

The study was an exploratory and descriptive investigation
of the competencies needed by teachers of students with autistic
characteristics. It was based on a survey of teachers in Michigan
public schools who were teaching autistic youngsters. The study was
designed to identify a list of competencies perceived to be important
for teachers of the autistic and to determine the competencies in
which teachers felt they were least proficient and in need of more
training. Further, teachers' responses to the importance of the
competencies and to their proficiency in each competency were exam-
ined to define any differences that existed in regard to the follow-
ing variables: type and amount of professional training, number of
years of teaching experience, and age and general functioning level
of the autistic students with whom they worked.

Additional purposes of the study were to ascertain teachers'
perceptions of where within the various preparation settings (college
course work, practicum and/or student teaching, in-service training,
and on-the-job experience) teaching skill in the competencies could

be developed most effectively; and to determine the relative amount
of emphasis that each competency area should receive during an autis-
tic teacher training program.

Summary of the Major Findings

1. The competencies perceived to be most important for teachers of

    the autistic were:

    . Ability to constructively manage the bizarre, aggressive,
      and self-abusive behaviors of autistic students.

    . Ability to develop and implement fair, reasonable, firm,
      and consistent behavioral limits while maintaining an
      understanding and supportive relationship with pupils.

    . Ability to teach and maintain attention and on-task
      behaviors.

2. Ranking of the competency areas according to importance for

    teachers of autistic students was (most to least important):

    1. Behavior Management,
    2. Implementing Instruction,
    3. Developing Curriculum and Instruction,
    4. Personal Characteristics,
    5. Assessment and Evaluation,
    6. Interpersonal Relationships,
    7. Background Information,
    8. Administration.

3. Teachers with varying amounts of teaching experience did not give

    significantly different Importance Ratings to the competencies;

    nor did teachers working with different age-ranges or with dif-

    ferent functioning levels of autistic students assign signifi-

    cantly different Importance Ratings to the competencies.

4. The most effective preparation setting for developing teaching

    skill in each of the competency areas was found to be:

      a. College course work for Assessment and Evaluation,
         Developing Curriculum and Instruction, and Background
         Information;

      b. Practicum and/or student teaching for Behavior Management
         and Implementing Instruction;

      c. In-service training for Administration;

      d. On-the-job experience for Interpersonal Relationships and
         Personal Characteristics.

5. The competencies indicated as having the highest priority for

professional development were:

    . Ability to prepare a comprehensive and developmentally
      sequenced curriculum for autistic students.

    . Ability to assess students' pre-vocational and vocational
      skills.

    . Ability to assess students' skills in the areas of lan-
      guage, perception, motor and social-emotional development.

    . Ability to constructively manage the bizarre, aggressive,
      and self-abusive behaviors of autistic students.

6. Ranking of the competency areas according to the teachers' per-

ceived professional development needs was (highest to lowest

priority):

    1. Assessment and Evaluation,
    2. Behavior Management,
    3. Background Information,
    4. Implementing Instruction,
    5. Developing Curriculum and Instruction,
    6. Administration,
    7. Personal Characteristics,
    8. Interpersonal Relationships.

7. Significant differences were found in teachers' Professional

Development Need Ratings when the Ratings were compared on the

basis of the amount of experience the teachers had had with

autistic students and with special education students. However,

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no significant differences were found when the Ratings were com-
pared in regard to the type and amount of professional training
the teachers had received, the age-range of students, or the
functioning level of students.

8. The competency areas were ranked in the following order for the
relative amount of emphasis each should receive during an autis-
tic teacher training program (most to least emphasis):

   1. Behavior Management,
   2. Developing Curriculum and Instruction,
   3. Implementing Instruction,
   4. Assessment and Evaluation,
   5. Interpersonal Relationships,
   6. Personal Characteristics,
   7. Background Information,
   8. Administration.

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CHAPTER I

INTRODUCTION

Educational programming for students with autistic char-
acteristics (hereafter referred to as autistic students) is a rela-
tively new area of special education. Until recently, public school
programs for these students were virtually nonexistent. Such children
and youth were usually considered unreachable and uneducable and, for
the most part, were relegated to the back wards of institutions
(Fenichel, 1974; Sontag, Burke, & York, 1976; Stainback, Stainback,
& Maurer, 1976). However, this situation is currently changing due
to pressure from parents, to state and federal legislation mandating
public educational services for <u>all</u> children, and to the trend toward
deinstitutionalizing handicapped persons. Public school systems are
now responsible for providing comprehensive educational services for
all children and youth (ages 0-25 years) within their district
(P.A. 198, 1971; P.L. 94-142, 1975). This includes all severely
impaired students and, therefore, encompasses the autistic population.

With this change in focus from custodial care to public edu-
cation for autistic children and youth has come the need for teachers
who are specially trained to work with these pupils (Sontag, Burke,
& York, 1976; Stainback, Stainback, & Maurer, 1976; Perske & Smith,
1977). A problem exists, however, in that there is an acute lack of

research concerning the skills and competencies needed by teachers of
the autistic (Gilliam, 1978). The current deficiency of validated
lists (or any lists) of teacher competencies for the area of autism
has resulted in the fact that the contents of the few existing autis-
tic teacher education programs are based almost totally on professional/
expert opinion. While professional opinion is an appropriate starting
point for defining teacher competencies, opinion alone is not suffi-
cient for the validation of proposed teaching skills (Shores, Cegelka,
& Nelson, 1973). As Shores et al. (1973) have indicated, several
additional procedural steps are required before competency statements
can be considered valid.

In view of the present situation, this study is an attempt
to (1) develop a list of general competency statements for teachers
of autistic students based on professional opinion, and (2) begin
to examine and verify the competencies by obtaining reactions to the
statements from teachers who are currently teaching autistic children
and youth. The study is intended to represent only the initial stages
required to validate a list of general competency statements for
teachers of autistic students.

Purpose of the Study

This study is an exploratory and descriptive investigation
of the competencies needed by teachers of autistic students. The
study is designed to survey teachers who are teaching in public
school programs for the autistic in order to identify (1) competen-
cies perceived to be important for teachers of autistic children and

youth, and (2) an estimation of where, within the preparation settings (course work, in-service training, and on-the-job experience), the competencies could be best developed. The study also includes an investigation of the differences among teachers on the basis of the type and amount of professional training they have received, the number of years they have been teaching in special education, and the age and general functioning level of the students with whom they work.

An additional purpose of the study is to determine the competencies in which teachers feel they are least proficient and in need of further training. This is an important aspect of investigating teacher competencies since it is unreasonable to assume that any teacher education program is able to prepare a completely trained, competent teacher in a four-year undergraduate program or even with an additional year of graduate training (Rabinow, 1960; Conant, 1963; Briscoe, 1972; Hoeksema, 1975; Perske & Smith, 1977). "The very nature of teaching and teacher education makes this impossible, for the effective teacher is himself a continuing learner" (Briscoe, 1972, p. 1). Inasmuch as the development of teaching competence is a continuous process, a thorough study must extend into the employment period.

For further explanation and clarification of the purposes of this study, the objectives of the study are:

1. to develop a list of competencies perceived to be important for teachers of autistic students,

2. to determine the perceptions of teachers of autistic students regarding the importance of each of the selected competencies,

3. to examine the relationship between the Importance Rating teachers of autistic students give to each competency area and the number of years the teachers have been teaching special education students,

4. to examine the relationship between the Importance Rating teachers of autistic students give to each competency area and the age-range of the students with whom the teachers work,

5. to examine the relationship between the Importance Rating teachers of autistic students give to each competency area and the general functioning level of the students with whom the teachers work,

6. to determine the perceptions of teachers of autistic students concerning the rank ordering of the preparation settings in which each of the competency areas can be developed most effectively,

7. to identify competencies in which teachers of autistic students perceive themselves to be in need of further training,

8. to examine the relationship between the Professional Development Need Rating teachers of autistic students give to each competency area and the type of special education training the teachers have received,

9. to examine the relationship between the Professional Development Need Rating teachers of autistic students give to each competency area and the number of years the teachers have been teaching special education students,

10. to examine the relationship between the Professional Development Need Rating teachers of autistic students give to each competency area and the age-range of the students with whom the teachers work,

11. to examine the relationship between the Professional Development Need Rating teachers of autistic students give to each competency area and the functioning level of the students with whom the teachers work,

12. to determine the perceptions of teachers of autistic students regarding the degree of emphasis each of the major competency areas should receive during a teacher training program for teachers of autistic students.

<u>Rationale and Justification of the Study</u>

Parents of autistic youngsters have worked and fought for public educational services for their children over the past several years. Now, with the passage of the Mandatory Special Education Act (P.A. 198) in 1971 and the Education for All Handicapped Children Act (P.L. 94-142) in 1975, parents clearly have the legal right to demand that school systems provide the needed educational services and programs. One result of this has been that pressure is being thrust upon school systems to implement programs for the autistic.

While this move is desirable for the children and youth involved, a serious problem lies in the fact that there is an acute shortage of teachers trained to work with autistic students (Sontag, Burke, & York, 1976; Stainback, Stainback, & Maurer, 1976; Perske & Smith, 1977; Wilcox, 1977; Orelove, 1978).

At the present time, university teacher training programs are not keeping pace with the need for teachers of severely impaired students, especially autistic students. The supply of competent professionals is much smaller than the current demand. Therefore, school systems are being forced to hire personnel who have had little or no experience with this population (Sailor, Guess, & Lavis, 1975; Sontag, Burke, & York, 1976; Stainback, Stainback, & Maurer, 1976; Perske & Smith, 1977; Wilcox, 1977; Orelove, 1978). For example, the results of a recent (1978) survey of teachers of autistic pupils in Michigan public schools indicated that approximately 64% of the respondents had begun teaching autistic students as first-year teachers who, for the most part, had been trained to work with mildly and moderately impaired students. None of the responding teachers had had any pre-service courses that specifically pertained to autism, and only about 25% had received training regarding autism prior to teaching autistic pupils (Stewart & Twenter, 1978).

The lack of qualified, specially trained teachers for autistic students is one of the most critical limitations in the delivery of quality services for these children. Competent, well-trained teachers are especially important in light of the fact that special education is the primary source of treatment for autistic youngsters

(Rutter, 1965; Ornitz, 1973; Fenichel, 1974; Donnellan-Walsh et al., 1976; Sullivan, 1976). As Horner (1977) states, "Staffing a classroom for the severely and profoundly handicapped with a teacher who has no preparation in this area is somewhat akin to staffing a surgical unit of a hospital with an intern" (p. 430). While Horner was referring to teachers and classrooms for the severely and profoundly retarded, it is reasonable to apply this same statement to teachers and classrooms for autistic students. These children are also severely impaired and require specially trained teachers (Donnellan-Walsh et al., 1976; Sontag, Burke, & York, 1976; Stainback, Stainback, & Maurer, 1976). Staffing their classrooms with teachers lacking the requisite competencies and skills is guaranteeing that few significant changes will take place in their lives.

The deficiency in the number of trained teachers is due to the dearth of teacher education programs for teachers of the autistic (Sontag, Burke, & York, 1976; Stainback, Stainback, & Maurer, 1976; Perske & Smith, 1977; Orelove, 1978). In turn, the shortage of teacher education programs is due not only to the high costs involved in the establishment of such programs, but also to the phenomenon that educational programming for autistic students is an extremely new area of special education; consequently, there are very few models and almost no research available on which to base a training program (Gilliam & Dollar, 1977; Gilliam, 1978).

An example of the lack of research regarding teacher education in the area of autism is that after a search of the literature and after corresponding with several special education professors at

various universities and with the personnel in several programs across the United States which serve autistic youngsters, the author located only one research study and a very limited amount of literature pertaining to competencies needed by teachers of autistic pupils. The information that is available is based primarily on professional opinion and, in most instances, has not been validated by any empirical evidence (Bricker, 1976; Gilliam & Dollar, 1977).

Since special education is the principal source of treatment for autistic students, and since specially trained teachers are the key factor in the delivery of this service, the need for relevant and effective teacher education programs is obvious. The logical first step in developing such training programs is to determine the skills and competencies teachers need to have in order to bring about positive changes in autistic children and youth. However, at the present time, a list of validated competencies for teachers of the autistic does not appear to be available.

In view of the current situation, a major justification for the present research is that it supplies a list of competencies needed by teachers in their daily work with autistic students. The competency statements and the additional information concerning the statements that have been obtained through this study have several significant implications.

A primary value of the data is that it provides guidlines for autistic teacher education programs. As previously mentioned, such guidelines have not been available and they are needed to give support and direction in the establishment of new programs and in the

continued development and refinement of existing programs. The
training programs currently operating are doing so somewhat in the
dark because of the lack of knowledge and information on which to
base a comprehensive training curriculum. This deficiency of requi-
site data also has resulted in a tremendous amount of controversy
about the type of training teachers of the autistic should receive
(i.e., training to teach severely mentally impaired versus training
to teach emotionally impaired; training in a behavior modification
approach versus training in a humanistic approach); plus, it has most
likely hindered the creation of additional programs. Hence, the
guidelines derived from this study serve as an initial attempt in
establishing an empirical base for the content of autistic teacher
training programs.

A similar facet of the rationale for this investigation is
that it furnishes basic data needed to begin evaluating programs that
train teachers to work with autistic students. Since competencies
and guidelines for the content of programs are delineated in the
study, evaluation procedures can be started. Evaluation is certainly
a vital component of autistic teacher education programs. Not only
is it needed to acquire federal funding, it is more importantly needed
to ensure that the programs are producing highly qualified teachers
who are able to work effectively with the autistic population.

A further justification for the present research is that the
information gained from it is useful to school administrators and
personnel involved in programming for autistic students. Presently,
administrators frequently are placed in the position of hiring

teachers for autistic pupils when they have no idea what skills the teachers should possess. In these instances and others, the competency statements identified in this study can be used as guidelines for recruiting, hiring, and assigning teachers to work with the autistic. The specified teaching skills might also be utilized in evaluating teachers and in determining teachers' in-service training needs.

A final reason for conducting the present investigation is that it can provide information to the Michigan Department of Education (MDE). Data gathered and analyzed in this study can furnish personnel in MDE with information relevant to improving educational services for the autistic population in Michigan. For example, the identification of pre-service and in-service training needs of teachers of the autistic has obvious implications for utilizing professional development monies and for increasing the proficiency of these teachers. Information from this study can also supply MDE with guidelines for endorsing and supporting autistic teacher training programs and for developing some specific certification requirements for teachers of autistic students. Currently, there is no special certification for these teachers beyond approval in the area of emotional impairment. While this training provides a good background, it does not adequately prepare teachers for the extreme and unique needs of the autistic. However, before special certification can be required, skills necessary for teaching these students must be identified and validated. The present study is an effort in that direction.

In conclusion, the present study contains the initial steps in developing and validating a list of generic competencies for teachers in the area of autism. The complete process would involve:

1. Compiling a list of competencies for teachers of autistic students. The list should be based on the pertinent research and literature that is available, as well as on the opinion of professionals with expertise in the area of autism.

2. Surveying teachers of autistic pupils to ascertain their perceptions of the importance of the identified competencies in the daily teaching of these students.

3. Observing teachers of autistic students in educational settings to determine if the competencies deemed important are, in fact, used in the teaching process.

4. Determining whether the application of the "important" competencies results in the positive growth of autistic youngsters.

The steps delineated here are comparable to those used by other researchers. Hoeksema (1975) identified a similar procedure in a study of competencies for teachers of the mentally impaired. Herr, Algozzine, & Heurchert (1976) included the points listed in a plan for determining and verifying competencies for teachers of mildly handicapped students. Coker (1976) also reported that the same basic process was used in specifying and validating teacher competencies for the Carroll County Project in Georgia.

Overview of the Study

The remainder of this thesis is organized as follows:

Pertinent literature is reviewed in Chapter II. The review is presented in four sections: (1) a review of procedures for identifying and validating teacher competencies, (2) a review of competencies for teachers of exceptional students, (3) a review of competencies for teachers of severely handicapped students, and (4) a review of the professional development needs and concerns of experienced and inexperienced teachers.

In Chapter III, the methodology used in the study is presented. Included are the definition of terms used in the study, a description of the population, an explanation of the procedures used to develop the questionnaire, an overview of the questionnaire, a report of the process used to collect the data, and a description of the data analysis procedures that were used.

Chapter IV contains an analysis and interpretation of the results of the study as well as a report of the major findings.

Finally, Chapter V contains a review of the findings of the study, a discussion of the implications and limitations of the study, and recommendations for further research.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Over the past several years, competency based teacher edu-
cation (CBTE) has received considerable attention. CBTE has become
the focus of much research and experimentation primarily because of
the increased emphasis that has been placed on teacher accountability
and cost-effective education. This interest and concern along with
the complexity of the issues involved in developing and implement-
ing competency based teacher education has resulted in voluminous
literature on the subject. However, since it is neither feasible
nor germane to review all of the available literature regarding
competency based teacher education, the literature reviewed here has
been limited to those studies relevant to the scope of the present
research.

This chapter has been divided into four main sections. The
literature reviewed was selected to reflect the major efforts con-
cerning the topic of each respective section. The first section
focuses on procedures which have been used or recommended for use in
the identification and validation of teaching comptencies. In the
second section, studies and literature regarding competencies for
teachers of exceptional children are reviewed; and in the third
section, competencies for teachers of autistic and other severely

impaired students are examined. Finally, in the fourth section, studies regarding the concerns and competency needs of experienced and inexperienced teachers are presented.

Procedures for Identifying and Validating Teacher Competencies

Shores, Cegelka, and Nelson (1973) critically reviewed the literature regarding competency based teacher education in an effort to systematically analyze "the strategies by which competencies have been identified and validated for inclusion in training programs" (p. 192). They found that although competency statements varied greatly in degree of specificity, there was an underlying common element: most of the statements were based on the "expert" opinion of teacher educators, state department leaders, and researchers in special education.

While acknowledging that "expert" opinion is an appropriate starting point for identifying teacher competencies, Shores et al. (1973) cautioned that opinion alone is not sufficient validation for critical teaching skills. This position is supported throughout the literature by various authors (i.e., Rosenshine & Furst, 1971; Altman & Meyen, 1974; Bricker, 1976; Herr, Algozzine, & Heuchert, 1976; Burke & Cohen, 1977; Gilliam & Dollar, 1977; Wilcox, 1977). Consequently, as Shores et al. (1973) noted, some teacher educators and researchers have taken the next step in competency verification. They have attempted to weigh the competencies derived from "expert" opinion against the judgment of practicing teachers. In most cases,

this has involved asking teachers to rate the importance of pre-
determined competency statements.

This approach has been utilized by a number of researchers
in an effort to identify and validate teacher competencies. Mackie,
Kvaraceus, and Williams (1957), Dorward (1963), and Bullock and Whelan
(1971) used this technique in their attempts to verify competencies
required of teachers of emotionally disturbed and/or socially mal-
adjusted students. The procedure was also employed by Herr, Algozzine,
and Heuchert (1976) in an endeavor to determine and validate compe-
tencies necessary for teaching the mildly handicapped. In addition,
Northcott (1971) and Hoeksema (1975) used this method in their respec-
tive doctoral dissertation studies regarding the competencies needed
by teachers of hearing impaired infants and teachers of mentally
impaired pupils.

Gilliam and Dollar (1977) used a comparable procedure in
examining the competencies of teachers of severely emotionally dis-
turbed students. Instead of having practicing teachers rate their
list of competencies, they had attendees at an autism conference
rate the competencies in terms of their importance for teachers of
the severely disturbed. In the analysis of the data, they found that
only 33% of the respondents were teachers and that the remainder of
the participants consisted of administrators, parents, speech thera-
pists, nurses, diagnosticians, and teacher aides. The authors
acknowledged that while the method and design for obtaining the
information were appropriate, the results were questionable due to
the sample not being representative of teachers of severely emotionally

impaired. They conceded that practicing teachers of the seriously disturbed would have been a more suitable population.

A similar technique was applied by the Department of Special Education at the University of Missouri--Columbia in identifying competencies for a graduate training program for curriculum consultants (Altman & Meyen, 1974). In this project, 100 competencies were developed based on information derived from reviewing relevant literature in education, sociology, psychology, and business and from a series of interviews with consumers of services provided by curriculum consultants. Public school personnel (587) were then asked to rate the importance of the competencies on a scale of 0-4 and to indicate the trainability of each competency using the following classifications:

> OC--best developed through on-campus curriculum,
>
> JT--best developed through on-the-job training and
> experience,
>
> SG--not amenable to training (a matter of self-growth and
> personal maturity).

The authors (Altman & Meyen, 1974) commented that eliciting information from teachers in the field added significantly to the process of competency identification. They also noted that it forced them into reality checks of proposed competencies and helped them establish better working relationships with the consumers of the training product.

Although the practice of weighing expert opinion against the judgment of practicing teachers is an advancement over accepting

expert opinion alone, this procedure does not result in fully valid

competency statements (Shores, Cegelka, & Nelson, 1973). As Shores

et al. state:

> Before a competency statement is considered valid, it should
> be demonstrated that successful teachers actually engage in
> the behavior or skill described, that the skill discriminates
> between successful and unsuccessful teachers, and that it has
> the desired effect on children's classroom performance (p. 193).

The Carroll County Project (Coker, 1976) in Carroll County,

Georgia, represents one of the more comprehensive attempts in utiliz-

ing this procedure for competency identification and validation.

The Project is a long-term, cooperative effort of the Carroll County

School System and the School of Education at West Georgia College.

The Project is supported by a grant from the Georgia State Department

of Education and is designed to develop a plan for identifying and

measuring teacher competencies which will serve as a basis for a

competency based certification system.

The first year of this study was spent reviewing literature,

visiting field sites, and collecting information. An advisory group

of classroom teachers was also established who, with the assistance

of three consultants in teacher effectiveness research, developed a

generic list of teacher competencies. Performance criteria were

then specified for each competency, and assessment procedures were

determined.

Measurement of the identified competencies began the fol-

lowing school year and involved 60 teachers and the approximately

1,800 students in their classrooms. The students were pre-tested in

the fall and post-tested in the spring to determine their growth in

the cognitive and affective domains. A series of structured observa-
tions were also employed throughout the year to collect data regarding
student performance, teacher behavior, and teacher-pupil interactions.
It was intended that an analysis of the collected information would
provide some insights into the relationship between teacher behavior
and student outcome.

At the present time, only preliminary findings are available.
The project continues to operate and the Director, Homer Coker, has
indicated that "many years of well-planned studies" (p. 56) will be
needed before the final goal is attained.

The comprehensive, long-term investigations required to com-
plete the entire process of identifying and validating teacher com-
petencies is beyond the resources and time constraints of many
studies. Therefore, in the majority of research projects in this
area, only one or two steps in the total procedure are addressed
(i.e., Mackie, Kvaraceus, & Williams, 1957; Dorward, 1963; Bullock
& Whelan, 1971; Northcott, 1971; Hoeksema, 1975; Herr, Algozzine, &
Heuchert, 1976; Gilliam & Dollar, 1977). In an effort to provide
some order and continuity, a few researchers (i.e., Hoeksema, 1975;
Herr, Algozzine, & Heuchert, 1976) have included in their reports
recommended steps for further validation of the competency state-
ments identified and studied in their investigations.

Competencies of Teachers of Exceptional Students

The literature pertaining to teacher competencies contains a
number of studies and articles concerning the competencies of teachers

exceptional children. Some of the reports are directed toward skills needed by special education teachers generally, while others are specific to a particular disability area. Research reports and writings were selected for review in this section based on their relevance to the present investigation. Studies regarding the generic competencies of special educators have been included in an effort to provide a basic foundation of information. Also included are reports of competencies needed by teachers of the emotionally impaired since autism was originally considered to be a severe emotional disturbance; most autistic children and youth exhibit extreme behavior problems; and classrooms for the autistic in Michigan as well as many other states are staffed by teachers endorsed to teach emotionally impaired and behavior disordered students. Additionally, literature concerning the competencies of teachers of the mentally impaired and neurologically impaired has been reviewed. The rationale for including this information is based on the fact that 70% of the autistic population are retarded (Ritvo & Freeman, 1977) and on the substantial evidence which indicates that many of the behavior and learning problems displayed by autistic persons are due to neurological impairments (Ornitz & Ritvo, 1976).

Lord and Kirk (1950) made one of the earlier attempts at identifying a common or core group of competencies required of all teachers of handicapped students. They found the following general qualifications to be of "increased significance" for teachers of exceptional children:

1. capacity for self-direction,

2. patience and perseverance,

3. experimentally minded,

4. physically fit,

5. personally well-adjusted.

Mackie, Dunn, and Cain (1959) provided a more detailed and comprehensive overview of the competencies needed by all special education teachers. Their information was based on a nationwide survey of approximately 1,600 special educators from four groups: (1) university faculty involved in training teachers of exceptional children, (2) superior teachers in ten handicapping areas, (3) administrative personnel in local school systems, and (4) state department of education personnel.

Participants in this study were requested to rate the relative importance of specified teacher competencies on a four-point scale and to judge the effectiveness of professional training programs in helping teachers develop the needed skills. In addition, teachers were instructed to evaluate their level of proficiency on each competency.

Most of the competencies were found to be "very important" or "important" for teachers of exceptional children. In some instances, competencies were rated as important while teacher proficiency was generally felt to be low. These included skills in curriculum development, working with parents, using special teaching methods, counseling students, and working with the social and emotional problems of handicapped students.

Competencies identified and examined in this study fell into the following clusters:

1. <u>technical knowledge</u>: knowledge of handicapping conditions, medical and psychological terminology, research, and legal provisions for educational programming and general welfare of exceptional students;

2. <u>understanding the child and his/her deviation(s)</u>: ability to recognize, understand, and provide for individual differences; and to interpret behavior in terms of physical, psychological, and emotional factors;

3. <u>curriculum adjustment and teaching methods</u>: ability to create a classroom environment conducive to good mental health; to teach needed special or compensating skills; to individualize the curriculum; and to promote social growth;

4. <u>specialized equipment and materials</u>: ability to locate and use appropriate teaching aids;

5. <u>counseling and guidance</u>: basic knowledge and skill in assisting students with attitudinal, social, educational, and vocational problems;

6. <u>tests and records</u>: ability to interpret and use test results and records in individualizing the curriculum;

7. <u>working with adults and organizations</u>: ability to work with staff members, professionals in other fields, and parents;

8. administration and organization of programs: ability to carry out leadership functions in establishing and conducting educational programs;

9. secondary deviations or multiple handicaps: knowledge of teaching methods in disability areas other than the primary specialty area;

10. personal characteristics of the teacher: possession of qualities such as patience, flexibility, resourcefulness, emotional stability, sensitivity, enthusiasm, objectivity, etc.

In an earlier study, based on the same national survey, Mackie, Kvaraceus, and Williams (1957) investigated 88 competencies required to teach socially and emotionally maladjusted students. Seventy-five "superior" teachers of the socially maladjusted and emotionally disturbed rated the importance of the competencies using a four-point scale. They also estimated their own proficiency in each of the skills on a three-point scale.

Results of the study indicated that the skills perceived to be most necessary tended to center around managing student behavior; meeting student psychological, social, physical, and academic needs; understanding and interpreting tests and psychological data; and working with other professionals. When importance and proficiency ratings were compared, teachers were found to be significantly deficient in three groups of requisite competencies: vocational counseling and placement, providing successful experiences for students and techniques for relieving tension in the classroom; and

teaching subjects such as physical education, music, industrial arts, and arts and crafts.

Fourteen years later, Bullock and Whelan (1971) conducted a similar study using the same 88 competencies, rating scales, and statistical procedures. The population used in their research differed, however, in that only 47 teachers of the emotionally disturbed were involved and they all resided in the same midwestern state.

Teachers in this study perceived fewer competencies to be very important than did participants in the earlier study by Mackie, Kvaraceus, and Williams (1957). They also viewed themselves as being more proficient than did respondents in the original study. However, they continued to rate themselves low in understanding the education and psychology of various types of handicapped children; teaching remedial reading; developing self-control in students; and avoiding identical demands of all maladjusted students.

Many of the competencies specified as being important for teachers of the emotionally impaired in both of the preceding investigations were also included in the study by Mackie, Dunn, and Cain (1959). As might be expected, however, participants in the studies by Mackie, Kvaraceus, and Williams (1957) and Bullock and Whelan (1971) placed greater emphasis on student behavior and on understanding and meeting the emotional/psychological needs of students. This is reflected in the following additional competencies identified in the two studies as being needed by teachers of socially maladjusted and emotionally disturbed pupils:

1. understanding of the need for providing successful
    experiences for pupils,

2. ability to tolerate antisocial behavior,

3. understanding of classroom techniques for relieving
    tension,

4. ability to establish appropriate limits of social
    control,

5. ability to help students develop self-control.

