

AN ABSTRACT OF THE THESIS OF

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Title: A Survey of Service Delivery Approaches of Early Childhood Special Education Programs in the State of Kansas

Abstract approved: Brenda J. Hudson

The passage of Public Law 102-119 in 1990 reinforces the fact that early intervention is important. Research has shown that early intervention programs are generally effective. Many of these early intervention programs differ in their service delivery approach. The types of service delivery models in the field of early intervention differ in terms of location of services, service providers, size of program and types of disabilities being served. Kansas is one of many states that is fully implementing this new law this school year. As a result, a number of new information sources about services in early intervention will be available.

This study investigated the types of service delivery approaches currently being implemented in the state of Kansas. It was hypothesized that there were no relationships between the delivery service model implemented and the types of disabilities served, type of service providers available, size of school district or cooperative, length of time the service has been available and location of school or cooperative. Questionnaires were

sent out to all 304 school districts in the state of Kansas. Data collected were analyzed using chi square analysis. Results suggested that there were no relationships (at .05 level of significance) between the service delivery models and (a) types of disabilities being served, (b) types of service providers available, (c) size of school district or cooperative, (d) length of time early intervention services has been available and (e) location of school or cooperative.

It was concluded that data collected in this study could be used as a source for further research in early intervention. Of particular interest is the finding that there were no differences in the service delivery models as a result the population density of the community it serves. Further research is recommended regarding the efficacy of the service delivery models in each location.

A SURVEY OF SERVICE DELIVERY APPROACHES  
OF EARLY CHILDHOOD SPECIAL EDUCATION  
PROGRAMS IN THE STATE OF KANSAS

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A Thesis

Presented to  
the Division of Psychology  
and Special Education  
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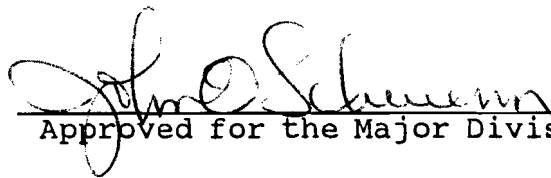
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MARAMING SALAMAT SA INYONG LAHAT!

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## CHAPTER 1

### Introduction

Gallagher & Harbin (1991) called Public Law 99-457, which was passed in 1986 a revolutionary piece of legislation. This law basically extends the services of Public Law 94-142, the Education for All Handicapped Act of 1975, or what is now known as Public Law 101-476, the Individuals with Disabilities Education Act (IDEA). The Education of the Handicapped Act Amendments of 1986 (P.L. 99-457) was also later amended and is now known as P.L. 102-119 (Gallagher & Harbin, 1991).

The passage of P.L. 102-119 extends the services of P.L. 101-476 thus creating a system of coordinated services beginning at birth for children who are at-risk and those with disabilities (Guralnick, 1989; Winton, 1990). Meisels (1991) wrote that this legislation has thrust early intervention into the forefront. Consequently, those who are in the field will be facing greater challenges brought about by changes in the design and service delivery of early childhood special education.

Public Law 102-119 mandates the provision of services for children from three to five years of age and creates programs for children at-risk and those with disabilities from birth to three years of age. Unlike P.L. 101-476, the provision of services required by P.L. 102-119 differs regarding variations in length of day and the service



delivery model (Smith, 1987). Public Law 102-119 allows school districts or the state lead agency, to decide what service delivery model is most appropriate for meeting their students' and agency's needs (Hanson, 1985).

Hanson (1985) indicated that today there are many programs being provided for young children. The most popular programs across the country among service delivery programs in the field of early intervention are center-based and home-based programs. Home-based programs are those programs in which both the parent (usually the mothers) and the child are targeted for intervention (Pelligrini, 1982). Current research demonstrated that home-based delivery service programs are most effective in providing early intervention (Barrera, Doucet & Kitching, 1990; Mahoney & O' Sullivan, 1990; Aaronson, 1989; Clark, 1986; Rodger, 1986). With the implementation of P.L. 102-119 particularly Part H, the emphasis is on strengthening ties with the child's family (McGonigel, Kaufmann & Johnson, 1991; Mahoney & O' Sullivan, 1990; Olson, 1989).

Center-based programs typically provide intervention outside the home such as in school settings, day care and hospitals. Research have also shown the efficacy of center-based programs in terms of the gains achieved by the students (Guralnick, 1989; Fewell & Oelwein, 1989; Templeman, Fredericks & Udell, 1989; Edgar, Heggelund & Fischer, 1988; Lewis & Vosburgh, 1988; Bryant, Ramey,

Sparling & Wasik, 1987; Helmich, 1985; Oelwein, Fewell & Pruess, 1985; Samuels, 1981).

With the passage of the new law, the service delivery models must be able to meet the needs of the community being served. Furthermore, services should be made available in order to meet the individual needs of the child and the families involved (Smith & Strain, 1988; Hanson, 1985). As each child is unique, so are their families. Smith and Strain (1988) suggested that a range of service options be made available to fully meet the individual needs of each family.

In the state of Kansas, the Kansas State Board of Education (KSBE, 1990) approved the use of three service delivery models: Center-Based/Group Model, Home Based/Individual Model and the Combination Model. In a Center-Based/Group model, the child is provided with services in a school, hospital or other center-based settings. The Kansas Board of Education identified three types of center-based settings: a Special Early Childhood Program, an Integrated Early Childhood Program and a Regular Early Childhood Program.

In a Home-Based/Individual Model, the child is provided with the necessary services primarily in the home-setting. The caregivers are provided with directions to work with their child. Most children served in this type of service delivery model are children under three years of age.

However, in certain cases, a child over three years of age can be served in this type of service delivery model.

In the Combination model, both center and home-based models are used to provide the services needed. It was stated in the Kansas State Board of Education Supplement that this type of model is acceptable as long as "the minimum requirement of a full (100 percent) program are available to any child" (1991, p. 8).

Hebbeler (1991) wrote that as part of the implementation of this new law, several states are directing their resources towards building a data system on early intervention. Furthermore, "the information that will come out from this will have a substantial long-term impact on the early intervention services" (p. 106). Not only will it allow each state to compare itself with other states but it will also help in