Other studies pertaining to the competencies required to
teach emotionally impaired students support and follow this same
pattern. For example, most of the competencies identified and exam-
ined by Hewett (1966), Morse, Bruno, and Morgan (1971), Schaftenaar
(1972), Wood (1976), and Feinberg and Wood (1978) were also contained
in the Lord and Kirk (1950) and Mackie, Dunn, and Cain (1959) inves-
tigations. Again, the major exception being that stronger emphasis
was given to competencies concerning deviant behavior, behavior man-
agement, and social-emotional development in the inquiries specific-
ally directed toward teachers of the emotionally impaired. Compe-
tencies not previously listed in this review, but determined to be
important based on the results of the above studies, included:

1. ability to communicate acceptance to all students
    (Hewett, 1966; Feinberg & Wood, 1978);

2. ability to set consistent and reasonable behavioral
    limits (Hewett, 1966; Feinberg & Wood, 1978);

3. ability to evaluate and select successful reinforce-

   ment techniques to motivate appropriate behavior (Hewett,

   1966; Feinberg & Wood, 1978);

4. ability to structure and implement classroom procedures,

   i.e., rules, routines, etc. (Morse, Bruno, & Morgan,

   1971; Schaftenaar, 1972; Wood, 1976; Feinberg & Wood,

   1978);

5. ability to use a variety of techniques to prevent crisis

   situations (Feinberg & Wood, 1978);

6. ability to use a variety of crisis management procedures

   to contain/control problem behavior and redirect pupils

   in desired directions (Feinberg & Wood, 1978).

Mackie, Dunn, and Williams (1957) and Hoeksema (1975) exam-

ined competencies required to teach mentally impaired pupils. In

both studies, teachers of the educable and trainable mentally impaired

rated the importance of competency statements and estimated their own

proficiency on each skill. In addition, participants in the Hoeksema

(1975) study indicated the degree of emphasis each of seven compe-

tency areas should receive during undergraduate training; and whether

the competencies within each of the seven areas could be best devel-

oped in: undergraduate programs, graduate-level courses, in-service

training, or on-the-job experience.

Analysis of the results of the two investigations revealed

that the majority of the competencies determined to be important for

teachers of the retarded were reported in studies previously presented

in this review (i.e., Mackie, Dunn, & Cain, 1959; Mackie, Kvaraceus,

& Williams, 1957). However, two additional competencies were iden-
tified as being necessary for this group of teachers. They were:

    1. ability to promote students' independence,

    2. ability to teach daily living skills.

Results of the studies also indicated skills in which
teachers perceived the need for increased competency. The needed
skills tended to focus on the following areas: understanding stu-
dent behavior, teaching daily living skills, working with parents,
promoting appropriate affective development, using multi-sensory
teaching methods, evaluating and promoting language development, and
developing new teaching materials.

Additionally, respondents in the Hoeksema (1975) study sug-
gested that the major emphasis of undergraduate training should be
on developing competence in instruction, classroom management,
facilitating social-emotional growth in students, and assessing stu-
dent behavior. They indicated that skill in working with parents
and other professionals could be developed primarily through on-the-
job experience and through in-service training.

Blackhurst (1974) reported a list of competencies for teach-
ers of secondary educable mentally impaired. The list was originally
generated by Brolin and Thomas as part of a U.S. Office of Education
project in the Department of Rehabilitation and Manpower Services at
the University of Wisconsin--Stout. Most of the skills identified
were also encompassed in the studies of Hoeksema (1975) and Mackie
et al. (1957). The exceptions being that prevocational, vocational,
and adult independent daily living skills were given more emphasis

in the Brolin and Thomas list. Examples of the additional competencies include:

1. understanding of work habits, attitudes, values, and social skills necessary for successful employment of the handicapped;

2. awareness of housekeeping jobs available for educable retarded persons;

3. ability to provide instruction in food selection, storage, and preparation;

4. ability to provide instruction in assembly-line procedures, etc.

Cruickshank (1966) provided one of the most comprehensive outlines of competencies for teachers of brain-injured students. Unfortunately, the skills included were based solely on professional opinion. Nevertheless, they did emanate from 18 experts who are generally recognized as being very knowledgeable about neurologically impaired children and who represent a variety of disciplines related to treating and programming for these students. Nearly all of the competencies specified were included in studies reported earlier in this review. The exceptions being that teachers of the neurologically impaired should also be skilled in:

1. understanding the psychology of learning and cognitive processing,

2. understanding the sensory functions.

Competencies of Teachers of Severely Handicapped Students

Research concerning the specific competencies required to effectively teach autistic or severely emotionally impaired students is virtually nonexistent (Gilliam & Dollar, 1977; Gilliam, 1978). Some literature, based on professional opinion, is available and will be presented and discussed in this review. In addition, literature pertaining to the skills needed to successfully teach other types of severely impaired students will be examined here. Inclusion of these writings is based on the rationale that there is a certain degree of overlap from one area of severe impairment to another, just as there is from one area of mild impairment to another. It should be noted, however, that much of this information too is based on professional opinion and not on empirical research.

In _Special Education for the Severely Handicapped: The State of the Art in 1975_, Haring cited six minimum skills essential for teachers of this population. They were:

1. ability to task analyze and sequence the instructional curriculum with prerequisite, intermediate, and terminal behaviors specified for each skill;

2. ability to record and evaluate student progress on a daily basis;

3. ability to select, purchase, and construct and/or design special instructional materials;

4. ability to teach and maintain attention and response behaviors using reinforcement contingencies;

5. ability to work with parents;

6. ability to function as a member of an interdisciplinary
   team.

Hayden et al. (1976) also identified basic competencies
needed for teaching the severely handicapped. They reported the
fundamental skills as being:

1. thorough knowledge of normal child development,

2. understanding of deviant development,

3. ability to function on an interdisciplinary team,

4. knowledge of and ability to apply behavior modification,

5. knowledge of systematic observational and assessment
   techniques,

6. ability to work with parents.

With minor variations, similar competencies or competency
lists were suggested or developed by Brown and York (1974), Allen
(1976), Scheuerman (1976), Sontag, Burke, and York (1976), Stainback,
Stainback, and Maurer (1976), Preske and Smith (1977), and Wilcox
(1977). Some of the variations in terms of additional teacher com-
petencies were:

1. knowledge and skill in research design and interpreta-
   tion (Preske & Smith, 1977),

2. ability to teach daily living skills and community living
   (Allen, 1976; Scheuerman, 1976; Sontag, Burke, & York,
   1976; Preske & Smith, 1977),

3. understanding of medical problems (Preske & Smith,
   1977),

4. knowledge and skill in teaching sensory or perceptual skills (Allen, 1976; Scheuerman, 1976; Preske & Smith, 1977),

5. knowledge and skill in teaching fundamental motor skills (Allen, 1976; Scheuerman, 1976; Preske & Smith, 1977),

6. knowledge of pre-vocational and vocational skills (Preske & Smith, 1977),

7. knowledge of state rules and regulations pertaining to services for the handicapped (Wilcox, 1977),

8. ability to locate and/or design prosthetics (Stainback, Stainback, & Maurer, 1976; Wilcox, 1977),

9. knowledge of the effects of drugs on student performance (Wilcox, 1977),

10. awareness of the ethical issues in applying behavior technology (Wilcox, 1977),

11. ability to teach social skills (Allen, 1976; Scheuerman, 1976),

12. ability to teach language and communication skills (Allen, 1976; Scheuerman, 1976; Sontag, Burke, & York, 1976),

13. ability to teach children how to play and to use play as a teaching medium (Allen, 1976; Scheuerman, 1976),

14. ability to teach basic cognitive skills (Brown & York, 1974; Allen, 1976; Scheuerman, 1976).

Horner, Holvoet, and Rinne (1976) compiled a comprehensive list of 511 competencies for teachers of the severely and profoundly

handicapped. The competencies were designated as either performance or informational skills and were divided into 25 training modules. A heavy emphasis was placed on the behavioral approach with eight of the modules pertaining to operant behavior. Other modules focused on legal and judicial actions concerning the severely handicapped, normalization, prosthetic environments, training paraprofessionals and parents, assessment, writing instructional objectives, curriculum development, task analysis, motor programs, self-help skills, and pre-academic programs.

One of the most inclusive competency lists specifically geared to teachers of autistic students appeared in the 1978 U.S. Office of Education, Bureau of Education for the Handicapped grant proposal for the Severely Emotionally Impaired/Autistic Teacher Training Program at Michigan State University. The competencies included were:

1. instructional: diagnostic-prescriptive teaching, language development, behavior management, interaction analysis, observation and recording of behavior, curriculum development;

2. home/school relationship: family systems and stress factors, supportive services, home/school communication, parent training;

3. community agency cooperation: agencies and organizations that serve the autistic, evaluation of agency services, utilization of agencies and organizations;

4. <u>member of an interdisciplinary team</u>: function and skills
   of various team members, using skills of team members,
   interpersonal relationships;

5. <u>in-service</u>: planning in-service activities, implement-
   ing in-service activities, developing and evaluating
   programs for the autistic, consulting with school per-
   sonnel.

In a paper presented at the University of Minnesota Advanced
Training Institute, Wolthuis (1978) stated that teachers of the
severely emotionally impaired/autistic must have a background in
child growth and development, be knowledgeable about the various
modes of learning, be aware of current research findings, and be cog-
nizant of new legislation pertaining to this population. He also
asserted that teachers of these students must be able to:

1. manage behavior;

2. observe and record behavior;

3. promote systematic speech, language, and communication
   development;

4. teach daily living skills;

5. develop curriculum materials;

6. teach pre-academic and academic skills;

7. supervise and coordinate the activities of teacher
   aides;

8. communicate with parents;

9. teach pre-vocational and vocational skills;

10. teach motor development skills.

Gilliam and Dollar (1977) conducted one of the few studies regarding the competencies needed by teachers of the autistic and severely emotionally impaired. As stated previously in this review, the results of their study were limited due to poor sample selection; however, seven major areas of competency were identified and some information was provided.

Participants in the study were asked to rate 39 competencies in seven major domains according to (1) the teacher's present level of competence/skill, (2) the approximate time spent on the skill, (3) interest in future training, and (4) importance of this competency for teachers. Analysis of the data indicated that the seven competency areas were ranked in the following order concerning their importance for training teachers:

1. curriculum/materials development (included task analysis);

2. solving problems (focused on the ability to plan and modify individual programs as needed);

3. management and interaction (concerned with analysis and modification of student behavior);

4. organizational skills (focused on physical environment and planning individualized instruction);

5. measuring progress (concerned with systematic collecting and recording of behavior);

6. evaluation and assessment (involved construction, use, and interpretation of formal and informal tests);

7. administrative skills (related to selection and ordering of materials and maintenance of school records).

Also, future training interests were designated as (in rank order):

1. management and interaction,

2. curriculum/materials development,

3. evaluation and assessment,

4. administrative skills,

5. solving problems,

6. organization skills,

7. measuring progress.

At the Rutland Center--Developmental Therapy Model in Athens, Georgia, Robinson and Wood (1977) have produced the Developmental Therapy Verification Form (DTVF). While the teaching behaviors listed on this form are not stated as competencies, the trainees and teachers at the Center use this instrument to monitor their own professional development (Wood, 1978). The teaching skills included on the form are intended for teachers of the seriously emotionally disturbed and autistic students; however, it is obvious from reviewing the teaching behaviors listed on the DTVF and from reviewing the Center's curriculum objectives that teachers in this program are not working with the predominantly low-functioning autistic population included in Michigan public school programs. This contention is further documented by published data which indicate that 90% of the students from the Center return to regular school programs after an average of approximately 40 weeks of treatment (Rutland Center-- Developmental Therapy Model, 1978). In contrast, the majority of

autistic students in public school programs in Michigan will probably
never be able to function in regular school programs.

Aside from this issue, the teaching behaviors listed on the
DTVF are well sequenced and many of them are relevant to the present
study since autism covers the whole range of functioning levels.
Examples of the teaching skills appropriate for the proposed research
are:

1. plans activities which provide success experiences and
    are pleasure-producing for children,

2. avoids materials which require long waits for a turn,

3. does not extend activities beyond peak of student moti-
    vation,

4. structures situations so they will end positively,

5. recognizes small accomplishments of students with praise
    and rewards, etc.

Professional Development: Concerns and Needs of
Experienced and Inexperienced Teachers

Within educational literature, there is support for the con-
tention that teacher training programs do not and should not be
expected to graduate completely trained, "finished professionals."
Mackie, Dunn, and Cain (1959) state:

> It is quite possible that the most extensive program of
> initial preparation for the teacher candidate could never
> be broad enough, or deep enough, or specific enough to
> prepare a teacher for more than a beginning--and that real
> competencies will develop only as the teacher works and
> matures. . . (p. 53).

Rabinow (1960) made the same point by asserting that:

> The teacher who comes from the teacher training center is
> not a finished professional. . . . The maturation of pro-
> fessional skills takes place on the job and in the quest
> that grows out of the job (p. 291).

The development of teaching competency, therefore, is viewed as an
on-going process that does not end with the completion of a teacher
preparation program, but rather extends throughout the teaching
career (Yauch, 1955; Conant, 1963; Briscoe, 1972; Hoeksema, 1975).

This continuing nature of the development of teaching compe-
tence has led to speculations about the different professional needs
and concerns teachers may have at various points in their careers.
Several investigators have addressed this issue by studying the needs
and concerns of beginning teachers. For example, Briscoe (1972)
examined the concerns of first-year secondary teachers; Sorenson and
Halpert (1968) studied the stress and anxiety of student teachers;
Dropkin and Taylor (1963) researched and compared the problems of
beginning teachers in New York City schools and in suburban schools;
and Alterman (1965) examined the needs of student teachers by analyz-
ing entries in their student teaching diaries. Results of these
studies were remarkably consistent. They indicated that new and
inexperienced teachers tended to be most concerned with classroom
management and discipline, evaluation by their supervisors, planning
individualized instruction, relating to parents, having adequate and
appropriate materials available, and having students respect and like
them.

Fuller (1969) examined six studies also relating to the needs
and concerns of young teachers. She summarized the data and concluded
that:

. . . Beginning teachers are concerned about class control,
about their own content adequacy, about the situations in
which they teach and about evaluations by their supervisors,
by their students and of their pupils by themselves (p. 210).

In addition, Fuller (1969) conducted investigations of the

needs and concerns of inexperienced teachers during the course of

the student teaching practicum. After analyzing the frequencies of

topics discussed in weekly seminar meetings, Fuller concluded that

student teacher concerns could be divided into two categories: con-

cerns with self and concerns with students. Concerns with self were

reported early in the practicum experience and related to "self-

protection and self-adequacy: with class control, subject matter

adequacy, finding a place in the power structure of the school and

understanding expectations of supervisors, principal and parents"

(p. 211). During the last weeks of the practicum, concerns gradually

shifted to the students and "their learning, their progress and with

ways in which the teacher could implement this progress" (p. 211).

In a second study, Fuller (1969) utilized a slightly differ-

ent approach. Again student teachers were studied; but in this

instance, they were asked to write out their concerns at approxi-

mately two-week intervals. The responses were then classified into

three categories: self-adequacy, class control, and student learning.

All of the response statements were determined to be concerned with

self-adequacy and/or class control and none were found to be pri-

marily concerned with student learning.

Fuller (1969) then examined the data on experienced teachers

gathered by Gabriel (1957) and Jackson (1968) in an effort to determine

if the concern with self-adequacy continued throughout teachers'
careers. After regrouping some of the data, she found that experi-
enced teachers were significantly less concerned with maintaining
discipline and with evaluation by supervisors and more concerned with
student progress than were inexperienced teachers.

Unfortunately, most of the special education research per-
taining to the needs and concerns of teachers of handicapped students
reflects no attempt to differentiate teacher needs and concerns on
the basis of professional experience and inexperience. The over-
whelming majority of the studies have focused on identifying the
concerns and needs of special education teachers in general or, at
best, the needs and concerns of teachers in a given disability area.
Reports of these investigations were made in previous sections of
this literature review and, therefore, will not be discussed here.

A few special education researchers have given some attention
to the differing needs and concerns of experienced and inexperienced
teachers. For instance, as part of a dissertation study, Hoeksema
(1975) compared the importance ratings given to teacher competency
statements by experienced and inexperienced teachers of the men-
tally impaired. Results of the study indicated that only one compe-
tency was perceived to be more important by experienced than
inexperienced teachers: consulting with regular classroom teachers.
However, inexperienced teachers rated nine competencies higher in
terms of professional development priorities than did experienced
teachers. The nine competencies were:

1. using a variety of methods for motivating students,

2. using the results of teacher-administered tests to
    develop educational plans for children,

3. administering commercially prepared tests,

4. arranging physical props in the classroom to facilitate
    learning,

5. knowing the principal's expectations,

6. handling administrators' observations of your teaching,

7. asking for help or ideas from other staff,

8. following administrative directions,

9. getting to know other teachers.

Gersh and Nagle (1969) compared the responses of experienced
and inexperienced teachers to statements regarding their training
and preparation for working with emotionally disturbed students.
Two hundred twenty-five teachers and supervisors of classrooms for
the emotionally disturbed in Michigan returned completed question-
naires. Analysis of the data suggested that experienced teachers
viewed supervision less defensively than inexperienced teachers, but
that they were also less influenced by it. In addition, the data
indicated that with experience, gratification and satisfaction with
teaching shifted from observable classroom progress to feedback
reporting the long-range success of students. A final point reported
was that inexperienced teachers often felt isolated in their class-
rooms while experienced teachers perceived themselves as being inde-
pendent and enjoyed the status.

Another survey of Michigan teachers was conducted at Michigan State University (Stewart & Twenter, 1978). In this study, the concerns and frustrations of public school teachers of autistic students were investigated. Examination of the data showed that first-year, inexperienced teachers rank ordered their concerns somewhat differently than more experienced teachers. First-year teachers reported that their five most frustrating concerns were (in rank order):

1. too much paper work;

2. preparation for teaching severely emotionally impaired/ autistic students;

3-4. behavior management, working with parents;

5. curriculum development/need for a specific curriculum.

Experienced teachers ranked their most frustrating concerns in the following order:

1. behavior management,

2. curriculum development/need for a specific curriculum,

3. academic/behavioral objectives,

4. moral support,

5. working with parents.

When the data of the two groups of teachers were combined, the five most frustrating concerns of teachers in their day-to-day work with autistic students were found to be:

1. behavior management,

2. too much paper work,

3. curriculum development/need for a specific curriculum,

4. working with parents,

5. preparation for teaching severely emotionally impaired/
    autistic students.

Summary

The first section of this review contained procedures for
identifying and validating teacher competencies. Since the complete
validation process is beyond the scope and resources of many research
projects, most of the studies that were examined addressed only one
or two steps in the total procedure. A method utilized in a number
of the studies consisted of (1) developing a list of competency
statements based on the opinions of experts, and (2) asking practicing
teachers to rate each of the statements in terms of importance for
teaching and working with students.

In sections three and four, studies pertaining to the compe-
tencies required to teach handicapped students were presented. The
focus of section three was primarily on teachers of mildly and mod-
erately mentally, neurologically, and/or emotionally impaired pupils,
while the focal point of section four was on teachers of the severely
handicapped.

The final section of the review included research regarding
the professional development needs and concerns of teachers at various
points in their careers.

CHAPTER III

METHODOLOGY

Introduction

The methodology and research design used for the study are presented in this chapter. Specific sections of the chapter contain descriptions and explanations of terms used, the population sampled, procedures followed in developing the questionnaire, the questionnaire, collection of the data, and the research questions used in the study.

Definition of Terms

Students with Autistic Characteristics/Autistic Students:

For the purpose of this study, the terms "students with autistic characteristics" and "autistic students" are used synonymously. Both expressions are used to describe students in the classrooms of teachers who were included in this investigation. That is, the terms refer to students in public school systems throughout Michigan who, in accordance with the Michigan Special Education Code (1977), have received a comprehensive evaluation by a school psychologist and social worker, a certified psychologist, or a certified consulting psychologist, or a certified psychiatrist; and, based on this evaluation(s) and other pertinent information have been identified by an educational planning and placement committee (EPPC) as

manifesting symptoms characterized by the diagnostic label of autism.
The students have been technically labelled emotionally impaired since
autism is included within the Emotionally Impaired category in Michigan (Michigan Special Education Code, 1977).

At the present time, the Michigan Special Education Code
(1977) does not contain a definition of autism nor a list of behavioral characteristics associated with autism. However, the State
Board of Education adopted a policy statement regarding programming
for autistic students on January 4, 1977. Included in this statement
was the following list of behaviors deemed to be necessary for the
diagnosis of autism:

1. The diagnosis of autism must include three major characteristics:
   a. Child appears unable to develop normal relationships to people and/or objects,
   b. Child has a language dysfunction evidenced through the lack of meaningful communication, and
   c. The disturbances indicated in (a) and (b) appeared before three years of age.
2. In addition to the above primary characteristics, a combination of some or all of the following behaviors characterize the autistic child. These behaviors vary from child to child and time to time in severity and manner.
   a. Unusual and/or inconsistent reaction to stimuli, such as hypersensitivity and/or unresponsiveness to sound, sight, touch, smell, and taste.
   b. Persistence in routine and/or resistance to change.
   c. Lack of intellectual development--sometimes accompanied by normal or superior ability in some areas, such as visuospatial function or memory.
   d. Repetitive and peculiar body motions and/or similar repetitive and peculiar use of objects in an inappropriate manner.
   e. Presence of other abnormalities such as seizures or cerebral dysfunction (Michigan State Department of Education, 1977).

It is important to note that the policy statement cited above is meant to serve only as a guideline for diagnosticians and school personnel; it is not a law and, therefore, is not legally binding. Consequently, diagnosticians and school personnel may choose to follow the diagnostic criteria set forth in the statement or they may select other criteria to determine the diagnosis of autism. This situation has resulted in some variation from one area of the state to another regarding the type of youngster being labelled autistic. However, based on a statewide survey of public school programs serving autistic students in Michigan (Barger & Montgomery, 1977) and on personal contact with staff members of several autistic programs in Michigan, it appears that most of the school personnel are using either the State Board of Education's policy statement guidelines or a similar set of behaviors included in a definition of autism authored by Ritvo and Freeman (1977) and adopted by the National Society for Autistic Children (NSAC). The NSAC definition is as follows:

> Autism is a severely incapacitating life-long developmental disability which typically appears during the first three years of life. It occurs in approximately five out of every 10,000 births and is four times more common in boys than girls. It has been found throughout the world in families of all racial, ethnic and social backgrounds. No known factors in the psychological environment of a child have been shown to cause autism.
> The symptoms are caused by physical disorders of the brain. They must be documented by history or present on examination. They include:
> 1. Disturbances in the rate of appearance of physical, social, and language skills.
> 2. Abnormal responses to sensations. Any one or a combination of sight, hearing, touch, pain, balance, smell, taste, and the way a child holds his body are affected.

3. Speech and language are absent or delayed while specific
    thinking capabilities may be present. Immature rhythms of
    speech, limited understanding of ideas, and the use of words
    without attaching the usual meaning to them are common.

4. Abnormal ways of relating to people, objects and events.
    Typically, they do not respond appropriately to adults and
    other children. Objects and toys are not used as normally
    intended.

Autism occurs by itself or in association with other dis-
orders which affect the function of the brain such as viral
infections, metabolic disturbances, and epilepsy.

On IQ testing, approximately 60% have scores below 50, 20%
between 50 and 70, and only 20% greater than 70. Most show wide
variations of performance on different tests at different times.

Autistic people live a normal life span. Since symptoms
change, and some may disappear with age, periodic reevaluations
are necessary to respond to changing needs.

The severe form of the syndrome may include the most extreme
forms of self-injurious, repetitive, highly unusual and aggres-
sive behaviors. Such behaviors may be persistent and highly
resistant to change, often requiring unique management, treatment,
or teaching strategies (Ritvo & Freeman, 1977).

Teacher Competencies/Skills: The terms "teacher competencies"

and "teacher skills" are used interchangeably in this study. Both

terms refer to the knowledge, tasks, and functions that teachers per-

form and use in their daily work with students which result in the

positive social, emotional, and cognitive growth of students.

Eighty-five competencies for teachers of students with autis-

tic characteristics were selected for this study. They are listed in

Part II of the Questionnaire presented in Appendix D. They are also

included within the eight competency areas described below.

Competency Areas: Competency areas refers to the eight cate-

gories of teacher competencies selected for this study. The eight

categories were derived by grouping the 85 competency statements into

the following general areas:

1. <u>Behavior Management</u>: includes skills such as understanding the dynamics of student behavior, being able to use a variety of management techniques, being able to constructively manage the bizarre and aggressive behaviors of autistic students, being able to develop and implement systematic behavior management plans.

2. <u>Assessment and Evaluation</u>: includes the ability to construct and use formal and informal tests, to use systematic observational techniques, to assess students' achievement in various skill areas, to determine students' readiness for specific learning activities.

3. <u>Interpersonal Relationships</u>: includes skills such as being able to communicate and work effectively with parents, students, administrators, and other professionals; being able to function as a team member; being able to tolerate differing opinions and constructive criticism.

4. <u>Developing Curriculum and Instruction</u>: includes skills in writing behavioral objectives, task analyzing and sequencing learning tasks, developing and/or modifying materials for use with autistic students, developing a comprehensive curriculum for autistic students.

5. <u>Implementing Instruction</u>: includes the ability to use a variety of motivational techniques; to teach attending skills; to structure activities and tasks to maximize learning and success experiences for students; to teach basic skills in academic areas, language, self-help, and motor development.

6. <u>Administration</u>: includes having knowledge of current legislation pertaining to autistic students, being able to supervise and coordinate the activities/duties of teacher aides, being able to coordinate the total educational program for each student in the classroom.

7. <u>Background Information</u>: includes having an understanding and knowledge of the basic concepts and terminology used in other disciplines; having knowledge of current research and literature pertaining to autism; having a knowledge of child development, language development, and perception.

8. <u>Personal Characteristics</u>: includes having an awareness of one's own emotional needs and understanding how these needs influence the way in which one works with autistic students and their families, having the ability to cope with the ambiguity (lack of specific information) in the area of teaching autistic students, being able to cope with the behaviors and the slow progress of autistic students.

Specific competency statements for each of the eight competency areas are presented in Appendices E and F.

<u>Importance Rating</u>: Importance Rating refers to the number value respondents assigned to each competency statement regarding the importance of that competency for teachers working with autistic students similar to those in the respondent's classroom. Each competency statement was rated on a five-point scale with 5 representing most important and 1 representing least important.

Professional Development Needs: Professional development
needs refers to the teacher competencies in which respondents indi-
cated a need for further training. The options for rating the com-
petencies were:

> No--No Need: I presently do not need additional skill
> development in this competency.

> L --Low Priority: I would not go out of my way to develop
> additional skill in this competency.

> M --Moderate Priority: I would find it helpful to develop
> additional skill in this competency.

> H --High Priority: I would find it very helpful to develop
> additional skill in this competency.

Professional Development Need Rating: For data analysis pur-
poses, the options for rating professional development needs (listed
above) were given the following number values:

> 1 -- No--No Need,

> 2 -- L --Low Priority,

> 3 -- M --Moderate Priority,

> 4 -- H --High Priority.

Professional Development Need Rating, therefore, refers to the number
value assigned to competencies on the basis of respondents' ratings
of their professional development need for a particular competency or
competency area.

Preparation Settings: Preparation settings refers to the
environments where the development of skill in each of the eight com-
petency areas could occur. The settings included:

1. College Course Work: all classroom work and activities
   (excluding field experiences) for which college credit
   is given.

2. Practicum and/or Student Teaching: all supervised field
   experiences which are part of a professional training
   program.

3. In-Service Training: all conferences, workshops, con-
   sultant help, etc., which takes place during an employ-
   ment period and which does not result in college credit.

4. On-the-Job Experience: actual employment experience as
   a teacher.

Population

The population for this study consisted of public school
teachers in Michigan who were teaching autistic students during the
1978-79 school year. All of the teachers selected were working in
programs specifically designed for autistic or for a combination of
autistic and emotionally impaired students. It is important to note
that teachers working in the combined classrooms were asked to respond
to the survey questionnaire only in terms of the students in their
classrooms who had been diagnosed as autistic.

Names and school mailing addresses of the teachers were
obtained by writing (Appendix A) to either:

1. Supervisors of public school programs specifically
designed for autistic or a combination of autistic and emotionally
impaired students. Programs and program supervisors meeting the

stated criteria had been previously identified either through a com-
prehensive, statewide survey by Barger and Montgomery (1977) or
through contact with personnel in the Severely Emotionally Impaired/
Autistic Teacher Training Program at Michigan State University.

2. Directors of Special Education for intermediate school
districts. A few Directors or members of their staffs had indicated
in the Barger and Montgomery (1977) survey or through communication
with personnel in the Severely Emotionally Impaired/Autistic Teacher
Training Program at Michigan State University that a program for
autistic students might be started in their district during the
1978-79 school year. In these instances, the Director of Special
Education was contacted to determine the status of the program and
to obtain the names and addresses of teachers working in any estab-
lished programs.

A total of 23 Supervisors and Directors were sent letters
and forms (Appendix A) requesting the needed information. Of the 23
administrators contacted, 22 responded to either the initial or
follow-up mailings. Their responses resulted in a combined list of
60 teachers from 12 programs. Twenty-eight or 46.67% of the teachers
were working in the Detroit area; another 28 or 46.67% were teaching
in other areas of the southern lower peninsula; and the remaining
four or 6.67% were employed in the northern half of the lower penin-
sula. All of the teachers (60) were mailed the survey questionnaire.

Procedures for Developing the Questionnaire

The initial step in developing the survey questionnaire used in this study involved compiling a list of competencies judged to be needed by teachers of students with autistic characteristics. Compilation of the list began with an extensive search of the literature pertaining to teacher competencies. The review included relevant literature not only from the area of autism, but also from the areas of emotional impairment, mental impairment, learning disabilities, and severe and profound handicaps. Additional information was obtained through correspondence with several university professors and with personnel from a number of programs across the United States which serve autistic youngsters. Also, competencies suggested by the author's own teaching experience and observations of classrooms for the autistic were included. The result was a consolidated list of approximately 500 teacher competencies. This list was condensed by eliminating duplicate competencies and by combining others until the final list of 85 competency statements emerged. The final 85 competencies were then organized into eight competency areas.

Step two involved determining a format for the questionnaire. The goal was to develop a format which would facilitate the efficiency and accuracy of responses to the survey items. Several existing instruments were examined and sections of the format of a questionnaire designed by Hoeksema (1975) were adapted for use in this study; however, the over-all format of the instrument used in this

investigation was devised by the researcher specifically for this research project.

The third step in developing and refining the questionnaire consisted of having the researcher's guidance committee chairman, professionals with expertise in educational programming for autistic students, and graduate students in education critically review the questionnaire. They were asked to indicate instructions and items that were confusing, to identify redundancies, and to make suggestions for the addition and deletion of items. They were also requested to make comments concerning the format and general structure of the questionnaire.

After revisions were made on the basis of the feedback received, a draft of the revised questionnaire was submitted to the writer's guidance committee for their review. The purpose of this step was to obtain the committee members' suggestions for further refinement of the instrument.

Subsequently, modifications were made in the questionnaire and a pilot study of the improved instrument was conducted. Subjects for the pilot study were two Master's level students in the Severely Emotionally Impaired/Autistic Teacher Training Program at Michigan State University. Both subjects completed the questionnaire in the same manner as teachers in the actual study were requested to do. Upon finishing the questionnaire, the pilot subjects were interviewed individually to ascertain their reactions and comments.

The final step in developing and refining the instrument was to make a few minor changes suggested by the pilot subjects. The

questionnaire was then ready for distribution to the research population.

The Questionnaire

The questionnaire developed for this study is presented in Appendix D. It consisted of five parts.

Part I: Personal and Professional Data. This section of the questionnaire was designed to obtain data regarding the type and amount of pre-service and in-service training the subjects had received, the number of years of teaching experience the subjects had had, whether all of the students in the subjects' classrooms had been diagnosed as autistic, and the age-range and general functioning level of the autistic students with whom the subjects were currently working. The information collected was used for descriptive purposes in the study. In addition, the data related to the number of years of teaching experience, type of training, age-range of students, and general functioning level of students served as independent variables in the analyses of responses.

The general functioning level of students was determined on the basis of subjects' responses to item 9 on the questionnaire. Response "a" was judged to be the low functioning level, response "b" the medium functioning level, and response "c" the high functioning level. For data analysis, the information was coded in the following manner:

1 -- Low-Medium: Respondents indicated that the autistic students in their classroom were functioning at levels a (low) and b (medium).

2 -- <u>Medium-High</u>: Respondents indicated that the autistic students in their classroom were functioning at levels b (medium) and/or c (high).

3 -- <u>All Levels</u>: Respondents indicated that the autistic students in their classroom were functioning at all three levels (a, b, and c).

It should be noted that no respondents in this study reported having only (a) low functioning or only (b) medium functioning autistic students in their classroom; however, a few did report having only (c) high functioning students in their classroom. In the latter instances, the cases were included in the Medium-High category and were coded as a two.

Also for data analysis, Age-Range, item 8 on the questionnaire, was coded as follows:

1 -- Pre-Primary, approximate age-range: 0-6 years.

2 -- Early Elementary, approximate age-range: 5-9 years.

3 -- Late Elementary, approximate age-range: 8-12 years.

4 -- Middle School/Jr. High, approximate age-range: 11-16 years.

5 -- Secondary, approximate age-range: 15-25 years.

6 -- Across two or more age-range categories.

The overlapping of ages from one level to the next was done to better represent and accommodate the age-ranges reported by teachers.

Part II: <u>Selected Competencies for Teachers of Students With Autistic Characteristics</u>. This segment of the questionnaire contained 85 competencies which may be needed by teachers of students with

autistic characteristics. The competency statements were presented in random order and the respondents were asked to rate each statement according to the following two steps:

Step 1. Subjects were requested to indicate the importance of each competency statement for teachers working with autistic students similar to those in the subject's current classroom. Each competency statement was rated on a five-point scale in which 1 represented least important and 5 represented most important. The purpose of this step was to ascertain the perceptions of teachers of autistic students concerning the importance of the 85 teaching competencies selected for the study.

Step 2. Respondents were requested to signify their professional development needs by rating each of the 85 competency statements according to the following scale:

No--No Need: I presently do not need additional skill development in this competency.

L --Low Priority: I would not go out of my way to develop additional skill in this competency.

M --Moderate Priority: I would find it helpful to develop additional skill in this competency.

H --High Priority: I would find it very helpful to develop additional skill in this competency.

The purpose of Step 2 was to determine the professional training needs of the respondents. In order to analyze the data, a score of 1 to 4 was assigned to each response with No Need receiving a 1 and High Priority receiving a 4.

Part III: <u>Development of Teaching Competence</u>. In this portion of the questionnaire, subjects were asked to indicate where teaching skill in each of the eight competency areas could be developed most effectively. This was accomplished by requesting the respondents to rank four possible preparation settings. The four settings included: college course work, supervised practicum and/or student teaching experiences, in-service training, and on-the-job experience. Respondents were directed to assign a 1 to the setting in which the skills could be developed most effectively, a 2 to the next best setting, and so on. The preparation settings were ranked for each of the eight competency areas.

The purpose of this section was to determine the perceptions of the respondents as to where, within the preparation settings, skill in each of the eight competency areas could be developed best.

Part IV: <u>Emphasis of Preparation Program</u>. Respondents were directed to rank the eight competency areas according to the amount of emphasis each should receive during an autistic teacher training program. The purpose was to obtain the respondents' opinions regarding the major focus of an autistic teacher preparation program.

Part V: <u>Open-Ended Question</u>. Finally, respondents were given the opportunity to express any thoughts, concerns, or reactions that had been stimulated by the questionnaire. This section was included to allow for respondents' input and comments since up to this point, the survey instrument was structured and participants were limited in their responses.

Collection of the Data

In May, 1979, a mailing was sent to 60 Michigan public school teachers of autistic students. The mailing included a letter of explanation (Appendix B), a questionnaire (Appendix C), and an addressed post-paid envelope for returning the questionnaire. A follow-up mailing (Appendix C) was sent in June, 1979, to subjects who had not responded to the first mailing. No further attempts were made to obtain questionnaires that were not returned after the follow-up mailing.

Research Questions and Data Analysis Procedures

Research Question 1: What is the relative importance of the selected competencies as perceived by teachers of the autistic?

To answer this question, the data from Part II, Step 1 of the questionnaire were analyzed by computing mean Importance Ratings and standard deviations for the 85 competency statements. The competencies were then ranked by their mean Importance Ratings and presented in table form. Using the same procedure, the competencies were also ranked within each of the eight competency areas. In addition, the percentage of competencies at each level of importance was reported.

Research Question 2: What is the relationship between the Importance Rating teachers of autistic students give to each competency area and the number of years the teachers have been teaching in the area of special education?

The data for this question were examined in terms of the number of years the teachers had taught autistic students and the

number of years they had taught in the general area of special education. An analysis of variance was used in both instances to determine if significant differences occurred in the Importance Ratings assigned to the competency areas by teachers with varying amounts of teaching experience. Differences in mean Importance Ratings and differences in the ranked order of importance of the competency areas were also compared for the various groups.

> Research Question 3: What is the relationship between the Importance Rating teachers of autistic students give to each competency area and the age-range of the students with whom the teachers work?

It seemed likely that teachers of one age-range of autistic students would view the competencies differently than teachers working with another age group; therefore, an analysis of variance was conducted to determine if a significant difference existed in the Importance Ratings assigned to the competencies by teachers of different age groups of students. Also, differences in mean Importance Ratings and differences in the ranked order of importance of the competency areas were compared for teachers of the various age-ranges of students.

> Research Question 4: What is the relationship between the Importance Rating teachers of autistic students give to each competency area and the functioning level of the students with whom the teachers work?

It also seemed probable that each of the following groups of teachers would rate the importance of the competency statements differently:

a. teachers working with low-medium functioning autistic students;

b. teachers working with medium-high functioning autistic students;

c. teachers working with low, medium, and high functioning autistic students.

Again, an analysis of variance was used to test for significant differences in the Importance Ratings given to the competencies by teachers in the three groups. In addition, differences in mean Importance Ratings and differences in the ranked order of importance of the competency areas were examined for the three groups of teachers.

Research Question 5: What are the perceptions of teachers of autistic students concerning the value of the various preparation settings (college course work, practicum and/or student teaching, in-service training, and on-the-job experience) in developing competence in the selected competency areas? ·

To answer this question, the mean ratings for the preparation settings were ranked for each of the eight competency areas. The results were presented in table form.

Research Question 6: In which specific competencies do teachers of the autistic perceive themselves to be in need of further training; that is, what are their professional development needs?

This question was answered by analyzing the data from Part II, Step 2 of the questionnaire. Mean Professional Development Need Ratings and standard deviations were computed for the 85 competencies. The competencies were then ranked by their mean Professional Development Need Ratings and the results were presented in a table. The competencies also were ranked within the eight competency areas by using the same procedure. In addition, the percentage of competencies at each level of professional development need was reported.

Research Question 7: What is the relationship between the Professional Development Need Rating teachers of autistic students give to each competency area and the type of special education training the teachers have received?

The type of special education endorsement(s) the teachers had received was the primary data used to answer this question; however, the effects of in-service training and Judevine training also were examined. A t-test was used to determine if the Professional Development Need Ratings of teachers differed significantly with the type of training they had been given. Differences in mean Professional Development Need Ratings and differences in the ranked order of professional development need assigned to the competency areas were compared.

Research Question 8: What is the relationship between the Professional Development Need Rating teachers of autistic students give to each competency area and the number of years the teachers have been teaching in special education?

As in Research Question 2, the data for this question were examined in terms of the number of years the teachers had taught autistic students and the number of years they had taught in the general area of special education. In both situations, a t-test was used to determine if significant differences existed in the Professional Development Need Ratings assigned to the competency areas by teachers with differing amounts of teaching experience. In addition, differences in mean Professional Development Need Ratings and differences in the ranked order of professional development need assigned to the competency areas were compared.

Research Question 9: What is the relationship between the
Professional Development Need Rating teachers of autistic
students give to each competency area and the age-range of
the students with whom the teachers work?

The data for this question were analyzed in the same way as

the data for Research Question 3. Again, it seemed likely that

teachers of one age-range of autistic students would have different

professional development needs than teachers of another age group;

therefore, an analysis of variance was conducted to determine if

significant differences occurred in the Professional Development

Need Ratings assigned to the competencies by teachers of different

age groups of students. Also, differences in mean Professional

Development Need Ratings and differences in the ranked order of pro-

fessional development need given the competency areas were compared.

Research Question 10: What is the relationship between the
Professional Development Need Rating teachers of autistic
students give to each competency area and the functioning
level of the students with whom the teachers work?

Again, as in Research Question 4, it seemed probable that each

of the following groups of teachers would rate their professional

development needs differently:

a. teachers working with low to medium functioning autistic

students;

b. teachers working with medium to high functioning autistic

students;

c. teachers working with low, medium, and high functioning

autistic students.

An analysis of variance was used to test for significant differences

in the Professional Development Need Ratings assigned to the

competencies by teachers in the three groups. Additionally, differences in mean Professional Development Need Ratings and differences in the ranked order of professional development need given the competency areas were examined for the three groups of teachers.

> Research Question 11: What are the perceptions of teachers of autistic students regarding the degree of emphasis each competency area should receive during a teacher training program for teachers of the autistic?

This question was answered by ranking the mean scores that each competency area received in Part IV of the questionnaire.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF THE FINDINGS

Introduction

The results of this study are based on analyses of the information obtained from the survey instrument. Of the 60 questionnaires mailed, 46 (76.67%) were completed and returned. Of those returned, two were received too late to be included in the data and two others had to be discarded. One was discarded because it had been completed by a speech and language therapist rather than a classroom teacher. The other was rejected because the teacher did not respond to major portions of the questionnaire or responded in such a way that the information could not be used. Therefore, the findings reported in this chapter are based on the responses of 42 subjects or 70.0% of the sample population.

The format for presenting the results is to first report the personal and professional data which describe the respondents and then to answer the research questions in sequential order. Data for both sections are presented in the form of tables and discussion.

It should be noted that the data for Part V of the questionnaire, the open-ended question, are not reported in the study findings. The reason for not including the information is that the responses varied considerably and many consisted of personal messages to the researcher; and, after compiling and analyzing the replies, the

only conclusion that could be drawn was that respondents were decidedly supportive of the study and interested in the results.

Personal and Professional Data

Degree

The highest degree held by a majority of the teachers surveyed in this study was a Bachelor's degree. A total of 32 (76.19%) respondents held only Bachelor's degrees, while ten had Master's degrees. No teachers reported holding degrees above the Master's level.

Special Education Endorsement

As shown in Table 1, over two-thirds (69.05%) of the teachers had endorsement only in the emotionally impaired (EI) area. Another four (9.52%) were endorsed to teach both EI and mentally impaired (MI) pupils and five (11.9%) were endorsed to teach both EI and learning disabled (LD) students. In addition, four teachers (9.52%) held endorsement to teach in three disability areas: EI, MI, and LD.

It should be noted that in Michigan, teachers of the autistic must have endorsement in the EI area since autism is included in the EI category. At the present time, there is no separate endorsement for autism.

Additional Special Teacher Training

Twenty-one (50.0%) of the responding teachers indicated that they had received some specific pre-service or in-service training (other than Judevine training) for working with autistic students.

Table 1.--Special education endorsement of respondents.

Endorsement	Degree	N	Percent
Emotionally Impaired (EI)	BA/BS	26	61.91
	MA/MS	3	7.14
		29	69.05
Emotionally Impaired &	BA/BS	1	2.38
Mentally Impaired (MI)	MA/MS	3	7.14
		4	9.52
Emotionally Impaired &	BA/BS	2	4.76
Learning Disabled (LD)	MA/MS	3	7.14
		5	11.90
EI, MI, & LD	BA/BS	3	7.14
	MA/MS	1	2.38
		4	9.52

Nine (42.86%) of the 21 reported having had a student teaching experience with autistic youngsters. Another nine (42.86%) had received varying types and quantities of in-service training through their local and/or intermediate school districts. Of the remaining three teachers, one had participated in a training session at a university-affiliated developmental center, one had attended workshops at the national conference for the National Society for Autistic Children, and one had been a student aide in a classroom for autistic pupils.

Eleven (26.19%) of the 42 respondents also had had Judevine training either directly from the staff at the Judevine Center or from other professionals who had acquired the training. Judevine training primarily consists of learning a behavior modification system for managing the behaviors of autistic students.

Fifteen (35.71%) of the teachers involved in this study stated that they had received no specific training (pre-service or in-service) for working with autistic pupils. Several others indicated that their in-service training had been minimal; and with the exception of the nine teachers who had completed a student teaching experience with autistic youngsters, no one reported having had any course work or training at the college level to prepare them for teaching the autistic population.

Teaching Experience

As the data in Table 2 indicate, nearly half (47.62%) of the teachers included in this study were completing their first year of teaching autistic students. Nine of these teachers had had prior teaching experience in other disability areas, while 11 (26.19%) were first-year special education teachers. Of the remaining respondents, eight (19.05%) were finishing a second year of teaching the autistic, eight (19.05%) more a third year, three (7.14%) a fourth year, and three (7.14%) a fifth year. No one reported having taught autistic pupils for more than five years. The mean number of years of teaching experience with this population was 2.07.

The amount of teaching experience that respondents had had in other areas of special education was considered relevant and important to this study and, therefore, is also reported in Table 2. As can be seen, most of the teachers (82.92%) had a total of five or less years of experience in special education (including autism). In fact, nearly half (46.34%) of the teachers had only one or two

years of experience. The mean number of years of teaching experience in special education for the total sample population was 3.61 years. This is somewhat misleading, however, since one respondent had taught for 22 years which by far exceeded the number of years specified by any of the other teachers. Therefore, the mean number of years was computed a second time by excluding the case with 22 years experience and thus yielding a more realistic mean of 3.15 years. The data for one of the respondents could not be included here because of the manner in which the necessary information was recorded on the questionnaire.

Table 2.--Teaching experience of respondents.

Area	Number of Years	N	Percent	Mean Years of Experience
Autism	1	20	47.62	
	2	8	19.05	
	3	8	19.05	2.07
	4	3	7.14	
	5	3	7.14	
Special Education (including autism)	1	11	26.83	
	2	8	19.51	
	3	7	17.07	
	4	2	4.88	
	5	6	14.63	3.15^a
	6	4	9.76	3.61^b
	7	1	2.44	
	9	1	2.44	
	22	1	2.44	
	(data missing for one case)			

[a]Excluding the case with 22 years experience.

[b]Including the case with 22 years experience.

Diagnosis of Students

Twenty-eight (66.67%) of the respondents' classrooms con-
tained only students diagnosed as autistic. The other 14 (33.33%)
classrooms included students diagnosed as severely emotionally dis-
turbed, aphasic, severely learning disabled, and neurologically
damaged in addition to autistic students. In the latter instances,
however, there were no less than three autistic students in a class-
room. The mean number of autistic youngsters per class for this
group was 4.29 whereas the mean number of pupils in classrooms with
only autistic students was 4.78.

Age-Range of Students

As can be seen in Table 3, the largest number of teachers
(26.19%) reported for a single age group were those working with
11-16 year olds who were chronologically at the Middle School/Jr. High
level. However, if the Early and Late Elementary groups are combined,
it becomes evident that the greatest number of teachers (35.72%) were
working with elementary level students. In either instance, it is
obvious that a majority (61.9%) of the teachers in this study were
teaching students between the ages of 5 and 16 years who were at the
Elementary or Middle School/Jr. High level. Another five (11.91%)
were teaching Pre-Primary children in the 0-6 year old age-range and
five (11.91%) were teaching Secondary students in the 15-25 year old
category.

Six (14.29%) teachers stated that the ages of the students in
their classroom spanned two or more of the age levels established for

the study. The widest age-range indicated by a teacher was 15 years,
while the mean age-range for the total sample population was 4.71
years. The actual age-range of students for the total population
was 3-25 years. No respondents reported having children younger
than three years of age in their classrooms.

Table 3.--Age-range of students.

Level	Approximate Age-Range	Number of Teachers Working With Students in Age-Range	Percent
Pre-Primary	0- 6	5	11.91
Early Elementary	5- 9	8	19.05
Late Elementary	8-12	7	16.67
Middle School/ Jr. High	11-16	11	26.19
Secondary	15-25	5	11.91
Across Two or More Age Levels		6	14.29

Note: Actual age-range of students for total sample population: 3-25
years.

Age-range of students for individual teachers varied from
1 year to 15 years.

Mean age-range of students for total sample population: 4.71
years.

Functioning Level of Students

Nearly half (45.24%) of the teachers stated that their class-
rooms contained Low, Medium, and High functioning autistic students.
Thirteen (30.95%) teachers had Medium-High functioning autistic
youngsters in their classes and ten (23.81%) had Low-Medium

functioning autistic pupils in their rooms (Table 4). No respondents reported having only Low or only Medium functioning students in their classes. Five teachers did indicate that there were only High functioning autistic pupils in their classrooms and for the purposes of analysis, these were included in the Medium-High functioning group.

Table 4.--Functioning levels of students.

Functioning Level	Number of Teachers Working With Students at Functioning Level	Percentage of Teachers
Low-Medium	10	23.81
Medium-High	13	30.95
All levels (Low, Medium, and High)	19	45.24
Totals	42	100.00

Summary of Personal and Professional Data

1. Thirty-two (76.19%) of the respondents held only BA/BS degrees and the remaining ten (23.81%) had MA degrees.

2. A majority (69.29%) of the respondents had special education endorsement only in the EI area.

3. Twenty-one (50.0%) of the teachers had received at least some pre-service or in-service training for working with autistic students and 11 (26.19%) had had Judevine training, while 15 (35.71%) teachers indicated they had been given no specific training pertaining to the autistic.

4. Most (82.92%) of the responding teachers had five or less years of experience in teaching exceptional students (including the autistic) and 20 (47.62%) were completing their first year of teaching autistic youngsters. None of the teachers had more than five years of experience with the autistic.

5. Twenty-eight (66.67%) of the respondents were teaching in classrooms in which all of the students had been diagnosed as autistic.

6. Twenty-six (61.9%) of the teachers were teaching autistic students at the Elementary or Middle School/Jr. High level, five (11.91%) were working with Pre-Primary children, and five (11.91%) were teaching Secondary level students. The remaining six teachers (14.29%) were working with autistic students whose ages spanned two or more of the age levels used in the study.

7. Nineteen (45.24%) of the responding teachers had Low, Medium, and High functioning autistic students in their classrooms, while the remaining respondents had either Low-Medium (23.81%) or Medium-High (30.95%) functioning pupils in their classes.

Research Questions

Research Question 1: What is the relative importance of the selected competencies as perceived by teachers of the autistic?

To determine the relative importance of the 85 competencies as perceived by teachers of the autistic, all of the competency statements included in the questionnaire were ranked according to their mean Importance Ratings (Table 5). In addition to ranking the

competency statements in order of importance, they were divided into the following categories:

4.999-4.500   Most Importance

4.499-4.000   High Importance

3.999-3.500   High-Moderate Importance

3.499-3.000   Moderate Importance

2.999-2.500   Moderate-Low Importance

A ranking of the competency statements according to their mean Importance Ratings within each of the eight competency areas is presented in Appendix E. Also, frequency distributions for the 85 competency statements can be found in Appendix G.

Of the 85 competency statements selected for the study, 37 (43.53%) were rated as having Most Importance, 28 (32.94%) as having High Importance, and 16 (18.82%) as having High-Moderate Importance. Only three (3.53%) competencies were determined to have Moderate Importance and one (1.18%) to have Moderate-Low Importance. This means that 76.47% or 65 of the competencies were judged to be of Most or High Importance for teachers of autistic students. It also means that 95.29% or 81 competencies were found to be of Most, High, or High-Moderate Importance for the teachers, while only 4.71% or four competencies were designated as being of Moderate or Moderate-Low Importance.

The competencies perceived as being most important for teachers of the autistic were:

. Ability to constructively manage the bizarre, aggressive, and self-abusive behaviors of autistic students.

. Ability to develop and implement fair, reasonable, firm, and consistent behavioral limits while maintaining an understanding and supportive relationship with pupils.

. Ability to teach and maintain attention and on-task behaviors.

. Ability to provide a warm, understanding, and supportive relationship with autistic students and their parents while, at the same time, promoting their independence (not perpetuating a dependent relationship).

. Ability to task analyze (break into small sequential steps) and sequence learning tasks.

. Ability to use a variety of methods for motivating students.

. Knowledge of and ability to apply behavior modification techniques which promote and motivate appropriate behavior in autistic students.

Three of the highest rated competencies reflected teachers' concerns about managing the behavior of autistic students. Two other statements indicated the importance of skill in implementing instruction in a classroom for autistic pupils. The remaining two competencies pertained to developing curricula for the autistic and to establishing appropriate interpersonal relationships with autistic children and their families.

In descending order, the least important of the 85 competencies were judged to be:

. Knowledge of techniques which can be used to effectively promote public awareness and advocate for services for autistic persons.

. Ability to prepare written lesson plans.

. Ability to plan and conduct presentations and in-service training activities concerning autism.

. Ability to plan and implement research projects concerning autism.

Table 5.--Relative importance of the 85 teaching competencies.

Importance	Mean	SD
Most Importance (4.999-4.500)		
36. Ability to constructively manage the bizarre, aggressive, and self-abusive behaviors of autistic students.	4.976	.154
5. Ability to develop and implement fair, reasonable, firm, and consistent behavioral limits while maintaining an understanding and supportive relationship with pupils.	4.810	.397
66. Ability to teach and maintain attention and on-task behaviors.	4.810	.505
2. Ability to provide a warm, understanding, and supportive relationship with autistic students and their parents while, at the same time, promoting their independence (not perpetuating a dependent relationship).	4.786	.415
32. Ability to task analyze (break into small sequential steps) and sequence learning tasks.	4.786	.520
50. Knowledge of and ability to apply behavior modification techniques which promote and motivate appropriate behavior in autistic students.	4.786	.520
56. Ability to use a variety of methods for motivating students.	4.786	.520
21. Ability to use classroom structure as a major technique for controlling behavior. (Classroom structure may include: consistent rules, daily routine, physical arrangement of the classroom, reduction of extraneous stimuli, removal of seductive and dangerous materials, etc.).	4.762	.532
42. Ability to teach self-help and daily living skills.	4.762	.484
48. Ability to teach and assist pupils in developing self-control.	4.762	.431
57. Ability to develop new instructional materials and/or modify existing commercial commercial materials for use with autistic students.	4.762	.532

Table 5.--Continued.

Importance	Mean	SD
Most Importance (4.999-4.500)		
58. Ability to develop a comprehensive educational program for autistic students.	4.762	.484
11. Ability to use a variety of management/ control techniques such as voice modulation, facial expressions, planned ignoring, proximity control, tension release, relaxation activities, etc.	4.738	.445
55. Ability to teach language and communication skills including nonverbal forms of communication such as sign language, symbol boards, and picture boards.	4.738	.767
61. Ability to teach motor, perceptual, and social-emotional (affective) skills.	4.738	.587
33. Ability to structure tasks and activities so they end positively and students experience success.	4.690	.749
84. Ability to plan and use a variety of crisis management procedures such as time-out, therapeutic holding, etc. to contain/ control severe behavior.	4.690	.604
27. Ability to select target behaviors to be changed and to identify the critical variables affecting the target behaviors such as consequent and antecedent events.	4.667	.650
64. Ability to tolerate and cope with the slow progress and the regressions of autistic students.	4.667	.721
19. Ability to assess students' skills in the areas of language, perception, motor, and social-emotional (affective) development.	4.643	.656
65. Ability to handle the challenge and frustration of working with nonverbal and language impaired pupils.	4.643	.656
79. Possession of the physical and emotional stamina needed to work with autistic youngsters.	4.643	.618
85. Ability to evaluate one's own teaching and classroom management skills and to constructively use the resulting information.	4.643	.618

Table 5.--Continued.

Importance	Mean	SD

Most Importance (4.999-4.500)

81. Ability to work compatibly with paraprofessionals and other professionals. — 4.619 .731

53. Knowledge of normal language development and an understanding of delayed and disordered language. — 4.595 .701

63. Ability to communicate openly, honestly, and tactfully with parents regarding their child's handicap(s), progress, limitations, etc. — 4.595 .665

25. Ability to plan a purposeful, organized, and consistent schedule of daily activities for autistic pupils. — 4.571 .831

29. Ability to plan success experiences for autistic students. — 4.571 .770

49. Ability to work with and assist parents in setting goals (short and long term), choosing intervention techniques, and learning to manage and cope with their autistic child. — 4.571 .737

62. Ability to plan learning activities and select materials that are appropriate for a student's developmental level and which allows for any learning problems the student may have. — 4.571 .770

76. Ability to make directions and learning tasks clear to students. — 4.571 .831

82. Ability to carry out instruction that is consistent with student educational goals. — 4.571 .668

23. Ability to develop and implement a systematic behavior management plan for individual autistic students complete with timeliness and a specified order in which intervention techniques will be used. — 4.548 .916

47. Ability to evaluate and document the effectiveness of the program and intervention techniques used with individual autistic students — 4.548 .705

67. Ability to function effectively as a member of a multidisciplinary team. — 4.548 .670

Table 5.--Continued.

Importance	Mean	SD
Most Importance (4.999-4.500)		
15. Ability to prepare a comprehensive and developmentally sequenced curriculum for autistic students.	4.524	1.110
71. Ability to structure activities, materials, and the physical environment of the classroom to ensure maximum learning.	4.524	.773
High Importance (4.499-4.000)		
44. Ability to use data from observations, case histories, reports of social workers, psychologists, etc. to develop educational goals and individual educational plans for autistic students.	4.476	.707
73. Ability to teach pre-academic/readiness skills.	4.476	.707
9. Knowledge of normal child development and the difference between normal and abnormal development at the various developmental levels.	4.452	.739
35. Ability to prepare autistic pupils for new experiences or for the transition from one activity or situation to another.	4.452	.832
39. Ability to coordinate the total educational program (including the services of other disciplines) for each student in the classroom.	4.452	.739
34. Ability to assess students' pre-vocational and vocational skills.	4.429	.887
59. Ability to use systematic observational techniques for establishing baseline data, for evaluating problem areas, and for documenting and assessing the progress of autistic students.	4.429	.831
80. Ability to assess students' basic academic skills.	4.429	.668
46. Ability to teach pre-vocational and vocational skills.	4.405	.857
69. Ability to separate behavior into small components (task analyze) and shape desired responses.	4.405	.767

Table 5.--Continued.

Importance	Mean	SD

High Importance (4.499-4.000)

1. Understanding of the basic concepts of perception and sensory functions and cognition. — 4.381 — .661

12. Ability to determine students' readiness for specific learning activities. — 4.381 — .882

41. Ability to identify symptoms which relate to vision, hearing, and/or health problems (including seizures). — 4.381 — .731

43. Ability to assess students' pre-academic/ readiness skills (sorting, matching, identifying colors, recognizing basic shapes, etc.). — 4.381 — .764

70. Ability to set realistic goals and expectations for one's self in terms of what can and can not be accomplished with autistic students (considering the present state of knowledge in the area of autism). — 4.381 — .854

7. Ability to act as an affective model by demonstrating warmth, empathy, and positive regard in relating to others. — 4.357 — .850

6. Ability to communicate acceptance to all students by letting them know that their feelings and needs are important and are understood. — 4.310 — .975

45. Ability to conduct group lessons and activities so every student can participate successfully. — 4.262 — 1.127

60. Ability to use developmental scales to determine the functioning level of autistic students in the various developmental areas, i.e., motor skills, social skills, play, language, etc. — 4.238 — .878

8. Ability to supervise and coordinate activities/duties of teacher aides who are working in the classroom. — 4.190 — .833

10. Ability to analyze the modality (visual, auditory, etc.) and response requirements of a given task. — 4.190 — .917

38. Ability to write behavioral objectives. — 4.190 — .943

Table 5.--Continued.

Importance	Mean	SD

High Importance (4.499-4.000)

22. Ability to tolerate differing opinions and constructive criticism without taking offense. | 4.167 | 1.102

28. Understanding of family dynamics and the reactions that parents and siblings may experience as the result of the stress of having an autistic child in the family. | 4.119 | .968

37. Ability to use play as a teaching medium and toys as educational tools for cognitive, social, and language activities. | 4.119 | 1.152

54. Knowledge of the current research and literature regarding autism. | 4.119 | .832

72. Knowledge of other handicapping conditions such as mental retardation, learning disabilities, aphasia, childhood schizophrenia, etc. | 4.071 | .894

83. Knowledge of state and federal legislation concerning educational services for autistic students. | 4.071 | .894

High-Moderate Importance (3.999-3.500)

4. Awareness of one's own emotional needs and values and an understanding of how these affect the way in which one relates to and works with autistic students and their families. | 3.952 | .936

30. Ability to maintain objective attitudes toward autistic students and their families by not becoming overly involved with them or personalizing their problems. | 3.952 | .962

40. Knowledge of the ethical issues involved in the use of behavior modification, especially the use of punishment and aversive consequences. | 3.929 | 1.045

68. Ability to teach academic skills. | 3.905 | 1.031

18. Ability to assist parents and autistic persons in obtaining the services of community agencies and organizations. | 3.810 | 1.292

Table 5.--Continued.

Importance	Mean	SD
High-Moderate Importance (3.999-3.500)		
31. Ability to construct and use informal tests of achievement with autistic students.	3.786	1.279
78. Knowledge of community agencies and organizations that provide services to the autistic population.	3.786	.952
75. Understanding of the causes and dynamics of student behaviors.	3.762	.821
17. Ability to select, use, and interpret commercially prepared tests which are appropriate for use with non-verbal and language impaired students.	3.714	1.215
14. Knowledge of the basic concepts and terminology used in other disciplines which serve autistic persons (i.e., medicine, neurology, psychiatry, etc.).	3.571	1.107
52. Ability to cope with the ambiguity (lack of specific information regarding autism, especially in the area of educational programming) in the field of autism.	3.571	1.129
3. Ability to critically evaluate research that pertains to autistic persons.	3.548	.832
16. Understanding of the basic concepts of psychology.	3.524	1.042
24. Ability to establish good public relations with community agencies and organizations.	3.500	1.018
51. Ability to handle administrators' observations and evaluations of one's teaching and classroom management skills.	3.500	.862
77. Ability to informally evaluate educational programs, services, and personnel serving the autistic population.	3.500	.834
Moderate Importance (3.499-3.000)		
74. Knowledge of techniques which can be used to effectively promote public awareness and advocate for services for autistic persons.	3.286	.944

Table 5.--Continued.

Importance	Mean	SD
Moderate Importance (3.499-3.000)		
13. Ability to prepare written lesson plans.	3.214	.951
20. Ability to plan and conduct presentations and in-service training activities concerning autism.	3.119	1.273
Moderate-Low Importance (2.999-2.500)		
26. Ability to plan and implement research projects concerning autism.	2.667	1.183

Three of these competencies pertained to administrative skills such as promoting public awareness and advocating for services for the autistic, planning and conducting in-service training sessions on autism, and planning and implementing research projects on autism. The other least important competency dealt with preparing written lesson plans and was a component of the competency area of Developing Curriculum and Instruction. Of the four least important competencies, the only one to receive a Moderate-Low Importance rating was the competency regarding planning and implementing research projects. The remaining three competencies were given Moderate Importance ratings.

As can be seen in Table 6, the majority of the competencies within the eight competency areas were rated as having Most to High Importance for teachers of autistic students. The ranking of

Table 6.--Percentage of competencies at each importance level for the eight competency areas.

Competency Areas		Importance Ratings				
		Most (4.999-4.500)	High (4.499-4.000)	High-Moderate (3.999-3.500)	Moderate (3.499-3.000)	Moderate-Low (2.999-2.500)
Behavior Management (N=12)	N	9	1	2	0	0
	%	75.00	8.33	16.67	0	0
Assessment and Evaluation (N=11)	N	2	7	2	0	0
	%	18.18	63.64	18.18	0	0
Interpersonal Relationships (N=11)	N	5	4	2	0	0
	%	45.45	36.36	18.18	0	0
Developing Curriculum & Instruction (N=10)	N	6	3	0	1	0
	%	60.00	30.00	0	10.00	0
Implementing Instruction (N=15)	N	9	5	1	0	0
	%	60.00	33.33	6.67	0	0
Administration (N=10)	N	1	3	3	2	1
	%	10.00	30.00	30.00	20.00	10.00
Background Information (N=8)	N	1	4	3	0	0
	%	12.50	50.00	37.50	0	0
Personal Characteristics (N=8)	N	4	1	3	0	0
	%	50.00	12.50	37.50	0	0

competency areas according to the percentage of competencies within
each area receiving a rating of Most or High Importance was as fol-
lows:

1. Implementing Instruction (93.33%),

2. Developing Curriculum and Instruction (90.0%),

3. Behavior Management (83.33%),

4. Assessment and Evaluation (81.82%),

5. Interpersonal Relationships (81.81%),

6.5. Background Information (62.50%),

6.5. Personal Characteristics (62.50%),

8. Administration (40.0%).

However, the ranking of the competency areas based on mean Importance
Ratings was:

1. Behavior Management ($\overline{X}$ = 4.5694),

2. Implementing Instruction ($\overline{X}$ = 4.5206),

3. Developing Curriculum and Instruction ($\overline{X}$ = 4.3857),

4. Personal Characteristics ($\overline{X}$ = 4.3065),

5. Assessment and Evaluation ($\overline{X}$ = 4.3052),

6. Interpersonal Relationships ($\overline{X}$ = 4.2792),

7. Background Information ($\overline{X}$ = 4.0625),

8. Administration ($\overline{X}$ = 3.7333).

While the over-all rankings were similar for the two sets of
data presented above, some variations were apparent. For example, a
higher percentage of competencies were given ratings of Most or High
Importance in the areas of Implementing Instruction and Developing
Curriculum and Instruction than in the area of Behavior Management,

although Behavior Management was determined to be the most important competency area. The same situation occurred with the areas of Personal Characteristics, Interpersonal Relationships, and Assessment and Evaluation. In this instance, Personal Characteristics was rated as being the most important of the three competency areas even though it contained the lowest percentage of competencies receiving ratings of Most or High Importance. The Importance Ratings were very close for the competency areas in both situations, however.

Research Question 2: What is the relationship between the Importance Rating teachers of autistic students give to each competency area and the number of years the teachers have been teaching in the area of special education?

The data for this question were examined in two ways. First, the data were studied in terms of the number of years of experience the teachers had in teaching autistic students; and second, in terms of the total number of years of experience the teachers had in working with special education youngsters (including the autistic). In both instances, an analysis of variance was used to determine if differences existed in the Importance Ratings given each competency area by teachers with varying years of experience. No significant differences were found for either situation.

The data then were regrouped for both the amount of teaching experience with autistic pupils and the total amount of teaching experience with special education students. The new groupings for experience in teaching autistic youngsters were:

a. teachers who had one year of teaching experience with
    autistic students were compared with teachers who had
    two or more years of experience, and

b. teachers who had one and two years of experience were
    compared with teachers who had three or more years of
    experience.

Since most of the respondents had limited experience in working with
the autistic, additional groupings would not have provided meaning-
ful information and, therefore, were not investigated. However, for
total special education teaching experience, the following group com-
parisons were possible:

a. teachers who had one year of experience in special edu-
    cation were compared with teachers who had two or more
    years of experience,

b. teachers who had one and two years of experience in
    special education were compared with teachers who had
    three or more years of experience,

c. teachers who had one to three years of experience in
    special education were compared with teachers who had
    four or more years of experience, and

d. teachers who had one to four years of experience in
    special education were compared with teachers who had
    five or more years of experience.

Again, only minimal differences were found between any of the
groups. In fact, most of the mean differences were less than one-
tenth of a point and the largest was only .3135. However, nearly all

of the less experienced groups gave slightly higher Importance
Ratings to the competency areas than did the more experienced
teachers.

Ranking the competency areas for each of the above groups
by using mean Importance Ratings also indicated that little varia-
tion existed from one group to another. All of the groups rated
Behavior Management and Implementing Instruction as the two most
important competency areas, Developing Curriculum and Instruction was
rated as third or fourth in importance by all of the groups, and Back-
ground Information and Administration were consistently rated as
being the least important.

Research Question 3: What is the relationship between the
Importance Rating teachers of autistic students give to
each competency area and the age-range of the students
with whom the teachers work?

To answer this question, the reported age-ranges of students
were divided into the six categories described earlier in this chap-
ter (pp. 68-69):

Pre-Primary (0-6 years),

Early Elementary (5-9 years),

Late Elementary (8-12 years),

Middle School/Jr. High (11-16 years),

Secondary (15-25 years),

Across Two or More Age Categories.

Teachers were then grouped according to the age-range of the autis-
tic students in their classroom. Finally, an analysis of variance
was conducted to determine if there were differences in the Importance

Ratings assigned to the eight competency areas by teachers working with different age groups of students. No significant differences were found.

A visual comparison of the mean Importance Ratings for the six age groups also revealed only minor variations. For example, teachers working with Late Elementary level students tended to rate the competencies slightly higher than teachers in the other groups, while teachers in the Across Age Categories group tended to rate the competencies slightly lower than the other groups. The mean differences for all of the groups of teachers were small, however.

Next, the data were examined using the following procedure. First, competency areas were ranked by mean Importance Ratings for each age-range category, and then a comparison was made of the ranked order of importance of the competency areas across the various age groups. Again, few differences between the age categories were observed. Even after combining the Pre-Primary, Early Elementary, and Late Elementary groups and comparing them with the combined Middle School/Jr. High and Secondary groups, the same results were attained. Teachers of all age-ranges of students indicated that Behavior Management and Implementing Instruction were very important competency areas and that Background Information and Administration were the least important areas. Developing Curriculum and Instruction was consistently ranked as being of third or fourth importance, while the importance rankings of Interpersonal Relationships, Personal Characteristics, and Assessment and Evaluation varied slightly from one group to another.

<u>Research Question 4</u>: What is the relationship between the Importance Rating teachers of autistic students give to each competency area and the functioning level of the students with whom the teachers work?

To analyze the data for this question, teachers were divided into three groups:

a. teachers who worked with Low-Medium functioning autistic students;

b. teachers who worked with Medium-High functioning autistic students;

c. teachers who worked with all functioning levels (Low, Medium, and High) of autistic students.

An analysis of variance was used to determine if teachers in the three groups assigned different Importance Ratings to the eight competency areas. No significant differences were indicated.

Likewise, an examination of the mean Importance Ratings given to the competency areas by teachers in the three groups revealed minimal differences (.0854 to .1726) in the Ratings. However, of the three groups of teachers, those with all three functioning levels of students in their classroom consistently gave the highest Importance Ratings to the competency areas.

In addition, a comparison of the order in which the competency areas were ranked by mean Importance Ratings for each of the three sets of teachers also showed few differences between the groups. Teachers in all three situations rated the competency areas of Background Information and Administration to be of least importance and the areas of Behavior Management, Implementing Instruction, and

Developing Curriculum and Instruction to be respectively of first, second, and third importance.

> Research Question 5: What are the perceptions of teachers of autistic students concerning the value of the various preparation settings (college course work, practicum and/ or student teaching, in-service training, and on-the-job experience) in developing competence in the selected competency areas?

After ranking the mean rating scores of the preparation settings for the eight competency areas (Table 7), the following information emerged:

a. Teachers perceived college course work to be the most effective setting for developing competence in Assessment and Evaluation, Developing Curriculum and Instruction, and Background Information. It also was perceived to be the least effective setting for developing skill in Behavior Management, Interpersonal Relationships, Implementing Instruction, and Personal Characteristics.

b. Teachers rated practicum and/or student teaching as the most effective setting for developing skill in Behavior Management and Implementing Instruction. This setting was not perceived as being the least effective for developing teaching competence in any of the competency areas.

c. Teachers indicated that in-service training was the most effective setting for developing Administrative skills. It was not rated as being the least effective setting for developing competence in any of the competency areas, although it was felt to be next to the least effective setting for acquiring skill in six of the competency areas.

Table 7.--Preparation settings.

Competency Areas	Preparation Settings (1 = most effective; 4 = least effective)	Mean	SD
Behavior Management	1. Practicum and/or Student Teaching	1.738	.767
	2. On-the-Job Experience	2.333	1.028
	3. In-Service Training	2.833	.986
	4. College Course Work	3.095	1.185
Assessment and Evaluation	1. College Course Work	1.976	1.214
	2. Practicum and/or Student Teaching	2.439	.867
	3. In-Service Training	2.707	1.167
	4. On-the-Job Experience	2.878	1.029
Interpersonal Relationships	1. On-the-Job Experience	1.738	1.014
	2. Practicum and/or Student Teaching	2.214	.813
	3. In-Service Training	2.571	.914
	4. College Course Work	3.476	.969
Developing Curriculum and Instruction	1. College Course Work	1.976	1.235
	2. Practicum and/or Student Teaching	2.439	.950
	3. In-Service Training	2.683	1.083
	4. On-the-Job Experience	2.902	1.020
Implementing Instruction	1. Practicum and/or Student Teaching	1.786	.925
	2. On-the-Job Experience	2.143	1.049
	3. In-Service Training	2.762	.906
	4. College Course Work	3.310	.975
Administration	1. In-Service Training	2.180	1.018
	2. On-the-Job Experience	2.357	1.078
	3. College Course Work	2.405	1.289
	4. Practicum and/or Student Teaching	3.048	.909
Background Information	1. College Course Work	1.214	.682
	2. In-Service Training	2.286	.742
	3. Practicum and/or Student Teaching	3.000	.826
	4. On-the-Job Experience	3.500	.634
Personal Characteristics	1. On-the-Job Experience	2.024	1.199
	2. Practicum and/or Student Teaching	2.238	.617
	3. In-Service Training	2.619	.962
	4. College Course Work	3.119	1.292

d. Teachers perceived on-the-job experience to be the most effective setting for developing competence in Interpersonal Relationships and Personal Characteristics. It also was rated as the least effective setting for acquiring skill in Assessment and Evaluation, Developing Curriculum and Instruction, Administration, and Background Information.

> Research Question 6: In which specific competencies do teachers of autistic students perceive themselves to be in need of further training; that is, what are their professional development needs?

The professional development needs of teachers of autistic students were determined by ranking the 85 competency statements by their mean Professional Development Need Ratings (Table 8). In addition to ranking the competencies by mean scores, they also were grouped into the following categories:

3.999-3.500   High Professional Development Need

3.499-3.000   Moderate-High Professional Development Need

2.999-2.500   Moderate-Low Professional Development Need

2.499-1.500   Low Professional Development Need

1.499-1.000   No Professional Development Need

A ranking of the competency statements according to their mean Professional Development Need Ratings within each competency area is located in Appendix F. Also, frequency distributions for the 85 competencies are presented in Appendix G.

Teachers perceived their professional development needs to be High or Moderate-High for 29 (34.12%) of the 85 competencies, Moderate-Low for another 44 (51.76%) competencies, and Low for the remaining 12

(14.12%) competency statements. Of the 29 competencies that received a High or Moderate-High Professional Development Need Rating, 17 were considered to have Most Importance and 10 to have High Importance for teachers of autistic students.

Respondents identified the following competencies as having the highest priority for additional professional training:

. Ability to prepare a comprehensive and developmentally sequenced curriculum for autistic students.

. Ability to assess students' pre-vocational and vocational skills.

. Ability to assess students' skills in the areas of language, perception, motor, and social-emotional (affective) development.

. Ability to constructively manage the bizarre, aggressive, and self-abusive behaviors of autistic students.

. Ability to determine students' readiness for specific learning activities.

. Ability to teach pre-vocational and vocational skills.

The first competency statement listed above was ranked as the top professional development need; it reflected the teachers' concerns about the lack of a comprehensive, well-designed curriculum for autistic students. Three other competencies pertained to the desire teachers had to increase their skill in assessing and evaluating the pupils in their classrooms. The two remaining competencies referred to the teachers' perceived need to further develop their proficiency in managing the severe behaviors of autistic youngsters and in teaching pre-vocational and vocational skills to their students. All of the competencies had received Importance Ratings of Most or High Importance.

Table 8.--Ranking of perceived professional development needs.

	Mean	SD
High Professional Development Need (3.999-3.500)	Mean	SD
[a]15. Ability to prepare a comprehensive and developmentally sequenced curriculum for autistic students.	3.500	.707
Moderate-High Professional Development Need (3.499-3.000)		
[b]34. Ability to assess students' pre-vocational and vocational skills.	3.405	.828
[a]19. Ability to assess students' skills in the areas of language, perception, motor, and social-emotional (affective) development.	3.381	.764
[a]36. Ability to constructively manage the bizarre, aggressive, and self-abusive behaviors of autistic students.	3.381	.854
[b]12. Ability to determine students' readiness for specific learning activities.	3.357	.656
[b]46. Ability to teach pre-vocational and vocational skills.	3.357	.791
[a]55. Ability to teach language and communication skills including non-verbal forms of communication such as sign language, symbol boards, and picture boards.	3.333	.928
[b]1. Understanding of the basic concepts of perception and sensory functions and cognition.	3.310	.604
[b]9. Knowledge of normal child development and the difference between normal and abnormal development at the various developmental levels.	3.262	.798
[a]85. Ability to evaluate one's own teaching and classroom management skills and to constructively use the resulting information.	3.262	.767
[a]48. Ability to teach and assist pupils in developing self-control.	3.238	.790
[a]58. Ability to develop a comprehensive educational program for autistic students.	3.238	.759
[a]61. Ability to teach motor, perceptual, and social-emotional (affective) skills.	3.238	.790

Table 8.--Continued.

	Mean	SD
Moderate-High Professional Development Need (3.499-3.000)		
[b]37. Ability to use play as a teaching medium and toys as educational tools for cognitive, social, and language activities.	3.214	.842
[b]41. Ability to identify symptoms which relate to vision, hearing, and/or health problems (including seizures).	3.214	.750
[a]53. Knowledge of normal language development and an understanding of delayed and disordered language.	3.214	.813
[a]56. Ability to use a variety of methods for motivating students.	3.190	.862
[a]84. Ability to plan and use a variety of crisis management procedures such as time-out, therapeutic holding, etc. to contain/control severe behavior.	3.190	.943
[a]57. Ability to develop new instructional materials and/or modify existing commercial materials for use with autistic students.	3.167	.881
[a]5. Ability to develop and implement fair, reasonable, firm, and consistent behavioral limits while maintaining an understanding and supportive relationship with pupils.	3.143	.899
[a]11. Ability to use a variety of management/ control techniques such as voice modulation, facial expressions, planned ignoring, proximity control, tension release, relaxation activities, etc.	3.119	.916
[a]32. Ability to task analyze (break into small sequential steps) and sequence learning tasks.	3.119	1.041
[a]49. Ability to work with and assist parents in setting goals (short and long term), choosing intervention techniques, and learning to manage and cope with their autistic child.	3.119	.803
[a]62. Ability to plan learning activities and select materials that are appropriate for a student's developmental level and which allows for any learning problems the student may have.	3.119	.772

Table 8.--Continued.

	Mean	SD

Moderate-High Professional Development Need
(3.499-3.000)

[b]72. Knowledge of other handicapping conditions
such as mental retardation, learning dis-
abilities, aphasia, childhood schizophrenia,
etc.

3.119 .772

17. Ability to select, use, and interpret com-
mercially prepared tests which are approp-
riate for use with non-verbal and language
impaired students.

3.000 .883

18. Ability to assist parents and autistic per-
sons in obtaining the services of community
agencies and organizations.

3.000 .963

[b]54. Knowledge of the current research and
literature regarding autism.

3.000 .765

[b]60. Ability to use developmental scales to deter-
mine the functioning level of autistic stu-
dents in the various developmental areas,
i.e., motor skills, social skills, play,
language, etc.

3.000 .883

Moderate-Low Professional Development Need
(2.999-2.500)

23. Ability to develop and implement a syste-
matic behavior management plan for individual
autistic students complete with timelines and
a specified order in which intervention tech-
niques will be used.

2.976 1.047

26. Ability to plan and implement research pro-
jects concerning autism.

2.976 .897

27. Ability to select target behaviors to be
changed and to identify the critical vari-
ables affecting the target behaviors such as
consequent and antecedent events.

2.976 .950

42. Ability to teach self-help and daily living
skills.

2.952 .962

45. Ability to conduct group lessons and activi-
ties so every student can participate suc-
cessfully.

2.952 1.011

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Table 8.--Continued.

	Mean	SD

Moderate-Low Professional Development Need
(2.999-2.500)

2. Ability to provide a warm, understanding,
and supportive relationship with autistic
students and their parents while, at the
same time, promoting their independence (not
perpetuating a dependent relationship).   2.929   1.068

21. Ability to use classroom structure as a
major technique for controlling behavior.
(Classroom structure may include: consis-
tent rules, daily routine, physical arrange-
ment of the classroom, reduction of extrane-
ous stimuli, removal of seductive and
dangerous materials, etc.)   2.905   1.100

29. Ability to plan success experiences for
autistic students.   2.905   .932

47. Ability to evaluate and document the effec-
tiveness of the program and intervention
techniques used with individual autistic
students.   2.905   .958

50. Knowledge of and ability to apply behavior
modification techniques which promote and
motivate appropriate behavior in autistic
students.   2.905   .850

83. Knowledge of state and federal legislation
concerning educational services for autis-
tic students.   2.905   .878

10. Ability to analyze the modality (visual,
auditory, etc.) and response requirements
of a given task.   2.881   .889

69. Ability to separate behavior into small com-
ponents (task analyze) and shape desired
responses.   2.881   .916

73. Ability to teach pre-academic/readiness
skills.   2.881   .889

75. Understanding of the causes and dynamics of
student behaviors.   2.881   .705

76. Ability to make directions and learning
tasks clear to students.   2.881   .993

Table 8.--Continued.

	Mean	SD
Moderate-Low Professional Development Need (2.999-2.500)		
25. Ability to plan a purposeful, organized, and consistent schedule of daily activities for autistic pupils.	2.857	1.002
28. Understanding of family dynamics and the reactions that parents and siblings may experience as the result of the stress of having an autistic child in the family.	2.857	.843
43. Ability to assess students' pre-academic/ readiness skills (sorting, matching, identifying colors, recognizing basic shapes, etc.).	2.857	1.002
59. Ability to use systematic observational techniques for establishing baseline data, for evaluating problem areas, and for documenting and assessing the progress of autistic students.	2.857	.814
78. Knowledge of community agencies and organizations that provide services to the autistic population.	2.857	.718
80. Ability to assess students' basic academic skills.	2.857	.783
14. Knowledge of the basic concepts and terminology used in other disciplines which serve autistic persons (i.e., medicine, neurology, psychiatry, etc.).	2.833	.853
31. Ability to construct and use informal tests of achievement with autistic students.	2.833	.853
33. Ability to structure tasks and activities so they end positively and students experience success.	2.833	1.167
66. Ability to teach and maintain attention and on-task behaviors.	2.833	.961
3. Ability to critically evaluate research that pertains to autistic persons.	2.810	.804
71. Ability to structure activities, materials, and the physical environment of the classroom to ensure maximum learning.	2.810	1.042

Table 8.--Continued.

	Mean	SD
Moderate-Low Professional Development Need (2.999-2.500)		
39. Ability to coordinate the total educational program (including the services of other disciplines) for each student in the classroom.	2.786	.813
35. Ability to prepare autistic pupils for new experiences or for the transition from one activity or situation to another.	2.738	1.037
4. Awareness of one's own emotional needs and values and an understanding of how these affect the way in which one relates to and works with autistic students and their families.	2.690	.950
20. Ability to plan and conduct presentations and in-service training activities concerning autism.	2.690	.924
44. Ability to use data from observations, case histories, reports of social workers, psychologists, etc. to develop educational goals and individual educational plans for autistic students.	2.619	.962
8. Ability to supervise and coordinate activities/duties of teacher aides who are working in the classroom.	2.595	1.061
63. Ability to communicate openly, honestly, and tactfully with parents regarding their child's handicap(s), progress, limitations, etc.	2.595	.885
68. Ability to teach academic skills.	2.595	.885
82. Ability to carry out instruction that is consistent with student educational goals.	2.595	.939
65. Ability to handle the challenge and frustration of working with non-verbal and language impaired pupils.	2.571	1.085
70. Ability to set realistic goals and expectations for one's self in terms of what can and can not be accomplished with autistic students (considering the present state of knowledge in the area of autism).	2.571	.991

Table 8.--Continued.

	Mean	SD

Moderate-Low Professional Development Need
(2.999-2.500)

6. Ability to communicate acceptance to all
   students by letting them know that their
   feelings and needs are important and are
   understood.   2.548   1.087

24. Ability to establish good public relations
    with community agencies and organizations.   2.548   .916

64. Ability to tolerate and cope with the slow
    progress and the regressions of autistic
    students.   2.500   1.065

74. Knowledge of techniques which can be used
    to effectively promote public awareness
    and advocate for services for autistic
    persons.   2.500   .672

77. Ability to informally evaluate educational
    programs, services, and personnel serving
    the autistic population.   2.500   .741

Low Professional Development Need (2.499-2.000)

67. Ability to function effectively as a member
    of a multidisciplinary team.   2.476   .943

30. Ability to maintain objective attitudes
    toward autistic students and their families
    by not becoming overly involved with them
    or personalizing their problems.   2.452   .772

79. Possession of the physical and emotional
    stamina needed to work with autistic
    youngsters.   2.452   1.087

40. Knowledge of the ethical issues involved
    in the use of behavior modification,
    especially the use of punishment and
    aversive consequences.   2.429   .991

22. Ability to tolerate differing opinions
    and constructive criticism without taking
    offense.   2.405   1.014

Table 8.--Continued.

	Mean	SD
Low Professional Development Need (2.499-2.000)		
7. Ability to act as an affective model by demonstrating warmth, empathy, and positive regard in relating to others.	2.357	1.055
52. Ability to cope with the ambiguity (lack of specific information regarding autism, especially in the area of educational programming) in the field of autism.	2.333	.754
16. Understanding of the basic concepts of psychology.	2.310	.924
81. Ability to work compatibly with paraprofessionals and other professionals.	2.310	1.000
38. Ability to write behavioral objectives.	2.286	1.019
51. Ability to handle administrators' observations and evaluations of one's teaching and classroom management skills.	2.119	.803
13. Ability to prepare written lesson plans.	2.024	.897

[a]Received a Most Importance rating.

[b]Received a High Importance rating.

The five competencies indicated as having the least priority for professional development included:

. Understanding of the basic concepts of psychology.

. Ability to work compatibly with paraprofessionals and other professionals.

. Ability to write behavioral objectives.

. Ability to handle administrators' observations and evaluations of one's teaching and classroom management skills.

. Ability to prepare written lesson plans.

Two of the competencies listed here pertained to the basic skills used in developing curriculum and instruction. Another dealt with background information for understanding autistic students and the final two competencies involved establishing appropriate working relationships with paraprofessionals and other professionals. It is important to note that although these five competencies were ranked the lowest in terms of professional development needs, none received a rating low enough to indicate that no additional professional training was needed; however, all five were in the Low Professional Need category.

One of the competencies in the lowest priority group, "ability to prepare written lesson plans," also was included in the lowest importance group of competency statements. Two other low priority competencies, "understanding the basic concepts of psychology" and "ability to handle administrators' observations and evaluations," however, had received High-Moderate Importance Ratings. The remaining competencies, "ability to write behavioral objectives" and "ability to work compatibly with paraprofessionals and other professionals," had been given the respective Importance Ratings of High and Most Importance, in contrast to their Low Professional Development Need ranking.

As shown in Table 9, teachers perceived their professional development needs to be Moderate-High or Moderate-Low for most of the competencies within the eight competency areas. In fact, all of the competency statements for the areas of Assessment and Evaluation, Implementing Instruction, and Administration were given Professional

Table 9.--Percentage of competencies at each level of professional development need for the eight competency areas.

| | | Professional Development Need Rating | | | |
		High (3.999-3.500)	Moderate-High (3.499-3.000)	Moderate-Low (2.999-2.500)	Low (2.499-1.500)	No (1.499-1.000)
Behavior Management (N=12)	N	0	5	6	1	0
	%	0	41.67	50.00	8.33	0
Assessment and Evaluation (N=11)	N	0	6	5	0	0
	%	0	54.55	45.45	0	0
Interpersonal Relationships (N=11)	N	0	1	5	5	0
	%	0	9.09	45.45	45.45	0
Developing Curriculum & Instruction (N=10)	N	1	3	4	2	0
	%	10.00	30.00	40.00	20.00	0
Implementing Instruction (N=15)	N	0	5	10	0	0
	%	0	33.33	66.67	0	0
Administration (N=10)	N	0	2	8	0	0
	%	0	20.00	80.00	0	0
Background Information (N=8)	N	0	5	2	1	0
	%	0	62.50	25.00	12.50	0
Personal Characteristics (N=8)	N	0	1	4	3	0
	%	0	12.50	50.00	37.50	0

Development Need Ratings of Moderate-High or Moderate-Low, and more than half of the other five competency areas also received those ratings. In addition, all of the competency areas contained statements which were assigned Professional Development Need Ratings of High or Moderate-High. The ranking of the competency areas according to the percentage of competencies within each area receiving a Professional Development Need Rating of High or Moderate-High was:

1. Background Information (62.50%),

2. Assessment and Evaluation (54.55%),

3. Behavior Management (41.67%),

4. Developing Curriculum and Instruction (40.0%),

5. Implementing Instruction (33.33%),

6. Administration (20.0%),

7. Personal Characteristics (12.50%),

8. Interpersonal Relationships (9.09%).

The ranking of competency areas by mean Professional Development Need Ratings, however, was as follows:

1. Assessment and Evaluation ($\overline{X}$ = 3.0390),

2. Behavior Management ($\overline{X}$ = 3.0020),

3. Background Information ($\overline{X}$ = 2.9881),

4. Implementing Instruction ($\overline{X}$ = 2.9603),

5. Developing Curriculum and Instruction ($\overline{X}$ = 2.8476),

6. Administration ($\overline{X}$ = 2.8000),

7. Personal Characteristics ($\overline{X}$ = 2.6042),

8. Interpersonal Relationships ($\overline{X}$ = 2.5693).

A comparison of the above rankings of the competency areas revealed few differences. In both instances, the areas of Administration, Personal Characteristics, and Interpersonal Relationships received the respective ranked positions of sixth, seventh, and eighth. Developing Curriculum and Instruction and Implementing Instruction also were ranked either fourth or fifth in each situation. The greatest difference was that Background Information was ranked lower in professional development need than Assessment and Evaluation or Behavior Management even though it contained the largest percentage of competencies receiving a High or Moderate-High Professional Development Need Rating. The mean Professional Development Need Ratings were similar for all three competency areas, however.

> Research Question 7: What is the relationship between the Professional Development Need Rating teachers of autistic students give to each competency area and the type of special education training the teachers have received?

To answer this research question, an examination was made of the number and type(s) of special education endorsement(s) respondents had received. However, since the number of teachers with each of the various kinds of multiple endorsements was small, all respondents with multiple endorsements were combined into one group for data analysis. The total group of teachers with multiple endorsements was compared then with the group of teachers who had endorsement only in the emotionally impaired (EI) area. Results of a t-test indicated that no significant differences existed in the Professional Development Need Ratings assigned to the competency areas by teachers in the two groups.

A simple visual comparison of mean Professional Development Need Ratings for the two groups of teachers also revealed minimal differences, although teachers with only EI endorsement tended to rate their professional development needs slightly higher than did teachers in the multiple endorsement group. However, a compounding factor that must be considered is that the group of teachers having only EI endorsement also contained all of the first-year teachers and most of the second-year teachers, while the multiple endorsement group contained primarily experienced teachers. Therefore, experience as well as training could have caused the variance in the Professional Development Need Ratings.

The two groups of teachers were also compared by examining the order in which the competency areas were ranked by mean Professional Development Need Ratings for each group. Both groups gave high priority to Assessment and Evaluation and low priority to Personal Characteristics and Interpersonal Relationships. The order of the other competency areas varied only slightly, with the exception of Background Information and Administration which were ranked higher by the teachers with multiple endorsements.

Two additional aspects of the respondents' training were explored when answering this research question. One aspect focused on whether teachers who had received at least some pre-service and/or in-service training for working with autistic students (excluding Judevine training) rated their professional development needs differently than those who had been given no special training. A comparison of mean Professional Development Need Ratings assigned to the

competencies by teachers in the two groups disclosed only small differences in the mean ratings; however, teachers who had not received special training consistently rated their professional development needs higher than those who had received training. The order of the competency areas when ranked by mean Professional Development Need Ratings also was similar for the two groups. Both groups of teachers ranked Personal Characteristics and Interpersonal Relationships low in professional development need and Assessment and Evaluation and Behavior Management high. The primary differences between the groups were that teachers with no special training ranked Implementing Instruction as a high training need, while teachers with special training ranked Background Information as a high need.

The final type of teacher training that was considered was Judevine training. Teachers who had received Judevine training were compared to teachers who had not had the training. The comparison was made to determine if the professional development needs differed for teachers in the two groups. Again, a check of the mean Professional Development Need Ratings revealed only minor differences (.0411 to .2797). Even the mean difference for Behavior Management was only .2312. Teachers without Judevine training, however, did rate their professional development needs higher than those with Judevine training in all of the competency areas except Assessment and Evaluation and Administration. These two competency areas were also ranked as top professional development needs by the teachers with Judevine training, while Behavior Management and Background Information were ranked highest by teachers without the training. As in the previous

groups, both sets of teachers identified the competency areas of Personal Characteristics and Interpersonal Relationships as having low professional development priority.

Research Question 8: What is the relationship between the Professional Development Need Rating teachers of autistic students give to each competency area and the number of years the teachers have been teaching in special education?

As in Research Question 2, the data for this question were studied in two ways. An analysis was made in terms of the number of years the teachers had taught autistic students and in terms of the total number of years the teachers had taught special education pupils (including the autistic). For both situations, the data were examined by comparing the Professional Development Need Ratings assigned to the competencies by teachers with varying amounts of teaching experience. A t-test was used to identify significant differences between groups.

Variations in professional development needs based on the number of years teachers had taught autistic youngsters were deter-mined by comparing the following groups of teachers:

a. teachers who had one year of teaching experience with autistic students were compared with teachers who had two or more years of experience, and

b. teachers who had one and two years of experience were compared with teachers who had three or more years of experience.

Significant differences were found between the Professional Development Need Ratings assigned to the competency areas by teachers with differing amounts of teaching experience. The Ratings given the

competencies by teachers with one year of experience with autistic students and the Ratings given the competencies by teachers with two or more years of experience were significantly different at the .01 level for six of the competency areas, and at the .05 level for the two remaining areas of Administration and Background Information. In addition, differences in the Professional Development Need Ratings of teachers with three or more years of experience were significant at the .01 level for all eight competency areas (Table 10).

Further examination of the differences in mean Professional Development Need Ratings revealed that teachers with less experience in teaching autistic youngsters consistently rated their professional development needs higher (in all competency areas) than did more experienced teachers. This was true for first-year teachers when they were compared with teachers who had two or more years of experience, and for first and second-year teachers when they were compared with teachers who had three or more years of experience.

A comparison also was made of the order in which the competency areas were ranked by mean Professional Development Need Ratings for each group of teachers. The results showed that Personal Characteristics and Interpersonal Relationships were ranked as the two lowest professional training needs by all of the groups, while Assessment and Evaluation was ranked as a high training need by each group. In addition, teachers with one and two years of experience indicated that Behavior Management and Implementing Instruction were high professional development needs, whereas more experienced teachers ranked Background Information as a high training need.

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Table 10.--Professional development need ratings compared by years of teaching experience with autistic students.

Competency Areas	Difference Between Mean Ratings (1 yr. of experience compared with 2 or more yrs.)	Difference Between Mean Ratings (1 & 2 yrs. of experience compared with 3 or more yrs.)
Behavior Management	.7561*	.7291*
Assessment & Evaluation	.5091*	.5487*
Interpersonal Relationships	.5519*	.5292*
Developing Curriculum and Instruction	.6964*	.7214*
Implementing Instruction	.6993*	.7953*
Administration	.3627**	.4035*
Background Information	.2375**	.3598*
Personal Characteristics	.6363*	.5581*

Note: Less experienced teachers, in all instances, rated their professional development needs higher than did more experienced teachers.

*Significant at the .01 level.

**Significant at the .05 level.

Data pertaining to the total number of years the teachers had taught special education students (including the autistic) were analyzed in the same manner as the data related to the number of years the teachers had taught autistic pupils. However, additional groupings were possible for the special education data since the teachers had more experience in the general area of special education than they had in the specific area of autism. Therefore, the groups compared to determine differences in professional development ratings

based on the number of years teachers had taught special education students were:

    a. teachers who had one year of experience in special education were compared with teachers who had two or more years of experience,

    b. teachers who had one and two years of experience in special education were compared with teachers who had three or more years of experience,

    c. teachers who had one to three years of experience in special education were compared with teachers who had four or more years of experience, and

    d. teachers who had one to four years of experience in special education were compared with teachers who had five or more years of experience.

As shown on Table 11, significant differences were found between the Professional Development Need Ratings for several of the groups of teachers. For example, a comparison of the Ratings for teachers with one year of experience with the Ratings of teachers who had two or more years of experience revealed differences in Professional Development Need Ratings that were significant at the .01 level for five competency areas and at the .05 level for an additional competency area. Similar results were attained when the Ratings of teachers who had one and two years of experience were compared with the Ratings of teachers who had three or more years of experience. Somewhat different findings were reached, however, when the Ratings of teachers who had one, two, and three years of experience

Table 11.--Professional development need ratings compared by years of teaching experience with special education students.

Competency Areas	Difference Between Mean Ratings:			
	1 year of experience compared with 2 or more years.	1-2 years of experience compared with 3 or more years.	1-3 years of experience compared with 4 or more years.	1-4 years of experience compared with 5 or more years.
Behavior Management	.6634*	.4647**	.5041**	.2884
Assessment & Evaluation	.4212*	.3514**	.3168**	.1631
Interpersonal Relationships	.5388**	.3084	.4355**	.2583
Developing Curriculum and Instruction	.6218*	.5090*	.4355**	.2533
Implementing Instruction	.6343*	.5743*	.5347**	.3368
Administration	.2570	.2711	.3610**	.3022**
Background Information	.1982	.3381*	.3437*	.3002**
Personal Characteristics	.6288*	.5152*	.4355*	.5474*

Note: Less experienced teachers, in all instances, rated their professional development needs higher than did more experienced teachers.

*Significant at the .01 level.

**Significant at the .05 level.

were compared with the Ratings of teachers who had four or more years
of experience. For these teachers, Ratings were significantly dif-
ferent for all eight competency areas, although most of the differ-
ences were significant at the .05 level rather than the .01 level as
had been the case with previous groups. Finally, a comparison of the
Ratings of teachers who had one to four years of experience with the
Ratings of teachers with five or more years of experience disclosed
significant differences in only three competency areas. The differ-
ences in ratings for the areas of Administration and Background
Information were significant at the .05 level, and the Rating differ-
ences for Personal Characteristics were significant at the .01 level.

It is interesting to note that the t-test results for
teachers' Ratings compared in the last group (teachers with one to
four years of experience and teachers with five or more years of
experience) were almost the complete opposite of the t-test results
for teachers' Ratings in the first group (teachers with one year of
experience and teachers with two or more years of experience). As
can be seen in Table 11, Administration and Background Information
were the two competency areas in which Ratings did not differ sig-
nificantly for the first group, whereas they were two of the areas
in which Ratings did differ significantly for the last group. The
Ratings for Personal Characteristics, of course, differed signifi-
cantly for all of the groups of teachers.

Additional scrutiny of the mean Professional Development
Need Ratings supported the findings stated earlier that teachers
with less experience consistently rated their professional development

needs higher than more experienced teachers. Again, this held true for all eight competency areas.

A comparison also was made of the order in which competency areas were ranked by mean Professional Development Need Ratings for each group of teachers. The results indicated that Personal Characteristics and Interpersonal Relationships were low training needs for all of the groups. In contrast, Behavior Management and Assessment and Evaluation were ranked as high professional development needs by all of the teachers, although less experienced teachers ranked Behavior Management higher than more experienced teachers. Furthermore, less experienced teachers ranked Implementing Instruction as a high professional development need, while more experienced teachers ranked Background Information as a high training need.

An additional finding regarding the ranked order of the competency areas was that very little difference existed in the order in which the competencies were ranked by teachers with one to four years of experience and teachers with five or more years of experience. Greater variations in the ranked order of the competency areas were observed in the other groups.

Research Question 9: What is the relationship between the Professional Development Need Rating teachers of autistic students give to each competency area and the age-range of the students with whom the teachers work?

As in Research Question 3, the data for this question were analyzed by grouping teachers according to the age-range of the autistic students in their classroom. The six age-range categories established for the study were:

Pre-Primary (0-6 years),

Early Elementary (5-9 years),

Late Elementary (8-12 years),

Middle School/Jr. High (11-16 years),

Secondary (15-25 years),

Across Two or More Age Categories.

An analysis of variance was conducted to determine if significant differences existed in the Professional Development Need Ratings assigned to the competencies by teachers working with the different age groups of students. Again, as in Research Question 3, no significant differences were found.

A comparison of the variations in mean Professional Development Need Ratings for the six groups disclosed the fact that teachers working with Secondary students rated their professional development needs higher than teachers in the other groups. This was particularly apparent in the area of Behavior Management. Teachers working with Secondary pupils rated their training needs in this area .5454 higher than the next closest group, which was teachers of Middle School/Jr. High level youngsters. Teachers of Secondary students also rated Developing Curriculum and Instruction .3700 and Implementing Instruction .3134 higher than teachers of students in other age categories.

The comparison of differences in mean Professional Development Need Ratings for the remaining age-range groups revealed minimal differences, although teachers in the Across Age Categories group tended to rate their professional training needs a little lower than teachers

of students in the other age-ranges. Even after combining the responses of teachers of the Pre-Primary, Early Elementary, and Late Elementary age groups with the combined responses of the Middle School/Jr. High and Secondary groups, only very small variations in the mean Professional Development Need Ratings were observed. The greatest mean difference, .2750, was in the area of Behavior Management with teachers of the older students giving the higher rating.

In addition, an examination was made of the order in which the competency areas were ranked by mean Professional Development Need Ratings for each of the groups. The results were that teachers of all age-ranges of youngsters indicated that the competency areas of Interpersonal Relationships and Personal Characteristics were of low professional development priority. A majority of the teachers also identified the areas of Assessment and Evaluation and Behavior Management to be of high priority. These competency areas were closely followed by the areas of Background Information and Implementing Instruction.

> Research Question 10: What is the relationship between the Professional Development Need Rating teachers of autistic students give to each competency area and the functioning level of the students with whom the teacher works?

Again, as in Research Question 4, teachers were divided into the following groups based on the functioning level of the students in their respective classrooms:

   a.   teachers who worked with Low-Medium functioning autistic students;

     b.   teachers who worked with Medium-High functioning autistic

          students;

     c.   teachers who worked with all functioning levels (Low,

          Medium, and High) of autistic students.

An analysis of variance revealed no significant differences in the
Professional Development Need Ratings given the competency areas by
teachers in the three groups.

A comparison of the mean Professional Development Need Ratings
assigned to the competency areas by the three groups of teachers
yielded similar results. Mean Ratings varied only from .0692 in
Behavior Management to .2558 in Interpersonal Relationships. How-
ever, of the three groups of teachers, those working with the Medium-
High functioning category rated their professional development needs
highest in all eight competency areas.

A perusal of the order in which the competency areas were
ranked by mean Professional Development Need Ratings for each group
of teachers also revealed more similarities than differences in the
groups. All of the teachers ranked Personal Characteristics and
Interpersonal Relationships as low priority areas for professional
development and Assessment and Evaluation as a high priority area.
In addition, Behavior Management was identified as a high training
need by teachers with Low-Medium functioning youngsters and teachers
working with all three functioning levels of students, whereas
teachers working with Medium-High functioning autistic pupils speci-
fied Background Information as a high professional development need.

Implementing Instruction was ranked as the third or fourth professional training need by all three groups of teachers.

> Research Question 11: What are the perceptions of teachers of autistic students regarding the degree of emphasis each competency area should receive during a teacher training program for teachers of the autistic?

In Part IV of the questionnaire, teachers ranked the eight competency areas according to the amount of emphasis each area should be given during an autistic teacher training program. Mean ratings were computed and the competency areas then were ranked in descending order (most emphasis to least emphasis) by the mean ratings they received. The results are presented in Table 12.

Table 12.--Emphasis of the competency areas for teacher training programs.

Competency Areas	Mean	SD
Behavior Management	2.095	1.445
Developing Curriculum & Instruction	3.119	1.824
Implementing Instruction	3.381	1.248
Assessment & Evaluation	3.476	1.742
Interpersonal Relationships	5.262	1.781
Personal Characteristics	5.881	2.222
Background Information	6.000	1.781
Administration	6.786	1.138

Summary of Major Findings

1. The competencies perceived to be the most important for teachers of the autistic were:

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. Ability to constructively manage the bizarre, aggressive, and self-abusive behaviors of autistic students.

. Ability to develop and implement fair, reasonable, firm, and consistent behavioral limits while maintaining an understanding and supportive relationship with pupils.

. Ability to teach and maintain attention and on-task behaviors.

. Ability to provide a warm, understanding, and supportive relationship with autistic students and their parents while, at the same time, promoting their independence (not perpetuating a dependent relationship).

. Ability to task analyze (break into small sequential steps) and sequence learning tasks.

. Ability to use a variety of methods for motivating students.

. Knowledge of and ability to apply behavior modification techniques which promote and motivate appropriate behavior in autistic students.

2. In descending order, the least important of the 85 competencies were judged to be:

. Knowledge of techniques which can be used to effectively promote public awareness and advocate for services for autistic persons.

. Ability to prepare written lesson plans.

. Ability to plan and conduct presentations and in-service training activities concerning autism.

. Ability to plan and implement research projects concerning autism.

3. The ranking of the competency areas by mean Importance Ratings was:

1. Behavior Management ($\overline{X}$ = 4.5694),

2. Implementing Instruction ($\overline{X}$ = 4.5206),

3. Developing Curriculum and Instruction ($\overline{X}$ = 4.3857),

4. Personal Characteristics ($\overline{X}$ = 4.3065),

5. Assessment and Evaluation ($\overline{X}$ = 4.3052),

6. Interpersonal Relationships ($\overline{X}$ = 4.2792),

7. Background Information ($\overline{X}$ = 4.0625),

8. Administration ($\overline{X}$ = 3.7333).

4. Teachers with varying amounts of teaching experience did not assign significantly different Importance Ratings to the competencies. Less experienced teachers, however, gave slightly higher Importance Ratings to the competencies than did more experienced teachers. All of the teachers rated Behavior Management and Implementing Instruction as the two most important competency areas, and Background Information and Administration as the two least important areas.

5. Teachers working with varying age-ranges of autistic students did not give significantly different Importance Ratings to the competencies. However, teachers with Late Elementary level students gave slightly higher Importance Ratings to the competencies than did teachers of other age groups. All of the teachers rated Behavior Management and Implementing Instruction as being very important competency areas, and Background Information and Administration as being the least important areas.

6. Teachers working with autistic students at different functioning levels did not assign significantly different Importance Ratings to the competencies, although teachers working with students of all functioning levels (High, Medium, and Low) rated the competencies slightly higher than teachers working with Low-Medium or

Medium-High functioning students. All of the teachers rated Back-
ground Information and Administration to be the least important com-
petency areas, and the areas of Behavior Management, Implementing
Instruction, and Developing Curriculum and Instruction to be respec-
tively of first, second, and third importance.

7. Teachers indicated that the value of the various prepara-
tion settings for developing skill in the selected competency areas
was as follows:

    a. College course work was the most effective setting for
developing competence in Assessment and Evaluation,
Developing Curriculum and Instruction, and Background
Information;

    b. Practicum and/or student teaching was the most effective
setting for developing competence in Behavior Management
and Implementing Instruction;

    c. In-service training was the most effective setting for
developing competence in Administration;

    d. On-the-job experience was the most effective setting for
developing competence in Interpersonal Relationships and
Personal Characteristics.

8. The following competencies were identified as having the
highest priority for additional professional training:

    . Ability to prepare a comprehensive and developmentally
      sequenced curriculum for autistic students.

    . Ability to assess students' pre-vocational and vocational
      skills.

. Ability to assess students' skills in the areas of language, perception, motor, and social-emotional (affective) development.

. Ability to constructively manage the bizarre, aggressive, and self-abusive behaviors of autistic students.

. Ability to determine students' readiness for specific learning activities.

. Ability to teach pre-vocational and vocational skills.

9. The competencies indicated as having the lowest priority for professional development were:

. Understanding the basic concepts of psychology.

. Ability to work compatibly with paraprofessionals and other professionals.

. Ability to write behavioral objectives.

. Ability to handle administrators' observations and evaluations of one's teaching and classroom management skills.

. Ability to prepare written lesson plans.

10. The ranking of competency areas by mean Professional Development Need Ratings was as follows:

1. Assessment and Evaluation ($\overline{X}$ = 3.0390),

2. Behavior Management ($\overline{X}$ = 3.0020),

3. Background Information ($\overline{X}$ = 2.9881),

4. Implementing Instruction ($\overline{X}$ = 2.9603),

5. Developing Curriculum and Instruction ($\overline{X}$ = 2.8476),

6. Administration ($\overline{X}$ = 2.8000),

7. Personal Characteristics ($\overline{X}$ = 2.6042),

8. Interpersonal Relationships ($\overline{X}$ = 2.5693).

11. Teachers with special education endorsement only in the emotionally impaired (EI) area did not rate their professional

development needs significantly different than teachers with multiple endorsements. Both groups of teachers rated their training needs high in the area of Assessment and Evaluation and low in the areas of Personal Characteristics and Interpersonal Relationships.

12. Teachers who had received no pre-service or in-service training for teaching autistic students rated their professional development needs slightly higher than teachers who had received at least some training (other than Judevine training). However, both groups indicated that Assessment and Evaluation and Behavior Management were high training needs, and that Personal Characteristics and Interpersonal Relationships were low training needs.

13. Teachers who had not received Judevine training tended to rate their professional development needs slightly higher than teachers who had received the training. Additionally, teachers who had not had Judevine training ranked Behavior Management and Background Information as high training needs, whereas teachers who had had Judevine training ranked Assessment and Evaluation and Administration as high training needs. Both groups of teachers rated Interpersonal Relationships and Personal Characteristics as low professional development needs.

14. Teachers with one and two years of experience with autistic students consistently rated their professional development needs significantly higher, in all eight competency areas, than did more experienced teachers. However, teachers in all of the groups ranked Personal Characteristics and Interpersonal Relationships as low training needs, and Assessment and Evaluation as a high training need. In

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addition, less experienced teachers ranked Behavior Management as a
high training need, while more experienced teachers ranked Background
Information as a high training need.

15. Teachers with one, two, and three years of experience
with special education students (including the autistic) tended to
rate their professional development needs significantly higher than
did more experienced teachers. However, when teachers with one to
four years of experience were compared with teachers who had five or
more years of experience, Professional Development Need Ratings were
significantly different in only three competency areas: Administra-
tion, Background Information, and Personal Characteristics. Teachers
in all of the groups rated Personal Characteristics and Interpersonal
Relationships as low training needs and Behavior Management and
Assessment and Evaluation as high training needs. Less experienced
teachers also ranked Implementing Instruction as a high training
need, while more experienced teachers ranked Background Information
as an important training need.

16. Teachers working with varying age-ranges of autistic
students did not assign significantly different Professional Develop-
ment Need Ratings to the competencies. However, teachers working with
Secondary students rated their training needs higher than teachers
working with younger students. All of the teachers ranked Interper-
sonal Relationships and Personal Characteristics as low professional
training needs and Behavior Management and Assessment and Evaluation
as high training needs.

17. Teachers working with autistic students at different functioning levels did not give significantly different Professional Development Need Ratings to the competencies, although teachers working with Medium-High functioning students rated their professional development needs higher than did other teachers. However, all of the teachers ranked Personal Characteristics and Interpersonal Relationships as low training needs and Assessment and Evaluation as a high training need.

18. In regard to the amount of emphasis each competency area should receive during an autistic teacher training program, respondents ranked the competency areas in the following order (most emphasis to least emphasis):

1. Behavior Management,

2. Developing Curriculum and Instruction,

3. Implementing Instruction,

4. Assessment and Evaluation,

5. Interpersonal Relationships,

6. Personal Characteristics,

7. Background Information,

8. Administration.

CHAPTER V

SUMMARY, IMPLICATIONS, LIMITATIONS,

AND RECOMMENDATIONS

Summary

This study was an exploratory and descriptive investigation of the competencies needed by teachers of students with autistic characteristics. It was based on a survey of teachers in Michigan public school systems who were teaching autistic children and youth. The study was designed to identify a list of competencies perceived to be important for teachers of the autistic and to determine the competencies in which teachers felt they were least proficient and in need of more training. Further, teachers' responses to the importance of the competencies and to their proficiency in each competency were examined to define any differences that existed in regard to the following variables: type and amount of professional training, number of years of teaching experience, and age and general functioning level of the students with whom they worked.

Additional purposes of the study were to ascertain teachers' perceptions of where within the various preparation settings (college course work, practicum and/or student teaching, in-service training, and on-the-job experience) teaching skill in the competencies could be developed most effectively; and to determine the relative amount

of emphasis that each competency area should receive during an autis-

tic teacher training program.

The major objectives for the study were:

1. To develop a list of competencies perceived to be impor-
   tant for teachers of autistic students,

2. To determine the perceptions of teachers of autistic
   students regarding the importance of each of the selected
   competencies,

3. To examine the relationship between the Importance Rating
   teachers of autistic students gave to each competency
   area and the number of years the teachers had been teach-
   ing special education students,

4. To examine the relationship between the Importance Rating
   teachers of autistic students gave each competency area
   and the age-range of the students with whom the teachers
   worked,

5. To examine the relationship between the Importance Rating
   teachers of autistic students gave to each competency area
   and the general functioning level of the students with
   whom the teachers worked,

6. To determine the perceptions of teachers of autistic
   students concerning the rank ordering of the preparation
   settings in which each of the competency areas could be
   developed most effectively,

7. To identify competencies in which teachers of autistic
   students perceived themselves to be in need of further
   training,

8. To examine the relationship between the Professional
   Development Need Rating teachers of autistic students
   gave to each competency area and the type of special edu-
   cation training the teachers had received,

9. To examine the relationship between the Professional
   Development Need Rating teachers of autistic students
   gave to each competency area and the number of years the
   teachers had been teaching special education students,

10. To examine the relationship between the Professional
    Development Need Rating teachers of autistic students
    gave to each competency area and the age-range of the stu-
    dents with whom the teachers worked,

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11. To examine the relationship between the Professional
     Development Need Rating teachers of autistic students
     gave to each competency area and the functioning level
     of the students with whom the teachers worked,

12. To determine the perceptions of teachers of autistic
     students regarding the degree of emphasis each of the
     major competency areas should receive during a teacher
     training program for teachers of autistic students.

Data for the study were gathered by means of a mailed ques-
tionnaire which was developed specifically for this research project.
A total of 60 questionnaires were sent to public school teachers
throughout Michigan who were teaching autistic students. The find-
ings reported for this study are based on the responses of 42 (70.0%)
of these teachers.

Analysis of the collected data revealed the following infor-
mation about the responding teachers:

1. Thirty-two (76.19%) held only BA/BS degrees and the
remaining ten (23.18%) had MA degrees.

2. A majority (69.29%) had special education endorsement
only in the emotionally impaired area.

3. Twenty-one (50.0%) had received at least some pre-
service or in-service training for working with autistic students,
11 (26.19%) had had Judevine training, and 15 (35.71%) had been given
no specific training to prepare them to teach autistic pupils.

4. Most (82.92%) had five or less years of experience in
teaching exceptional students (including the autistic), 20 (47.62%)
were completing their first year of teaching the autistic, and none
of the teachers had taught autistic students for more than five years.

5. Twenty-eight (66.67%) were teaching in classrooms in which all of the students had been diagnosed as autistic.

6. Twenty-six (61.9%) were teaching autistic students at the Elementary or Middle School/Jr. High level, five (11.91%) were working with Pre-Primary children, five (11.91%) were teaching Secondary students, and six (14.29%) were working with autistic pupils whose ages spanned two or more of the age levels used in the study.

7. Nineteen (45.24%) were teaching Low, Medium, and High functioning autistic students; 10 (23.81%) were working with Low-Medium functioning pupils; and 13 (30.95%) were teaching Medium-High functioning youngsters.

Analysis of the data relating to the research questions yielded the following conclusions:

1. Teachers perceived 81 (95.29%) of the 85 competencies to be of Most, High, or High-Moderate Importance for teachers of autistic students; 3 (3.53%) were found to have Moderate Importance; and only 1 (1.18%) to have Moderate-Low Importance. None of the competencies were rated as being unimportant for teachers of the autistic.

2. The specific competencies perceived to be most important for teachers of the autistic were:

    . Ability to constructively manage the bizarre, aggressive, and self-abusive behaviors of autistic students.

    . Ability to develop and implement fair, reasonable, firm, and consistent behavioral limits while maintaining an understanding and supportive relationship with pupils.

    . Ability to teach and maintain attention and on-task behaviors.

. Ability to provide a warm, understanding, and supportive relationship with autistic students and their parents while, at the same time, promoting their independence (not perpetuating a dependent relationship).

. Ability to task analyze (break into small sequential steps) and sequence learning tasks.

. Ability to use a variety of methods for motivating students.

. Knowledge of and ability to apply behavior modification techniques which promote and motivate appropriate behavior in autistic students.

3. The specific competencies determined to be least important for teachers of the autistic were:

. Knowledge of techniques which can be used to effectively promote public awareness and advocate for services for autistic persons.

. Ability to prepare written lesson plans.

. Ability to plan and conduct presentations and in-service training activities concerning autism.

. Ability to plan and implement research projects concerning autism.

4. Ranking of the competency areas according to importance for teachers of autistic students was (most to least important):

1. Behavior Management,
2. Implementing Instruction,
3. Developing Curriculum and Instruction,
4. Personal Characteristics,
5. Assessment and Evaluation,
6. Interpersonal Relationships,
7. Background Information,
8. Administration.

5. Teachers with varying amounts of teaching experience did not give significantly different Importance Ratings to the competencies, nor did teachers working with different age-ranges or with different functioning levels of autistic students assign significantly

different Importance Ratings to the competencies. In all instances, teachers rated Behavior Management and Implementing Instruction as the two most important competency areas, and Background Information and Administration as the two least important areas.

    6. The value of the various preparation settings for developing skill in the competency areas was found to be:

        a. College course work was the most effective setting for developing competence in Assessment and Evaluation, Developing Curriculum and Instruction, and Background Information;

        b. Practicum and/or student teaching was the most effective setting for developing competence in Behavior Management and Implementing Instruction;

        c. In-service training was the most effective setting for developing competence in Administration;

        d. On-the-job experience was the most effective setting for developing competence in Interpersonal Relationships and Personal Characteristics.

    7. Teachers perceived their professional development needs to be High or Moderate-High for 29 (34.12%) of the 85 competencies, Moderate-Low for 44 (51.76%) of the competencies, and Low for the remaining 12 (14.12%) competency statements. None of the competencies received a rating low enough to indicate that no additional professional training was needed.

    8. The specific competencies perceived to have the highest priority for professional development were:

       . Ability to prepare a comprehensive and developmentally sequenced curriculum for autistic students.

       . Ability to assess students' pre-vocational and vocational skills.

. Ability to assess students' skills in the areas of language, perception, motor and social-emotional (affective) development.

. Ability to constructively manage the bizarre, aggressive, and self-abusive behaviors of autistic students.

. Ability to determine students' readiness for specific learning activities.

. Ability to teach pre-vocational and vocational skills.

9. The specific competencies indicated as having the lowest priority for professional development were:

. Understanding the basic concepts of psychology.

. Ability to work compatibly with paraprofessionals and other professionals.

. Ability to write behavioral objectives.

. Ability to handle administrators' observations and evaluations of one's teaching and classroom management skills.

. Ability to prepare written lesson plans.

10. Ranking of the competency areas according to the teachers' perceived professional development needs were (highest to lowest priority):

1. Assessment and Evaluation,
2. Behavior Management,
3. Background Information,
4. Implementing Instruction,
5. Developing Curriculum and Instruction,
6. Administration,
7. Personal Characteristics,
8. Interpersonal Characteristics.

11. No significant differences were found when teachers' Professional Development Need Ratings were compared on the basis of the type of special education endorsement the teachers held, the type and amount of specific training the teachers had (including Judevine

training) to prepare them to work with autistic students, the age-range of the students in the teachers' classrooms, or the functioning level of the autistic students in the teachers' classes. Teachers in all of these groups ranked Personal Characteristics and Interpersonal Relationships as low professional training needs and Assessment and Evaluation and/or Behavior Management as high training needs.

12. Significant differences were found between teachers' Professional Development Need Ratings in the following instances:

a. Teachers with one and two years of experience with autistic students consistently rated their professional development needs higher, in all eight competency areas, than did more experienced teachers.

b. Teachers with one, two, and three years of experience with special education students (including the autistic) tended to rate their professional development needs significantly higher than did more experienced teachers. However, when teachers with one to four years of experience were compared with teachers who had five or more years of experience, Professional Development Need Ratings were significantly different in only three competency areas.

Teachers in all of the groups described above ranked Personal Characteristics and Interpersonal Relationships as their lowest professional development needs and Assessment and Evaluation as a high training need. In addition, teachers with less experience in teaching autistic students ranked Behavior Management as an important training need and teachers with less experience in special education ranked

Implementing Instruction as a high training need. Experienced

teachers in both situations ranked Background Information as a high

training priority.

13. The competency areas were ranked in the following order

in regard to the relative amount of emphasis each should receive dur-

ing an autistic teacher training program (most to least emphasis):

1. Behavior Management,
2. Developing Curriculum and Instruction,
3. Implementing Instruction,
4. Assessment and Evaluation,
5. Interpersonal Relationships,
6. Personal Characteristics,
7. Background Information,
8. Administration.

Implications

Teacher Training Programs

1. The list of competencies and related data obtained through

the present study supplies empirically based guidelines for develop-

ing teacher training programs that are designed to prepare teachers

to work with autistic students. Such guidelines have not been avail-

able, and they are needed to give support and direction in the estab-

lishment of new programs and in the continued refinement of existing

programs. In addition to furnishing the start of an empirical data

base for the content of autistic teacher training programs, the

information derived from this study has the following specific impli-

cations for developing the programs:

a. The 85 teacher competencies identified as being

important and ranked according to their mean Importance Ratings

provide clarification and direction for developing the curricular

content of autistic teacher training programs. Since all 85 competencies were judged as having some importance for teachers of autistic students, ideally all 85 competencies should be included in the curricula of the training programs; however, as a minimum, the teacher preparation programs should include training in the 65 competencies found to be of Most Importance or High Importance for teachers of the autistic.

b. The study results suggest the relative amount of emphasis that should be placed on competency areas during the course of autistic teacher training programs. Specifically, the study data indicate that the training programs should be designed so primary emphasis is placed on training in Behavior Management skills, and so major emphasis is given to promoting teacher competence in Developing Curriculum and Instruction, Implementing Instruction, and Assessment and Evaluation. The significance of this information for designing autistic teacher preparation programs and for determining the training priorities of the programs is obvious; therefore, the information should be considered when the training programs are being planned.

c. The study findings indicate the preparation setting in which teaching skill in each competency area can be developed most effectively. For instance, the study results suggest that college course work is the most effective setting for developing teaching competence in Assessment and Evaluation, Developing Curriculum and Instruction, and Background Information; while other settings such as practicum and/or student teaching, in-service

training, and on-the-job experience are more effective for
developing skills in other competency areas. The information
contained in this data is important for establishing efficient,
high-quality teacher training programs and should be considered
when autistic teacher preparation programs are being designed
and developed.

2. The information gathered in this study provides basic
data needed to begin evaluating programs that train teachers to work
with autistic students. For example, the list of teacher competen-
cies can be used to evaluate the content of preparation programs,
while other data can be used to evalutate the training priorities and
the use of preparation settings in the training programs. Evaluation
is certainly an important component of teacher training programs. It
is needed to acquire federal funding and, most importantly, it is
needed to ensure that programs are producing highly qualified teachers.

3. The results of the study furnish guidelines for the con-
tent of in-service training programs, workshops, and institutes which
are designed to increase the competence of teachers of the autistic.
The Professional Development Needs identified in this study provide
specific in-service training needs that should be addressed in the
programs. Also, the data from the study can serve as support and
documentation when applying for grants to finance the training
activities.

School Programs and Personnel

1. The list of teacher competencies identified in this study
provides guidelines for school personnel when recruiting, hiring, and

assigning teachers to work with autistic students. The competency
list can assist administrators and their staff members in determin-
ing which teachers have the necessary skills and are most qualified to
teach autistic students.

2. The results of this study can assist school personnel in
planning in-service training for teachers of autistic students. The
Professional Development Needs identified in the study and ranked
according to teachers' ratings of their perceived needs for addi-
tional training supply guidelines and documentation for the content
of in-service training programs. Also, the list of competencies
could be used easily by school personnel to assess the specific train-
ing needs of their own staff members.

3. The list of competencies identified in this study as being
important for teachers of autistic students furnishes an evaluation
device or checklist of skills that teachers of autistic students
should have. The list can be used by administrators and/or evalua-
tion committees to assess teachers' competencies, or teachers can use
the list as a self-inventory to help them identify their own strengths
and weaknesses.

Michigan Department of Education (MDE)

1. The data reported in this study provide information rele-
vant to the pre-service and in-service training needs of teachers of
autistic students in Michigan and, consequently, should be of prime
interest to MDE personnel. The results of the study clearly define
the content of and the need for both types of training programs in

Michigan. Therefore, MDE staff members should take the information supplied in this study into consideration when making decisions about the allocation of professional development monies, and when determining the kinds of training that are needed to increase the proficiency of teachers of autistic students.

2. The findings of the study supply information which can be used by MDE personnel to establish criteria for giving approval and support to autistic teacher training programs. The selective approval of programs by MDE is needed to assure that quality training programs are developed and maintained, and to assist good programs in obtaining grants and operating funds.

3. The competencies identified in this study and the data obtained regarding the importance of the individual competency statements have significant value for MDE in terms of developing teacher approval requirements. Currently, there is no special endorsement for teachers of the autistic beyond approval in the area of emotional impairment. However, if a definition of autism (as is currently being proposed) is approved and a separate category is established for the autistically impaired, then teacher approval requirements for this population will need to be specified. The information contained in the present study has particular importance and relevance for MDE in carrying out this task. First of all, the study was conducted with teachers of the autistic in Michigan; and secondly, the study is one of the few pieces of literature available which pertains to the competencies teachers need to have to work effectively with autistic students. Therefore, MDE personnel should certainly take into

consideration the information reported in this study when determining the criteria for approval to teach autistic students in Michigan.

Limitations

1. The number of subjects involved in the study was small. This limited the analysis of the data in some instances, since there were only a few subjects in several of the subgroups (i.e., the number of Pre-Primary teachers, the number of teachers with emotionally impaired and mentally impaired endorsements).

2. The discrepancy in the criteria used to diagnose autism may have influenced the results of the study. There is some variation from one area of the state to another in regard to the type of youngster labelled autistic. However, the definition of autism used in this study is sufficiently broad enough to have, most likely, accurately described the students in all of the responding teachers' classrooms.

3. The information collected in the study represents the perceptions, opinions, and views of teachers only. Administrators, parents, and teacher educators may have legitimate differences in their perceptions and ideas related to the competencies needed by teachers of the autistic.

4. The results of this study are based on the responses of public school teachers in Michigan; therefore, it is not possible to accurately generalize the findings to other populations. However, it is likely that teachers of autistic students in other situations are similar to the subjects of this study; thus, implications can be drawn and applied to other teachers in a theoretical sense.

5. The design of the questionnaire did not attempt to assess the amount or quality of the in-service training the teachers had received. Neither did the questionnaire attempt to assess the amount and quality of the Judevine training some of the teachers had received; for example, some of the responding teachers had had Judevine training at the Judevine Center or from certified Judevine trainers, while others had received the training from other professionals with some Judevine experience. Thus, the quality of the training may have varied. In both instances, the data collected may have influenced the results reported for Research Question 7.

6. There were few teachers included in the study with more than three years of experience with autistic pupils. Consequently, it was not possible to analyze the data to determine whether teachers' professional development needs changed as the teachers became more experienced.

7. The study did not result in a fully validated list of teacher competencies. Only the initial steps of the validation process were carried out in this study. No attempt was made to complete the validation process by observing teachers to determine if the identified competencies were, in fact, used in teaching autistic students, or if application of the competencies resulted in positive changes in the behavior and educational growth of autistic students.

Recommendations

1. Similar studies are needed to verify the findings of the present study. This is particularly true since the sample

population for the present study was small and since all of the responding teachers were from the same state or geographic area.

2. The competencies identified in this study should be validated through observations of teachers working with autistic students to determine which competencies are, in fact, needed to teach the autistic.

3. In addition to the observations explained above (number 2), studies should be conducted to determine whether student behavior is positively changed as a result of the application of the specific teaching competencies. When conducting such studies, the severity of the individual pupil's handicap(s) must be taken into consideration, as well as the unexplained behavioral regressions which are typical of autistic youngsters.

4. In the future, after teachers have had more experience with autistic students, longitudinal studies should be conducted to determine whether teachers' professional development needs change with increased experience.

5. Studies should be conducted to determine whether teacher educators, parents, and administrators have similar or different perceptions of the competencies that are important for teachers of autistic students.

6. Additional studies are needed to verify the findings of the present study which suggest that teachers with one to three years of experience have different professional development needs than teachers with four or more years of experience. Usually, studies have examined the differences between student teachers or first or

second-year teachers and more experienced teachers. However, the results of this study indicate that the critical dividing point is at the end of the third year of teaching. This finding has some important implications for in-service training programs and, therefore, should be investigated further.

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APPENDICES

APPENDIX A

LETTER AND FORMS SENT TO SPECIAL

EDUCATION ADMINISTRATORS

MICHIGAN STATE UNIVERSITY

COLLEGE OF EDUCATION
DEPARTMENT OF ELEMENTARY AND SPECIAL EDUCATION

EAST LANSING · MICHIGAN · 48824

February 15, 1979

Dear Special Education Administrator:

There are some special teachers in your program who can provide information that will assist public school and university personnel in planning pre-service and in-service professional development programs; and, at the same time, help me fulfill the dissertation requirement for a doctoral degree in special education. The teachers referred to are those working with autistic students.

Within the next few weeks, a research study will be initiated for the purpose of identifying and investigating competencies needed by teachers of autistic youngsters (see enclosed description of the study). Data for the study will be collected by having teachers of autistic students complete and return a questionnaire. In order to distribute the questionnaire, a list of the names and school addresses of teachers currently teaching autistic students is needed. All responses will remain confidential. Names and addresses will be used only for the initial and follow-up mailings of this study. Once the required number of questionnaires are returned, the list of names and addresses will be destroyed. Anonymity of all participants is assured.

Understandably, however, there may be some hesitancy or reluctance to release the requested information; in this event, you may wish to have teachers volun-tarily list their names and school addresses on the enclosed Form A. Or, you may wish to have me meet with the teachers and explain and distribute the questionnaires directly to them. If you prefer this alternative, please com-plete Form B and return it. Whatever your choice, please return either Form A or Form B as soon as possible.

Since there is a limited population to draw from for this study, a very high rate of participation is required. Therefore, your assistance and coopera-tion in this effort will be most sincerely appreciated.

A copy of the questionnaire will be forwarded to you at a later date. Also, once the study is completed, a summary of the results will be available upon request.

Again, thank you for your time and consideration.

Cordially,

Ronald M. Wolthuis
Associate Professor

Jody Smith
Doctoral Student

THE DEVELOPMENT AND STUDY OF COMPETENCIES
NEEDED BY TEACHERS OF STUDENTS WITH
AUTISTIC CHARACTERISTICS

Purpose of the Study: The primary purpose of the present study is to: (1) develop a list of general competencies needed by teachers of autistic students, and (2) begin to verify the competency statements by having teachers who are currently teaching autistic students rate the importance of each competency. In addition, an attempt will be made to determine where, within the various preparation settings (course work, practicum, on-the-job experience, etc.), the competencies can be best developed and to specify competencies in which teachers perceive themselves to be in need of further training. Also, the teachers' responses will be analyzed according to the following variables: type and amount of professional training, number of years of teaching experience, and age and general functioning level of the students with whom they work.

Rationale for the Study: Special education is the principal source of treatment for autistic youngsters; therefore, it is essential that their classrooms be staffed with competent, well-trained teachers. However, at the present time, little information is available regarding the competencies teachers must possess in order to work effectively with this population. As a result, there are few existing guidelines for professionals engaged in developing, conducting, and evaluating autistic teacher training programs or for public school personnel involved in hiring and/or assigning, and evaluating teachers who work with these students. The present investigation is designed to supply some of the needed information.

Population and Procedure: A survey questionnaire will be distributed to teachers, throughout Michigan, who are currently teaching autistic students in public school programs. The questionnaire will require approximately 20 to 30 minutes to complete, and all responses will be confidential. The data collected will be analyzed in accordance with the purpose of the study.

Outcome: The information gathered and analyzed for this study will be reported in a doctoral dissertation. It will include a list of generic competencies perceived to be important for teachers of autistic students, as well as additional information pertaining to the pre-service and in-service training needs of these teachers.

FORM A

Teachers' Names: School Addresses:

1. _____   _____

2. _____   _____

                                     _____

3. _____   _____

                                     _____

4. _____   _____

                                     _____

5. _____   _____

                                     _____

6. _____   _____

                                     _____

7. _____   _____

                                     _____

8. _____   _____

                                     _____

9. _____   _____

                                     _____

10. _____   _____

                                     _____

11. _____   _____

                                     _____

12. _____   _____

                                     _____

13. _____   _____

                                     _____

FORM B

Please contact me to arrange a meeting with the teachers on our staff who are working with autistic students. The meeting will be held for the purpose of explaining and distributing a question- naire regarding the competencies needed by teachers of autistic students.

Signed_____

Address_____

_____

Phone _____

APPENDIX B

COVER LETTER EXPLAINING THE QUESTIONNAIRE

MICHIGAN STATE UNIVERSITY

COLLEGE OF EDUCATION   EAST LANSING · MICHIGAN · 48824
DEPARTMENT OF ELEMENTARY AND SPECIAL EDUCATION

May 21, 1979

Dear Teacher of Autistic Students:

You have some important information that is needed to assist public school and university personnel in planning professional development programs in the area of autism. As you are undoubtedly aware, at the present time, few teachers are graduating from college prepared to work with the extreme needs and disabilities of autistic students; consequently, most teachers entering autistic classrooms for the first time are not equipped to meet the unique and often frustrating challenge that is ahead of them. The result is that the difficult job of teaching autistic students becomes even more difficult. In some instances, in-service training is easing the situation, but certainly not solving the over-all problem. A major reason for the inadequate teacher training is the lack of available data regarding the skills and competencies teachers need to have to effectively work with this population. Since you are currently teaching autistic students, you are in an excellent position to provide information and data required to improve pre-service and in-service training programs. Therefore, your response to the enclosed questionnaire is requested.

The questionnaire is self-explanatory and requires approximately twenty-five minutes to complete. It is designed as an initial attempt to develop and validate a list of competencies and to provide information pertaining to the pre-service and in-service training needs of teachers of autistic students. All responses will remain confidential, so feel free to express your true feelings.

Your participation and cooperation in this research will be sincerely appreciated. There is a limited population of teachers to draw from, so a very high rate of return is required for the results to be meaningful. It is hoped that the findings will be of assistance to professionals involved in programming for autistic students and also will ultimately result in improved services for the students involved. Therefore, your response is important.

Please return the completed questionnaire by June 1, 1979. For your convenience, an addressed, post-paid envelope is enclosed.

Thank you for your time and consideration.

Sincerely,

Jody Smith
Doctoral Student &
Graduate Assistant
SEI/Autistic Teacher Training Program

APPENDIX C

FOLLOW-UP LETTER TO NONRESPONDENTS

MICHIGAN STATE UNIVERSITY

COLLEGE OF EDUCATION   EAST LANSING · MICHIGAN · 48824
DEPARTMENT OF ELEMENTARY AND SPECIAL EDUCATION

June 4, 1979

Dear Teacher of Autistic Students:

My records indicate that your response to the "Survey of Teachers of
Students With Autistic Characteristics" has not been received. Realizing
that this is a busy time of year for you, the deadline for returning the
questionnaire has been extended. Also, for your convenience, another copy
of the questionnaire has been enclosed with this letter. Please complete
the questionnaire and return it as soon as possible. The information you
can provide is crucial to this study; therefore, your cooperation and
assistance will be greatly appreciated.

If you have already mailed in your questionnaire, please disregard
this letter.

Thank you for your time and consideration.

Sincerely,

Jody Smith
Doctoral Student &
Graduate Assistant
SEI/Autistic Teacher Training Program

Enclosure

APPENDIX D

QUESTIONNAIRE USED IN THE STUDY

APPENDIX D

SURVEY:

TEACHERS OF STUDENTS WITH AUTISTIC CHARACTERISTICS

INSTRUCTIONS:

Please read the directions for each part of the survey carefully.
Please return the completed questionnaire in the post-paid envelope
as soon as possible.

TO

Jody Smith
301 Erickson Hall
Department of Elementary & Special Education
Michigan State University
East Lansing, Michigan 48824

****

Please fill in your name below. It will be used only to record that
you returned a questionnaire and, thereby, will assist with follow-up
procedures for the study. To assure your anonymity, this page will
be detached from the rest of the questionnaire as soon as it is
received; or if you wish, you may detach this page and return it to
me in a separate envelope.

Name: _____

PART I

PERSONAL AND PROFESSIONAL DATA

1. Please check the degree(s) you have earned. Write in your major for each degree checked.

                                                        Major:

        _____ Associate's Degree   _____

        _____ Bachelor's Degree   _____

        _____ Master's Degree   _____

        _____ Other (specify):   _____

        _____ _____

2. Please check the disability area(s) in which you have special education endorsement.

                _____ Emotionally Impaired

                _____ Mentally Impaired

                _____ Learning Disabilities

                _____ Other (specify): _____

3. Have you had Judevine training?   _____ YES   _____ NO

4. Have you had any specific pre-service or in-service training (other than Judevine) for
    working with autistic students?

            _____ NO   _____ YES, please specify _____

            _____

5. Please indicate the number of years of teaching experience you have had in both regular
    and special education (Parts A and B). Do not count students teaching, practicum exper-
    iences, or paraprofessional experiences. Do count the current school year as one full
    year.

    A. Regular Education:

Grade Levels:	Number of Years:
Preprimary	
K - 2	
3 - 6	
7 - 9	
10 - 12	

    B. Special Education (please also indicate the ages of the students):

Type of Disability:	Number of Years:	Age of Students:
Autistic		
Emotionally Impaired (other than autistic)		
Educable Mentally Impaired		
Trainable Mentally Impaired		
Severely Mentally Impaired		
Learning Disabilities		
Severely Multiply Impaired		
Other (specify):		

6. List any additional experiences you have had with regular or special education students (i.e., as a paraprofessional, social worker, counselor, etc.). Indicate the number of years that you held the position and the ages of the students with whom you worked.

Type of Experience:	Number of Years:	Age of Students:

7. Have all of the students in your classroom been diagnosed as autistic?

_____ YES   _____ NO

PLEASE RESPOND TO THE FOLLOWING QUESTIONS ONLY IN TERMS OF THE

AUTISTIC STUDENTS IN YOUR CLASSROOM

8. What is the age-range of the autistic students with whom you are currently working? (If you are working with more than one group of autistic students, please select only one group for this response).

Age-Range _____

9. Keeping in mind the same group of students used to answer Question 8, indicate the number of students within this group who are best described by each of the following clusters of behavior. That is, how many students in this group are best described by the behaviors listed in cluster "a"? In cluster "b"? In cluster "c"?

_____ a. little or no receptive language (does not understand more than 5 words or simple phrases); often needs visual and/or motor prompts/ cues to complete simple one-step commands; non-verbal; seldom makes needs known by using gestures, signs, symbols or pictures; and can not complete tasks such as matching objects by color, placing pegs in a peg board, and making a recognizable circle by imitation.

_____ b. has some receptive language (understands approximately 50% of the words and simple phrases said to them); may need visual and/or motor prompts/cues to complete new learning tasks; able to learn through imitation/modeling; makes needs known by using verbal noises and/or gestures, signs, symbols or pictures, or spoken words and phrases; can complete tasks such as matching and sorting by color, size, and shape; can identify common objects and pictures of common objects (cup, chair, comb, hat, etc.) either by pointing to or naming them; and can demonstrate an understanding of the use/function of many common objects.

_____ c. good receptive language (understands most of what is said to them in simple, concise statements at an age appropriate level); understands and can carry-out two-step oral directions; communicates needs by speaking in sentences and/or phrases or by using sign language and symbol boards in the same manner; has developed most of the basic self-care skills at an age appropriate level; and (if age appropriate) has developed the basic academic skills.

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PART II

SELECTED COMPETENCIES FOR TEACHERS OF STUDENTS WITH AUTISTIC CHARACTERISTICS

Please read the directions for both STEP 1 and STEP 2 before starting this part of the questionnaire.

STEP 1:

Your evaluation of the following competencies is vitally important to the results of this study, so please read each competency statement carefully. Then, KEEPING IN MIND THE SAME GROUP OF STUDENTS USED TO ANSWER QUESTIONS 8 AND 9 IN PART I, rate each statement according to how important you think that competency is for teachers who are working with autistic students similar to those in your group. Circle "5" for those which are most important and "1" for those which are least important. You may circle a number between these two extremes, but please circle only one number for each competency statement.

STEP 2:

Many teachers of autistic students feel a need to increase their teaching competence. This is due, in part, to the extreme needs of the autistic and to the fact that few teachers have received any specific training for working with this population. In view of this, there may be some competency areas in which you need little or no additional training, while in other areas you may wish to improve your skills. Therefore, please respond to each of the competency statements selected for this study by using the following scale:

No -- No Need: I presently do not need additional skill development in this competency.

L -- Low Priority: I would not go out of my way to develop additional skill in this competency.

M -- Moderate Priority: I would find it helpful to develop additional skill in this competency.

H -- High Priority: I would find it very helpful to develop additional skill in this competency.

EXAMPLE:

STEP 1 IMPORTANCE OF THE COMPETENCY					COMPETENCY STATEMENTS	STEP 2 PROFESSIONAL DEVELOPMENT			
Most 5	4	3	2	Least 1		No No	Low L	Moderate M	High H
(5)	4	3	2	1	67. Ability to function effectively as a member of a multidisciplinary team.	No	L	(M)	H

In the example above, the rater has indicated that she/he thinks the competency is "Most" important (STEP 1) and that she/he would find it helpful to develop additional skill in this competency (STEP 2).

STEP 1 IMPORTANCE OF THE COMPETENCY					COMPETENCY STATEMENTS	STEP 2 PROFESSIONAL DEVELOPMENT			
Most 5	4	3	2	Least 1		No No	Low L	Moderate M	High H
5	4	3	2	1	1. Understanding of the basic concepts of perception and sensory functions and cognition.	No	L	M	H
5	4	3	2	1	2. Ability to provide a warm, understanding, and supportive relationship with autistic students and their parents while, at the same time, promoting their independence (not perpetuating a dependent relationship).	No	L	M	H

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STEP 1 IMPORTANCE OF THE COMPETENCY					COMPETENCY STATEMENTS	STEP 2 PROFESSIONAL DEVELOPMENT			
Most 5	4	3	2	Least 1		No No	Low L	Moderate M	High H
5	4	3	2	1	3. Ability to critically evaluate research that pertains to autistic persons.	No	L	M	H
5	4	3	2	1	4. Awareness of one's own emotional needs and values and an understanding of how these effect the way in which one relates to and works with autistic students and their families	No	L	M	H
5	4	3	2	1	5. Ability to develop and implement fair, reasonable, firm, and consistent behavioral limits while maintaining an understanding and supportive relationship with pupils.	No	L	M	H
5	4	3	2	1	6. Ability to communicate acceptance to all students by letting them know that their feelings and needs are important and are understood.	No	L	M	H
5	4	3	2	1	7. Ability to act as an affective model by demonstrating warmth, empathy, and positive regard in relating to others.	No	L	M	H
5	4	3	2	1	8. Ability to supervise and coordinate activities/duties of teacher aides who are working in the classroom.	No	L	M	H
5	4	3	2	1	9. Knowledge of normal child development and the difference between normal and abnormal development at the various developmental levels.	No	L	M	H
5	4	3	2	1	10. Ability to analyze the modality (visual, auditory, etc.) and response requirements of a given task.	No	L	M	H
5	4	3	2	1	11. Ability to use a variety of management/control techniques such as voice modulation, facial expressions, planned ignoring, proximity control, tension release, relaxation activities, etc.	No	L	M	H
5	4	3	2	1	12. Ability to determine students' readiness for specific learning activities.	No	L	M	H
5	4	3	2	1	13. Ability to prepare written lesson plans.	No	L	M	H
5	4	3	2	1	14. Knowledge of the basic concepts and terminology used in other disciplines which serve autistic persons (i.e., medicine, neurology, psychiatry, etc.).	No	L	M	H
5	4	3	2	1	15. Ability to prepare a comprehensive and developmentally sequenced curriculum for autistic students.	No	L	M	H
5	4	3	2	1	16. Understanding of the basic concepts of psychology.	No	L	M	H
5	4	3	2	1	17. Ability to select, use, and interpret commercially prepared tests which are appropriate for use with non-verbal and language impaired students.	No	L	M	H
5	4	3	2	1	18. Ability to assist parents and autistic persons in obtaining the services of community agencies and organizations.	No	L	M	H

STEP 1 IMPORTANCE OF THE COMPETENCY					COMPETENCY STATEMENTS	STEP 2 PROFESSIONAL DEVELOPMENT			
Most 5	4	3	2	Least 1		No No	Low L	Moderate M	High H
5	4	3	2	1	19. Ability to assess students' skills in the areas of language, perception, motor, and social-emotional (affective) development.	No	L	M	H
5	4	3	2	1	20. Ability to plan and conduct presentations and in-service training activities concerning autism.	No	L	M	H
5	4	3	2	1	21. Ability to use classroom structure as a major technique for controlling behavior. (Classroom structure may include: consistent rules, daily routine, physical arrangement of the classroom, reduction of extraneous stimuli, removal of seductive and dangerous materials, etc.).	No	L	M	H
5	4	3	2	1	22. Ability to tolerate differing opinions and constructive criticism without taking offense.	No	L	M	H
5	4	3	2	1	23. Ability to develop and implement a systematic behavior management plan for individual autistic students complete with timelines and a specified order in which intervention techniques will be used.	No	L	M	H
5	4	3	2	1	24. Ability to establish good public relations with community agencies and organizations.	No	L	M	H
5	4	3	2	1	25. Ability to plan a purposeful, organized, and consistent schedule of daily activities for autistic pupils.	No	L	M	H
5	4	3	2	1	26. Ability to plan and implement research projects concerning autism.	No	L	M	H
5	4	3	2	1	27. Ability to select target behaviors to be changed and to identify the critical variables affecting the target behaviors such as consequent and antecedent events.	No	L	M	H
5	4	3	2	1	28. Understanding of family dynamics and the reactions that parents and siblings may experience as the result of the stress of having an autistic child in the family.	No	L	M	H
5	4	3	2	1	29. Ability to plan success experiences for autistic students.	No	L	M	H
5	4	3	2	1	30. Ability to maintain objective attitudes toward autistic students and their families by not becoming overly involved with them or personalizing their problems.	No	L	M	H
5	4	3	2	1	31. Ability to construct and use informal tests of achievement with autistic students.	No	L	M	H
5	4	3	2	1	32. Ability to task analyze (break into small sequential steps) and sequence learning tasks.	No	L	M	H
5	4	3	2	1	33. Ability to structure tasks and activities so they end positively and students experience success.	No	L	M	H
5	4	3	2	1	34. Ability to assess students' prevocational and vocational skills.	No	L	M	H

STEP 1 IMPORTANCE OF THE COMPETENCY					COMPETENCY STATEMENTS	STEP 2 PROFESSIONAL DEVELOPMENT			
Most 5	4	3	2	Least 1		No No	Low L	Moderate M	High h
5	4	3	2	1	35. Ability to prepare autistic pupils for new experiences or for the transition from one activity or situation to another.	No	L	M	H
5	4	3	2	1	36. Ability to constructively manage the bizarre, aggressive, and self-abusive behaviors of autistic students.	No	L	M	H
5	4	3	2	1	37. Ability to use play as a teaching medium and toys as educational tools for cognitive, social, and language activities.	No	L	M	H
5	4	3	2	1	38. Ability to write behavioral objectives.	No	L	M	H
5	4	3	2	1	39. Ability to coordinate the total educational program (including the services of other disciplines) for each student in the classroom.	No	L	M	H
5	4	3	2	1	40. Knowledge of the ethical issues involved in the use of behavior modification, especially the use of punishment and aversive consequences.	No	L	M	H
5	4	3	2	1	41. Ability to identify symptoms which relate to vision, hearing, and/or health problems (including seizures).	No	L	M	H
5	4	3	2	1	42. Ability to teach self-help and daily living skills.	No	L	M	H
5	4	3	2	1	43. Ability to assess students' pre-academic/readiness skills (sorting, matching, identifying colors, recognizing basic shapes, etc.).	No	L	M	H
5	4	3	2	1	44. Ability to use data from observations, case histories, reports of social workers, psychologists, etc. to develop educational plans for autistic students.	No	L	M	H
5	4	3	2	1	45. Ability to conduct group lessons and activities so every student can participate successfully.	No	L	M	H
5	4	3	2	1	46. Ability to teach pre-vocational and vocational skills.	No	L	M	H
5	4	3	2	1	47. Ability to evaluate and document the effectiveness of the program and intervention techniques used with individual autistic students.	No	L	M	H
5	4	3	2	1	48. Ability to teach and assist pupils in developing self-control.	No	L	M	H
5	4	3	2	1	49. Ability to work with and assist parents in setting goals (short and long term), choosing intervention techniques, and learning to manage and cope with their autistic child.	No	L	M	H
5	4	3	2	1	50. Knowledge of and ability to apply behavior modification techniques which promote and motivate appropriate behavior in autistic students.	No	L	M	H

STEP 1 IMPORTANCE OF THE COMPETENCY					COMPETENCY STATEMENTS	STEP 2 PROFESSIONAL DEVELOPMENT			
Most 5	4	3	2	Least 1		No No	Low L	Moderate M	High h
5	4	3	2	1	51. Ability to handle administrators' observations and evaluations of one's teaching and classroom management skills.	No	L	M	H
5	4	3	2	1	52. Ability to cope with the ambiguity (lack of specific information regarding autism, especially in the area of educational programming) in the field of autism.	No	L	M	H
5	4	3	2	1	53. Knowledge of normal language development and an understanding of delayed and disordered language.	No	L	M	H
5	4	3	2	1	54. Knowledge of the current research and literature regarding autism.	No	L	M	H
5	4	3	2	1	55. Ability to teach language and communication skills including nonverbal forms of communication such as sign language, symbol boards, and picture boards.	No	L	M	H
5	4	3	2	1	56. Ability to use a variety of methods for motivating students.	No	L	M	H
5	4	3	2	1	57. Ability to develop new instructional materials and/or modify existing commercial materials for use with autistic students.	No	L	M	H
5	4	3	2	1	58. Ability to develop a comprehensive educational program for autistic students.	No	L	M	H
5	4	3	2	1	59. Ability to use systematic observational techniques for establishing baseline data, for evaluating problem areas, and for documenting and assessing the progress of autistic students.	No	L	M	H
5	4	3	2	1	60. Ability to use developmental scales to determine the functioning level of autistic students in the various developmental areas, i.e., motor skills, social skills, play, language, etc.	No	L	M	H
5	4	3	2	1	61. Ability to teach motor, perceptual, and social-emotional (affective) skills.	No	L	M	H
5	4	3	2	1	62. Ability to plan learning activities and select materials that are appropriate for a student's developmental level and which allow for any learning problems the student may have.	No	L	M	H
5	4	3	2	1	63. Ability to communicate openly, honestly, and tactfully with parents regarding their child's handicap(s), progress, limitations, etc.	No	L	M	H
5	4	3	2	1	64. Ability to tolerate and cope with the slow progress and the regressions of autistic students.	No	L	M	H
5	4	3	2	1	65. Ability to handle the challenges and frustration of working with nonverbal and language impaired pupils.	No	L	M	H
5	4	3	2	1	66. Ability to teach and maintain attention and on-task behaviors.	No	L	M	H

STEP 1 IMPORTANCE OF THE COMPETENCY					COMPETENCY STATEMENTS	STEP 2 PROFESSIONAL DEVELOPMENT			
Most 5	4	3	2	Least 1		No No	Low L	Moderate M	High H
5	4	3	2	1	67. Ability to function effectively as a member of a multidisciplinary team.	No	L	M	H
5	4	3	2	1	68. Ability to teach academic skills.	No	L	M	H
5	4	3	2	1	69. Ability to separate behavior into small components (task analyze) and shape desired responses.	No	L	M	H
5	4	3	2	1	70. Ability to set realistic goals and expectations for one's self in terms of what can and can not be accomplished with autistic students (considering the present state of knowledge in the area of autism).	No	L	M	H
5	4	3	2	1	71. Ability to structure activities, materials, and the physical environment of the classroom to ensure maximum learning.	No	L	M	H
5	4	3	2	1	72. Knowledge of other handicapping conditions such as mental retardation, learning disabilities, aphasia, childhood schizophrenia, etc.	No	L	M	H
5	4	3	2	1	73. Ability to teach pre-academic/readiness skills.	No	L	M	H
5	4	3	2	1	74. Knowledge of techniques which can be used to effectively promote public awareness and advocate for services for autistic persons.	No	L	M	H
5	4	3	2	1	75. Understanding of the causes and dynamics of student behaviors.	No	L	M	H
5	4	3	2	1	76. Ability to make directions and learning tasks clear to students.	No	L	M	H
5	4	3	2	1	77. Ability to informally evaluate educational programs, services, and personnel serving the autistic population.	No	L	M	H
5	4	3	2	1	78. Knowledge of community agencies and organizations that provide services to the autistic population.	No	L	M	H
5	4	3	2	1	79. Possession of the physical and emotional stamina needed to work with autistic youngsters.	No	L	M	H
5	4	3	2	1	80. Ability to assess students' basic academic skills.	No	L	M	H
5	4	3	2	1	81. Ability to work compatably with paraprofessionals and other professionals.	No	L	M	H
5	4	3	2	1	82. Ability to carry out instruction that is consistent with student educational goals.	No	L	M	H
5	4	3	2	1	83. Knowledge of state and federal legislation concerning educational services for autistic students.	No	L	M	H
5	4	3	2	1	84. Ability to plan and use a variety of crisis management procedures such as time-out, therapeutic holding, etc. to contain/control severe behavior.	No	L	M	H
5	4	3	2	1	85. Ability to evaluate one's own teaching and classroom management skills and to constructively use the resulting information.	No	L	M	H

PART III

DEVELOPMENT OF TEACHING COMPETENCE

The development of teaching competence takes place over an extended period of time and is the result of experience as well as formal preparation. For example, some of the teaching competencies selected for this study may be developed best through college course work, while others may be acquired most effectively through supervised practicum and student teaching experiences. Others may be developed best through on-the-job experience or from in-service training. Therefore, please respond as follows:

> For each of the eight competency areas listed below, rank the four possible preparation settings in which the competencies in each area could be developed. Place a "1" below the setting in which the competency area could be developed most effectively, a "2" below the next best setting, a "3" below the third best setting, and a "4" below the least effective setting.

PREPARATION SETTINGS:

COMPETENCY AREAS	College Course Work	Practicum &/or Student Teaching	In-Service Training	On-The-Job Experience
A. Behavior Management: includes skills such as understanding the dynamics of student behavior; being able to use a variety of managment techniques; being able to constructively manage the bizarre and aggressive behaviors of autistic students; being able to develop and implement systematic behavior management plans, etc.				
B. Assessment & Evaluation: includes the ability to construct and use formal and informal tests; to use systematic observational techniques; to assess students' achievement in various skill areas; to determine students' readiness for specific learning activities, etc.				
C. Interpersonal Relationships: includes skills such as being able to communicate and work effectively with parents, students, administrators, and other professionals; being able to function as a team member; being able to tolerate differing opinions and contructive criticism, etc.				
D. Developing Curriculum & Instruction: includes skills in writing behavioral objectives; task analyzing and sequencing learning tasks; developing and/or modifying materials for use with autistic students; developing a comprehensive curriculum for autistic students, etc.				
E. Implementing Instruction: includes the ability to use a variety of motivational techniques; to teach attending skills; to structure activities and tasks to maximize learning and success experiences for students; to teach basic skills in academic areas, language, self-help, motor development, etc.				
F. Administration: includes having knowledge of current legislation pertaining to autistic students; being able to supervise and coordinate the activities/duties of teacher aides; being able to coordinate the total educational program for each student in the classroom, etc.				
G. Background Information: includes having an understanding and knowledge of the basic concepts and terminology used in other disciplines; having knowledge of current research and literature pertaining to autism; having a knowledge of child development, language development, etc.				
H. Personal Characteristics: includes having an awareness of one's own emotional needs and understanding how these needs influence the way in which one works with autistic students and their families; having the ability to cope with the ambiguity (lack of specific information) in the area of teaching autistic students; being able to cope with the behaviors and the slow progress of autistic students, etc.				

PART V

EMPHASIS OF PREPARATION PROGRAM

Please rank the eight competency areas (defined in PART III) according to the amount of emphasis each should receive during an autistic teacher training program. Place "1" by the competency area which should receive the most emphasis, a "2" by the competency area which should receive the next most emphasis and finally, an "8" by the competency area that should receive the least emphasis during a preparation program.

_____ Behavior Management

_____ Assessment & Evaluation

_____ Interpersonal Relationships

_____ Developing Curriculum & Instruction

_____ Implementing Instruction

_____ Administration

_____ Background Information

_____ Personal Characteristics

PART V

OPEN-ENDED QUESTION

This questionnaire may have stimulated some thoughts, concerns, reactions, etc. Therefore, please make any comments that you may have in the space below.

APPENDIX E

IMPORTANCE RANKING OF THE COMPETENCY STATEMENTS

WITHIN THE EIGHT COMPETENCY AREAS

APPENDIX E

IMPORTANCE RANKING OF THE COMPETENCY STATEMENTS
WITHIN THE EIGHT COMPETENCY AREAS

	Mean	SD
Behavior Management		
36. Ability to constructively manage the bizarre, aggressive, and self-abusive behaviors of autistic students.	4.976	.154
5. Ability to develop and implement fair, reasonable, firm, and consistent behavioral limits while maintaining an understanding and supportive relationship with pupils.	4.810	.397
50. Knowledge of and ability to apply behavior modification techniques which promote and motivate appropriate behavior in autistic students.	4.786	.520
21. Ability to use classroom structure as a major technique for controlling behavior. (Classroom structure may include: consistent rules, daily routine, physical arrangement of the classroom, reduction of extraneous stimuli, removal of seductive and dangerous materials, etc.).	4.762	.532
48. Ability to teach and assist pupils in developing self-control.	4.762	.431
11. Ability to use a variety of management/control techniques such as voice modulation, facial expressions, planned ignoring, proximity control, tension release, relaxation activities, etc.	4.738	.445
84. Ability to plan and use a variety of crisis management procedures such as time-out, therapeutic holding, etc. to contain/control severe behavior.	4.690	.604
27. Ability to select target behaviors to be changed and to identify the critical variables affecting the target behaviors such as consequent and antecedent events.	4.667	.650

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	Mean	SD

Behavior Management (cont'd)

23. Ability to develop and implement a systematic behavior management plan for individual autistic students complete with timelines and a specified order in which intervention techniques will be used. — 4.548 — .916

69. Ability to separate behavior into small components (task analyze) and shape desired responses. — 4.405 — .767

40. Knowledge of the ethical issues involved in the use of behavior modification, especially the use of punishment and aversive consequences. — 3.929 — 1.045

75. Understanding of the causes and dynamics of student behaviors. — 3.762 — .821

Assessment & Evaluation

19. Ability to assess students' skills in the areas of language, perception, motor, and social-emotional (affective) development. — 4.643 — .656

47. Ability to evaluate and document the effectiveness of the program and intervention techniques used with individual autistic students. — 4.548 — .705

34. Ability to assess students' pre-vocational and vocational skills. — 4.429 — .887

59. Ability to use systematic observational techniques for establishing baseline data, for evaluating problem areas, and for documenting and assessing the progress of autistic students. — 4.429 — .831

80. Ability to assess students' basic academic skills. — 4.429 — .668

12. Ability to determine students' readiness for specific learning activities. — 4.381 — .882

41. Ability to identify symptoms which relate to vision, hearing, and/or health problems (including seizures). — .4381 — .731

43. Ability to assess students' pre-academic/readiness skills (sorting, matching, identifying colors, recognizing basic shapes, etc.). — 4.381 — .764

	Mean	SD

Assessment & Evaluation (cont'd)

60. Ability to use developmental scales to determine the functioning level of autistic students in the various developmental areas, i.e., motor skills, social skills, play, language, etc. **4.238 .878**

31. Ability to construct and use informal tests of achievement with autistic students. **3.786 1.279**

17. Ability to select, use, and interpret commercially prepared tests which are appropriate for use with non-verbal and language impaired students. **3.714 1.215**

Interpersonal Relationships

2. Ability to provide a warm, understanding, and supportive relationship with autistic students and their parents while, at the same time, promoting their independence (not perpetuating a dependent relationship). **4.786 .415**

81. Ability to work compatibly with paraprofessionals and other professionals. **4.619 .731**

63. Ability to communicate openly, honestly, and tactfully with parents regarding their child's handicap(s), progress, limitations, etc. **4.595 .665**

49. Ability to work with and assist parents in setting goals (short and long term), choosing intervention techniques, and learning to manage and cope with their autistic child. **4.571 .737**

67. Ability to function effectively as a member of a multidisciplinary team. **4.548 .670**

7. Ability to act as an affective model by demonstrating warmth, empathy, and positive regard in relating to others. **4.357 .850**

6. Ability to communicate acceptance to all students by letting them know that their feelings and needs are important and are understood. **4.310 .975**

22. Ability to tolerate differing opinions and constructive criticism without taking offense. **4.167 1.102**

28. Understanding of family dynamics and the reactions that parents and siblings may experience as the result of the stress of having an autistic child in the family. **4.119 .968**

	Mean	SD

Interpersonal Relationships (cont'd)

24. Ability to establish good public relations
with community agencies and organizations.   3.500   1.018

51. Ability to handle administrators' observa-
tions and evaluations of one's teaching and
classroom management skills.   3.500   .862

Developing Curriculum & Instruction

32. Ability to task analyze (break into small
sequential steps) and sequence learning tasks.   4.786   .520

57. Ability to develop new instructional materials
and/or modify existing commercial materials
for use with autistic students.   4.762   .532

25. Ability to plan a purposeful, organized, and
consistent schedule of daily activities for
autistic pupils.   4.571   .831

29. Ability to plan success experiences for
autistic students.   4.571   .770

62. Ability to plan learning activities and select
materials that are appropriate for a student's
developmental level and which allows for any
learning problems the student may have.   4.571   .770

15. Ability to prepare a comprehensive and
developmentally sequenced curriculum for
autistic students.   4.524   1.110

44. Ability to use data from observations, case
histories, reports of social workers, psy-
chologists, etc. to develop educational goals
and individual educational plans for autistic
students.   4.476   .707

10. Ability to analyze the modality (visual, audi-
tory, etc.) and response requirements of a
given task.   4.190   .917

38. Ability to write behavioral objectives.   4.190   .943

13. Ability to prepare written lesson plans.   3.214   .951

Implementing Instruction

66. Ability to teach and maintain attention and
on-task behaviors.   4.810   .505

	Mean	SD

Implementing Instruction (cont'd)

56. Ability to use a variety of methods for motivating students. — 4.786 — .520

42. Ability to teach self-help and daily living skills. — 4.762 — .484

55. Ability to teach language and communication skills including non-verbal forms of communication such as sign language, symbol boards, and picture boards. — 4.738 — .767

61. Ability to teach motor, perceptual, and social-emotional (affective) skills. — 4.738 — .587

33. Ability to structure tasks and activities so they end positively and students experience success. — 4.690 — .749

76. Ability to make directions and learning tasks clear to students. — 4.571 — .831

82. Ability to carry out instruction that is consistent with student educational goals. — 4.571 — .668

71. Ability to structure activities, materials, and the physical environment of the classroom to ensure maximum learning. — 4.524 — .773

73. Ability to teach pre-academic/readiness skills. — 4.476 — .707

35. Ability to prepare autistic pupils for new experiences or for the transition from one activity or situation to another. — 4.452 — .832

46. Ability to teach pre-vocational and vocational skills. — 4.405 — .857

45. Ability to conduct group lessons and activities so every student can participate successfully. — 4.262 — 1.127

37. Ability to use play as a teaching medium and toys as educational tools for cognitive, social, and language activities. — 4.119 — 1.152

68. Ability to teach academic skills. — 3.905 — 1.031

Administration

58. Ability to develop a comprehensive educational program for autistic students. — 4.762 — .484

	Mean	SD

Administration (cont'd)

39. Ability to coordinate the total educational program (including the services of other disciplines) for each student in the classroom. — 4.452 — .739

8. Ability to supervise and coordinate activities/duties of teacher aides who are working in the classroom. — 4.190 — .833

83. Knowledge of state and federal legislation concerning educational services for autistic students. — 4.000 — .988

18. Ability to assist parents and autistic persons in obtaining the services of community agencies and organizations. — 3.810 — 1.292

3. Ability to critically evaluate research that pertains to autistic persons. — 3.548 — .832

77. Ability to informally evaluate educational programs, services, and personnel serving the autistic population. — 3.500 — .834

74. Knowledge of techniques which can be used to effectively promote public awareness and advocate for services for autistic persons. — 3.286 — .944

20. Ability to plan and conduct presentations and in-service training activities concerning autism. — 3.119 — 1.273

26. Ability to plan and implement research projects concerning autism. — 2.667 — 1.183

Background Information

53. Knowledge of normal language development and an understanding of delayed and disordered language. — 4.595 — .701

9. Knowledge of normal child development and the differences between normal and abnormal development at the various developmental levels. — 4.452 — .739

1. Understanding of the basic concepts of perception and sensory functions and cognition. — 4.381 — .661

54. Knowledge of the current research and literature regarding autism. — 4.119 — .832

	Mean	SD

Background Information (cont'd)

72. Knowledge of other handicapping conditions such as mental retardation, learning disabilities, aphasia, childhood schizophrenia, etc. — 4.071, .894

78. Knowledge of community agencies and organizations that provide services to the autistic population. — 3.786, .952

14. Knowledge of the basic concepts and terminology used in other disciplines which serve autistic persons (i.e., medicine, neurology, psychiatry, etc.). — 3.571, 1.107

16. Understanding of the basic concepts of psychology. — 3.524, 1.042

Personal Characteristics

64. Ability to tolerate and cope with the slow progress and the regressions of autistic students. — 4.667, .721

65. Ability to handle the challenge and frustration of working with non-verbal and language impaired pupils. — 4.643, .656

79. Possession of the physical and emotional stamina needed to work with autistic youngsters. — 4.643, .618

85. Ability to evaluate one's own teaching and classroom management skills and to constructively use the resulting information. — 4.643, .618

70. Ability to set realistic goals and expectations for one's self in terms of what can and can not be accomplished with autistic students (considering the present state of knowledge in the area of autism). — 4.381, .854

4. Awareness of one's own emotional needs and values and an understanding of how these affect the way in which one relates to and works with autistic students and their families. — 3.952, .936

30. Ability to maintain objective attitudes toward autistic students and their families by not becoming overly involved with them or personalizing their problems. — 3.952, .962

52. Ability to cope with the ambiguity (lack of specific information regarding autism, especially in the area of educational programming) in the field of autism. — 3.571, 1.129

APPENDIX F

RANKING OF PROFESSIONAL DEVELOPMENT NEEDS

WITHIN THE EIGHT COMPETENCY AREAS

RANKING OF PROFESSIONAL DEVELOPMENT NEEDS
WITHIN THE EIGHT COMPETENCY AREAS

	Mean	SD
Behavior Management		
36. Ability to constructively manage the bizarre, aggressive, and self-abusive behaviors of autistic students.	3.381	.854
48. Ability to teach and assist pupils in developing self-control.	3.238	.790
84. Ability to plan and use a variety of crisis management procedures such as time-out, therapeutic holding, etc. to contain/control severe behavior.	3.190	.943
5. Ability to develop and implement fair, reasonable, firm, and consistent behavioral limits while maintaining an understanding and supportive relationship with pupils.	3.143	.899
11. Ability to use a variety of management/control techniques such as voice modulation, facial expressions, planned ignoring, proximity control, tension release, relaxation activities, etc.	3.119	.916
23. Ability to develop and implement a systematic behavior management plan for individual autistic students complete with timelines and a specified order in which intervention techniques will be used.	2.976	1.047
27. Ability to select target behaviors to be changed and to identify the critical variables affecting the target behaviors such as consequent and antecedent events.	2.976	.950
21. Ability to use classroom structure as a major technique for controlling behavior. (Classroom structure may include: consistent rules, daily routine, physical arrangement of the classroom, reduction of extraneous stimuli, removal of seductive and dangerous materials, etc.).	2.905	1.100
50. Knowledge of and ability to apply behavior modification techniques which promote and motivate appropriate behavior in autistic students.	2.905	.878

	Mean	SD

Behavior Management (cont'd)

69. Ability to separate behavior into small com-
ponents (task analyze) and shape desired
responses.

2.881   .916

75. Understanding of the causes and dynamics of
student behaviors.

2.881   .705

40. Knowledge of the ethical issues involved in
the use of behavior modification, especially
the use of punishment and aversive consequences.

2.429   .991

Assessment & Evaluation

34. Ability to assess students' pre-vocational and
vocational skills.

3.405   .828

19. Ability to assess students' skills in the areas
of language, perception, motor, and social-
emotional (affective) development.

3.381   .764

12. Ability to determine students' readiness for
specific learning activities.

3.357   .656

41. Ability to identify symptoms which relate to
vision, hearing, and or health problems (includ-
ing seizures).

3.214   .750

17. Ability to select, use, and interpret commer-
cially prepared tests which are appropriate for
use with non-verbal and language impaired
students.

3.000   .883

60. Ability to use developmental scales to deter-
mine the functioning level of autistic students
in the various developmental areas, i.e., motor
skills, social skills, play, language, etc.

3.000   .883

47. Ability to evaluate and document the effective-
ness of the program and intervention techniques
used with individual autistic students.

2.905   .850

43. Ability to assess students' pre-academic/
readiness skills (sorting, matching, identify-
ing colors, recognizing basic shapes, etc.).

2.857   1.002

59. Ability to use systematic observational tech-
niques for establishing baseline data, for
evaluating problem areas, and for documenting
and assessing the progress of autistic students.

2.857   .814

80. Ability to assess students' basic academic
skills.

2.857   .783

	Mean	SD

Assessment & Evaluation (cont'd)

31. Ability to construct and use informal tests of achievement with autistic students. 2.833 .853

Interpersonal Relationships

49. Ability to work with and assist parents in setting goals (short and long term), choosing intervention techniques, and learning to manage and cope with their autistic child. 3.119 .803

2. Ability to provide a warm, understanding, and supportive relationship with autistic students and their parents while, at the same time, promoting their independence (not perpetuating a dependent relationship). 2.929 1.068

28. Understanding of family dynamics and the reactions that parents and siblings may experience as the result of the stress of having an autistic child in the family. 2.857 .843

63. Ability to communicate openly, honestly, and tactfully with parents regarding their child's handicap(s), progress, limitations, etc. 2.595 .885

6. Ability to communicate acceptance to all students by letting them know that their feelings and needs are important and are understood. 2.548 1.087

24. Ability to establish good public relations with community agencies and organizations. 2.548 .916

67. Ability to function effectively as a member of a multidisciplinary team. 2.476 .943

22. Ability to tolerate differing opinions and constructive criticism without taking offense. 2.405 1.014

7. Ability to act as an affective model by demonstrating warmth, empathy, and positive regard in relating to others. 2.357 1.055

81. Ability to work compatibly with paraprofessionals and other professionals. 2.310 1.000

51. Ability to handle administrators' observations and evaluations of one's teaching and classroom management skills. 2.119 .803

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	Mean	SD

Developing Curriculum & Instruction

15. Ability to prepare a comprehensive and developmentally sequenced curriculum for autistic students. — 3.500 .707

57. Ability to develop new instructional materials and/or modify existing commercial materials for use with autistic students. — 3.167 .881

32. Ability to task analyze (break into small sequential steps) and sequence learning tasks. — 3.119 1.041

62. Ability to plan learning activities and select materials that are appropriate for a student's developmental level and which allows for any learning problems the student may have. — 3.119 .772

29. Ability to plan success experiences for autistic students. — 2.905 .932

10. Ability to analyze the modality (visual, auditory, etc.) and response requirements of a given task. — 2.881 .889

25. Ability to plan a purposeful, organized, and consistent schedule of daily activities for autistic pupils. — 2.857 1.002

44. Ability to use data from observations, case histories, reports of social workers, psychologists, etc. to develop educational goals and individual educational plans for autistic students. — 2.619 .962

38. Ability to write behavioral objectives. — 2.119 .803

13. Ability to prepare written lesson plans. — 2.024 .897

Implementing Instruction

46. Ability to teach pre-vocational and vocational skills. — 3.357 .791

55. Ability to teach language and communication skills including non-verbal forms of communication such as sign language, symbol boards, and picture boards. — 3.333 .928

37. Ability to use play as a teaching medium and toys as educational tools for cognitive, social, and language activities. — 3.241 .842

61. Ability to teach motor, perceptual, and social-emotional (affective) skills. — 3.238 .790

	Mean	SD

Implementing Instruction (cont'd)

56. Ability to use a variety of methods for motivating students. — 3.190 — .862

42. Ability to teach self-help and daily living skills. — 2.952 — .962

45. Ability to conduct group lessons and activities so every student can participate successfully. — 2.952 — 1.011

73. Ability to teach pre-academic/readiness skills. — 2.881 — .889

76. Ability to make directions and learning tasks clear to students. — 2.881 — .993

33. Ability to structure tasks and activities so they end positively and students experience success. — 2.833 — 1.167

66. Ability to teach and maintain attention and on-task behaviors. — 2.833 — .961

71. Ability to structure activities, materials, and the physical environment of the classroom to ensure maximum learning. — 2.810 — 1.042

35. Ability to prepare autistic pupils for new experiences or for the transition from one activity or situation to another. — 2.738 — 1.037

68. Ability to teach academic skills. — 2.595 — .885

82. Ability to carry out instruction that is consistent with student educational goals. — 2.595 — .939

Administration

58. Ability to develop a comprehensive educational program for autistic students. — 3.238 — .759

18. Ability to assist parents and autistic persons in obtaining the services of community agencies and organizations. — 3.000 — .963

26. Ability to plan and implement research projects concerning autism. — 2.976 — .897

83. Knowledge of state and federal legislation concerning educational services for autistic students. — 2.905 — .958

3. Ability to critically evaluate research that pertains to autistic persons. — 2.810 — .804

	Mean	SD

Administration (cont'd)

39. Ability to coordinate the total educational program (including the services of other disciplines) for each student in the classroom. — 2.786 — .813

20. Ability to plan and conduct presentations and in-service training activities concerning autism. — 2.690 — .924

8. Ability to supervise and coordinate activities/ duties of teacher aides who are working in the classroom. — 2.595 — 1.061

74. Knowledge of techniques which can be used to effectively promote public awareness and advocate for services for autistic persons. — 2.500 — .672

77. Ability to informally evaluate educational programs, services, and personnel serving the autistic population. — 2.500 — .741

Background Information

1. Understanding of the basic concepts of perception and sensory functions and cognition. — 3.310 — .604

9. Knowledge of normal child development and the difference between normal and abnormal development at the various developmental levels. — 3.262 — .798

53. Knowledge of normal language development and an understanding of delayed and disordered language. — 3.214 — .813

72. Knowledge of other handicapping conditions such as mental retardation, learning disabilities, aphasia, childhood schizophrenia, etc. — 3.119 — .813

54. Knowledge of the current research and literature regarding autism. — 3.000 — .765

78. Knowledge of community agencies and organizations that provide services to the autistic population. — 2.857 — .853

14. Knowledge of the basic concepts and terminology used in other disciplines which serve autistic persons (i.e., medicine, neurology, psychiatry, etc.). — 2.833 — .853

16. Understanding of the basic concepts of psychology. — 2.310 — .924

	Mean	SD
Personal Characteristics		
85. Ability to evaluate one's own teaching and classroom management skills and to constructively use the resulting information.	3.262	.767
4. Awareness of one's own emotional needs and values and an understanding of how these affect the way in which one relates to and works with autistic students and their families.	2.690	.950
65. Ability to handle the challenge and frustration of working with non-verbal and language impaired pupils.	2.571	1.085
70. Ability to set realistic goals and expectations for one's self in terms of what can and can not be accomplished with autistic students (considering the present state of knowledge in the area of autism).	2.571	.991
64. Ability to tolerate and cope with the slow progress and the regressions of autistic students.	2.500	1.065
30. Ability to maintain objective attitudes toward autistic students and their families by not becoming overly involved with them or personalizing their problems.	2.452	.772
79. Possession of the physical and emotional stamina needed to work with autistic youngsters.	2.452	1.087
52. Ability to cope with the ambiguity (lack of specific information regarding autism, especially in the area of educational programming) in the field of autism.	2.333	.754

APPENDIX G

FREQUENCY DISTRIBUTIONS FOR THE

EIGHTY-FIVE COMPETENCY STATEMENTS

FREQUENCY DISTRIBUTIONS FOR THE
EIGHTY-FIVE COMPETENCY STATEMENTS

	Importance Ratings					Professional Development Need Ratings			
	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4

1. Understanding the basic concepts of perception and sensory functions and cognition.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	20	18	4	0	0	0	3	23	16
%	47.6	42.9	9.5	0	0	0	7.1	54.8	38.1

2. Ability to provide a warm, understanding, and supportive relationship with autistic students and their parents while, at the same time, promoting their independence (not perpetuating a dependent relationship).

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	33	9	0	0	0	6	7	13	16
%	78.6	21.4	0	0	0	14.3	16.7	31.0	38.1

3. Ability to critically evaluate research that pertains to autistic persons.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	5	17	16	4	0	2	12	20	8
%	11.9	40.5	38.1	9.5	0	4.8	28.6	47.6	19.0

4. Awareness of one's own emotional needs and values and an understanding of how these affect the way in which one relates to and works with autistic students and their families.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	13	17	10	1	1	5	12	16	9
%	31.0	40.5	23.8	2.4	2.4	11.9	28.6	38.1	21.4

5. Ability to develop and implement fair, reasonable and consistent behavioral limits while maintaining an understanding and supportive relationship with pupils.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	34	8	0	0	0	3	5	17	17
%	81.0	19.0	0	0	0	7.1	11.9	40.5	40.5

6. Ability to communicate acceptance to all students by letting them know that their feelings and needs are important and are understood.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	24	10	6	1	1	10	8	15	9
%	57.1	23.8	14.3	2.4	2.4	23.8	19.0	35.7	21.4

	Importance Ratings				Professional Development Need Ratings			
Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4

7. Ability to act as an affective model by demonstrating warmth, empathy, and positive regard in relating to others.

	5	4	3	2	1	1	2	3	4
N	22	15	4	0	1	12	9	15	6
%	52.4	35.7	9.5	0	2.4	28.6	21.4	35.7	14.3

8. Ability to supervise and coordinate activities/duties of teacher aides who are working in the classroom.

	5	4	3	2	1	1	2	3	4
N	18	15	8	1	0	8	11	13	10
%	42.9	35.7	19.0	2.4	0	19.0	26.2	31.0	23.8

9. Knowledge of normal child development and the difference between normal and abnormal development at the various developmental levels.

	5	4	3	2	1	1	2	3	4
N	25	11	6	0	0	1	6	16	19
%	59.5	26.2	14.3	0	0	2.4	14.3	38.1	45.2

10. Ability to analyze the modality (visual, auditory, etc.) and response requirements of a given task.

	5	4	3	2	1	1	2	3	4
N	20	12	8	2	0	2	13	15	12
%	47.6	28.6	19.0	4.8	0	4.8	31.0	35.7	28.6

11. Ability to use a variety of management/control techniques such as voice modulation, facial expressions, planned ignoring, proximity control, tension release, relaxation activities, etc.

	5	4	3	2	1	1	2	3	4
N	31	11	0	0	0	2	9	13	18
%	73.8	26.2	0	0	0	4.8	21.4	31.0	42.9

12. Ability to determine students' readiness for specific learning activities.

	5	4	3	2	1	1	2	3	4
N	24	12	5	0	1	0	4	19	19
%	57.1	28.6	11.9	0	2.4	0	9.5	45.2	45.2

13. Ability to prepare written lesson plans.

	5	4	3	2	1	1	2	3	4
N	4	11	18	8	1	13	18	8	3
%	9.5	26.2	42.9	19.0	2.4	31.0	42.9	19.0	7.1

14. Knowledge of the basic concepts and terminology used in other disciplines which serve autistic students (i.e., medicine, neurology, psychiatry, etc.).

	5	4	3	2	1	1	2	3	4
N	9	16	8	8	1	4	7	23	8
%	21.4	38.1	19.0	19.0	2.4	9.5	16.7	54.8	19.0

	Importance Ratings					Professional Development Need Ratings			
	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4

15. Ability to prepare a comprehensive and developmentally sequenced curriculum for autistic students.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	33	4	2	0	3	1	2	14	25
%	78.6	9.5	4.8	0	7.1	2.4	4.8	33.3	59.5

16. Understanding of the basic concepts of psychology.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	8	13	16	3	2	10	12	17	3
%	19.0	31.0	38.1	7.1	4.8	23.8	28.6	40.5	7.1

17. Ability to select, use, and interpret commercially prepared tests which are appropriate for use with non-verbal and language impaired students.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	14	11	11	3	3	3	7	19	13
%	33.3	26.2	26.2	7.1	7.1	7.1	16.7	45.2	31.0

18. Ability to assist parents and autistic persons in obtaining the services of community agencies and organizations.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	17	11	6	5	3	3	10	13	16
%	40.5	26.2	14.3	11.9	7.1	7.1	23.8	31.0	38.1

19. Ability to assess students' skills in the areas of language, perception, motor, and social-emotional (affective) development.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	31	7	4	0	0	1	4	15	22
%	73.8	16.7	9.5	0	0	2.4	9.5	35.7	52.4

20. Ability to plan and conduct presentations and in-service training activities concerning autism.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	6	12	11	7	6	5	11	18	8
%	14.3	28.6	26.2	16.7	14.3	11.9	26.2	42.9	19.0

21. Ability to use classroom structure as a major technique for controlling behavior. (Classroom structure may include: consistent rules, daily routine, physical arrangement of the classroom, reduction of extraneous stimuli, removal of seductive and dangerous materials, etc.).

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	34	6	2	0	0	6	9	10	17
%	81.0	14.3	4.8	0	0	14.3	21.4	23.8	40.5

22. Ability to tolerate differing opinions and constructive criticism without taking offense.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	22	10	7	1	2	10	11	15	6
%	52.4	23.8	16.7	2.4	4.8	23.8	26.2	35.7	14.3

	Importance Ratings					Professional Development Need Ratings			
	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4

23. Ability to develop and implement a systematic behavior management plan for individual autistic students complete with timelines and a specified order in which intervention techniques will be used.

N	31	6	3	1	1	6	5	15	16
%	73.8	14.3	7.1	2.4	2.4	14.3	11.9	35.7	38.1

24. Ability to establish good public relations with community agencies and organizations.

N	7	15	13	6	1	6	13	17	6
%	16.7	35.7	31.0	14.3	2.4	14.3	31.0	40.5	14.3

25. Ability to plan a purposeful, organized, and consistent schedule of daily activities for autistic pupils.

N	30	8	3	0	1	5	9	15	13
%	71.4	19.0	7.1	0	2.4	11.9	21.4	35.7	31.0

26. Ability to plan and implement research projects concerning autism.

N	4	5	13	13	7	2	11	15	14
%	9.5	11.9	31.0	31.0	16.7	4.8	26.2	35.7	33.3

27. Ability to select target behaviors to be changed and to identify the critical variables affecting the target behaviors such as consequent and antecedent events.

N	32	6	4	0	0	4	7	17	14
%	76.2	14.3	9.5	0	0	9.5	16.7	40.5	33.3

28. Understanding of family dynamics and the reactions that parents and siblings may experience as the result of the stress of having an autistic child in the family.

N	19	12	8	3	0	1	15	15	11
%	45.2	28.6	19.0	7.1	0	2.4	35.7	35.7	26.2

29. Ability to plan success experiences for autistic students.

N	30	7	4	1	0	3	11	15	13
%	71.4	16.7	9.5	2.4	0	7.1	26.2	35.7	31.0

30. Ability to maintain objective attitudes toward autistic students and their families by not becoming overly involved with them or personalizing their problems.

N	15	13	11	3	0	5	15	20	2
%	35.7	31.0	26.2	7.1	0	11.9	35.7	47.6	4.8

	Importance Ratings					Professional Development Need Ratings			
	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4

31. Ability to construct and use informal tests of achievement with autistic students.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	17	8	12	1	4	4	7	23	8
%	40.5	19.0	28.6	2.4	9.5	9.5	16.7	54.8	19.0

32. Ability to task analyze (break into small sequential steps) and sequence learning tasks.

N	35	5	2	0	0	4	8	9	21
%	83.3	11.9	4.8	0	0	9.5	19.0	21.4	50.0

33. Ability to structure tasks and activities so they end positively and students experience success.

N	33	7	1	0	1	8	8	9	17
%	78.6	16.7	2.4	0	2.4	19.0	19.0	21.4	40.5

34. Abilities to assess students' pre-vocational and vocational skills.

N	26	10	5	0	1	1	6	10	25
%	61.9	23.8	11.9	0	2.4	2.4	14.3	23.8	59.5

35. Ability to prepare autistic pupils for new experiences or for the transition from one activity or situation to another.

N	25	13	3	0	1	7	8	16	11
%	59.5	31.0	7.1	0	2.4	16.7	19.0	38.1	26.2

36. Ability to constructively manage the bizarre, aggressive, and self-abusive behaviors of autistic students.

N	41	1	0	0	0	1	7	9	25
%	97.6	2.4	0	0	0	2.4	16.7	21.4	59.5

37. Ability to use play as a teaching medium and toys as educational tools for cognitive, social, and language activities.

N	23	7	7	4	1	1	8	14	19
%	54.8	16.7	16.7	9.5	2.4	2.4	19.0	33.3	45.2

38. Ability to write behavioral objectives.

N	20	13	6	3	0	11	14	11	6
%	47.6	31.0	14.3	7.1	0	26.2	33.3	26.2	14.3

39. Ability to coordinate the total educational program (including the services of other disciplines) for each student in the classroom.

N	25	11	6	0	0	2	13	19	8
%	59.5	26.2	14.3	0	0	4.8	31.0	45.2	19.0

	Importance Ratings				Professional Development Need Ratings			
Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4

40. Knowledge of the ethical issues involved in the use of behavior modification, especially the use of punishment and aversive consequences.

	5	4	3	2	1	No 1	Low 2	Mod 3	High 4
N	14	16	9	1	2	9	12	15	6
%	33.3	38.1	21.4	2.4	4.8	21.4	28.6	35.7	14.3

41. Ability to identify symptoms which relate to vision, hearing, and/ or health problems (including seizures).

	5	4	3	2	1	No 1	Low 2	Mod 3	High 4
N	22	14	5	0	0	2	2	23	15
%	52.4	33.3	14.3	0	0	4.8	4.8	54.8	35.7

42. Ability to teach self-help and daily living skills.

	5	4	3	2	1	No 1	Low 2	Mod 3	High 4
N	33	8	1	0	0	4	8	16	14
%	78.6	19.0	2.4	0	0	9.5	19.0	38.1	33.3

43. Ability to assess students' pre-academic/readiness skills (sorting, matching, identifying colors, recognizing basic shapes, etc.).

	5	4	3	2	1	No 1	Low 2	Mod 3	High 4
N	22	15	4	1	0	5	9	15	13
%	52.4	35.7	9.5	2.4	0	11.9	21.4	35.7	31.0

44. Ability to use data from observations, case histories, reports of social workers, psychologists, etc. to develop educational goals and individual educational plans for autistic students.

	5	4	3	2	1	No 1	Low 2	Mod 3	High 4
N	25	12	5	0	0	6	12	16	8
%	59.5	28.6	11.9	0	0	14.3	28.6	38.1	19.0

45. Ability to conduct group lessons and activities so every student can participate successfully.

	5	4	3	2	1	No 1	Low 2	Mod 3	High 4
N	24	12	1	3	2	5	7	15	15
%	57.1	28.6	2.4	7.1	4.8	11.9	16.7	35.7	35.7

46. Ability to teach pre-vocational and vocational skills.

	5	4	3	2	1	No 1	Low 2	Mod 3	High 4
N	24	13	4	0	1	1	5	14	22
%	57.1	31.0	9.5	0	2.4	2.4	11.9	33.3	52.4

47. Ability to evaluate and document the effectiveness of the program and intervention techniques used with individual students.

	5	4	3	2	1	No 1	Low 2	Mod 3	High 4
N	28	9	5	0	0	4	9	16	13
%	66.7	21.4	11.9	0	0	9.5	21.4	38.1	31.0

	Importance Ratings				Professional Development Need Ratings			
Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4

48. Ability to teach and assist pupils in developing self-control.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	32	10	0	0	0	1	6	17	18
%	76.2	23.8	0	0	0	2.4	14.3	40.5	42.9

49. Ability to work with and assist parents in setting goals (short and long term), choosing intervention techniques, and learning to manage and cope with their autistic child.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	30	6	6	0	0	2	5	21	14
%	71.4	14.3	14.3	0	0	4.8	11.9	50.0	33.3

50. Knowledge of and ability to apply behavior modification techniques which promote and motivate appropriate behavior in autistic students.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	35	5	2	0	0	2	11	18	11
%	83.3	11.9	4.8	0	0	4.8	26.2	42.9	26.2

51. Ability to handle administrators' observations and evaluations of one's teaching and classroom management skills.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	5	15	19	2	1	9	21	10	2
%	11.9	35.7	45.2	4.8	2.4	21.4	50.0	23.8	4.8

52. Ability to cope with the ambiguity (lack of specific information regarding autism, especially in the area of educational programming) in the field of autism.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	9	15	12	3	3	5	20	15	2
%	21.4	35.7	28.6	7.1	7.1	11.9	47.6	35.7	4.8

53. Knowledge of normal language development and an understanding of delayed and disordered language.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	30	7	5	0	0	2	4	19	17
%	71.4	16.7	11.9	0	0	4.8	9.5	45.2	40.5

54. Knowledge of the current research and literature regarding autism.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	15	19	6	2	0	3	3	27	9
%	35.7	45.2	14.3	4.8	0	7.1	7.1	64.3	21.4

55. Ability to teach language and communication skills including non-verbal forms of communication such as sign language, symbol boards, and picture boards.

	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4
N	36	3	2	0	1	3	4	11	24
%	85.7	7.1	4.8	0	2.4	7.1	9.5	26.2	57.1

	Importance Ratings					Professional Development Need Ratings			
	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4

56. Ability to use a variety of methods for motivating students.

N	35	5	2	0	0	2	6	16	18
%	83.3	11.9	4.8	0	0	4.8	14.3	38.1	42.9

57. Ability to develop new instructional materials and/or modify existing commercial materials for use with autistic students.

N	34	6	2	0	0	2	7	15	18
%	81.0	14.3	4.8	0	0	4.8	16.7	35.7	42.9

58. Ability to develop a comprehensive educational program for autistic students.

N	33	8	1	0	0	1	5	19	17
%	78.6	19.0	2.4	0	0	2.4	11.9	45.2	40.5

59. Ability to use systematic observational techniques for establishing baseline data, for evaluating problem areas, and for documenting and assessing the progress of autistic students.

N	25	12	3	2	0	4	5	26	7
%	59.5	28.6	7.1	4.8	0	9.5	11.9	61.9	16.7

60. Ability to use developmental scales to determine the functioning level of autistic students in the various developmental areas, i.e., motor skills, social skills, play, language, etc.

N	19	17	3	3	0	2	10	16	14
%	45.2	40.5	7.1	7.1	0	4.8	23.8	38.1	33.3

61. Ability to teach motor, perceptual, and social-emotional (affective) skills.

N	34	5	3	0	0	1	6	17	18
%	81.0	11.9	7.1	0	0	2.4	14.3	40.5	42.9

62. Ability to plan learning activities and select materials that are appropriate for a student's developmental level and which allows for any learning problems the student may have.

N	30	7	4	1	0	1	7	20	14
%	71.4	16.7	9.5	2.4	0	2.4	16.7	47.6	33.3

63. Ability to communicate openly, honestly, and tactfully with parents regarding their child's handicap(s), progress, limitations, etc.

N	28	12	1	1	0	5	13	18	6
%	66.7	28.6	2.4	2.4	0	11.9	31.0	42.9	14.3

	Importance Ratings					Professional Development Need Ratings			
	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4

64. Ability to tolerate and cope with the slow progress and the regressions of autistic students.

N	33	5	3	1	0	9	12	12	9
%	78.6	11.9	7.1	2.4	0	21.4	28.6	28.6	21.4

65. Ability to handle the challenge and frustration of working with non-verbal and language impaired pupils.

N	30	10	1	1	0	9	10	13	10
%	71.4	23.8	2.4	2.4	0	21.4	23.8	31.0	23.8

66. Ability to teach and maintain attention and on-task behaviors.

N	36	4	2	0	0	4	11	15	12
%	85.7	9.5	4.8	0	0	9.5	26.2	35.7	28.6

67. Ability to function effectively as a member of a multidisciplinary team.

N	27	11	4	0	0	7	14	15	6
%	64.3	26.2	9.5	0	0	16.7	33.3	35.7	14.3

68. Ability to teach basic academic skills.

N	14	15	9	3	1	5	13	18	6
%	33.3	35.7	21.4	7.1	2.4	11.9	31.0	42.9	14.3

69. Ability to separate behavior into small components (task analyze) and shape desired responses.

N	23	14	4	1	0	4	8	19	11
%	54.8	33.3	9.5	2.4	0	9.5	19.0	45.2	26.2

70. Ability to set realistic goals and expectations for one's self in terms of what can and can not be accomplished with autistic students (considering the present state of knowledge in the area of autism).

N	25	9	7	1	0	6	15	12	9
%	59.5	21.4	16.7	2.4	0	14.3	35.7	28.6	21.4

71. Ability to structure activities, materials, and the physical environment of the classroom to ensure maximum learning.

N	29	6	7	0	0	5	12	11	14
%	69.0	14.3	16.7	0	0	11.9	28.6	26.2	33.3

	Importance Ratings					Professional Development Need Ratings			
	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4

72. Knowledge of other handicapping conditions such as mental retardation, learning disabilities, aphasia, childhood schizophrenia, etc.

N	14	20	6	1	1	1	7	20	14
%	33.3	47.6	14.3	2.4	2.4	2.4	16.7	47.6	33.3

73. Ability to teach pre-academic/readiness skills.

N	25	12	5	0	0	2	13	15	12
%	59.5	28.6	11.9	0	0	4.8	31.0	35.7	28.6

74. Knowledge of techniques which can be used to effectively promote public awareness and advocate for services for autistic persons.

N	3	15	17	5	2	3	16	22	1
%	7.1	35.7	40.5	11.9	4.8	7.1	38.1	52.4	2.4

75. Understanding of the causes and dynamics of student behaviors.

N	6	23	11	1	1	1	10	24	7
%	14.3	54.8	26.2	2.4	2.4	2.4	23.8	57.1	16.7

76. Ability to make directions and learning tasks clear to students.

N	30	8	3	0	1	5	8	16	13
%	71.4	19.0	7.1	0	2.4	11.9	19.0	38.1	31.0

77. Ability to informally evaluate educational programs, services, and personnel serving the autistic population.

N	3	21	12	6	0	3	18	18	3
%	7.1	50.0	28.6	14.3	0	7.1	42.9	42.9	7.1

78. Knowledge of community agencies and organizations that provide services to the autistic.

N	10	17	11	4	0	1	11	23	7
%	23.8	40.5	26.2	9.5	0	2.4	26.2	54.8	16.7

79. Possession of the physical and emotional stamina needed to work with autistic youngsters.

N	30	9	3	0	0	10	12	11	9
%	71.4	21.4	7.1	0	0	23.8	28.6	26.2	21.4

80. Ability to assess students' basic academic needs.

N	22	16	4	0	0	2	10	22	8
%	52.4	38.1	9.5	0	0	4.8	23.8	52.4	19.0

	Importance Ratings				Professional Development Need Ratings			
	Most 5	4	3	2	Least 1	No 1	Low 2	Mod 3	High 4

81. Ability to work compatibly with paraprofessionals and other professionals.

N	31	7	3	1	0	10	15	11	6
%	73.8	16.7	7.1	2.4	0	23.8	35.7	26.2	14.3

82. Ability to carry out instruction that is consistent with student educational goals.

N	28	10	4	0	0	6	12	17	7
%	66.7	23.8	9.5	0	0	14.3	28.6	40.5	16.7

83. Knowledge of state and federal legislation concerning educational services for autistic students.

N	18	13	11	1	1	4	6	22	10
%	38.1	31.0	26.2	2.4	2.4	9.5	14.3	52.4	23.8

84. Ability to plan and use a variety of crisis management procedures such as time-out, therapeutic holding, etc. to contain/control severe behavior.

N	32	7	3	0	0	2	9	10	21
%	76.2	16.7	7.1	0	0	4.8	21.4	23.8	50.0

85. Ability to evaluate one's own teaching and classroom management skills and to constructively use the resulting information.

N	30	9	3	0	0	1	5	18	18
%	71.4	21.4	7.1	0	0	2.4	11.9	42.9	42.9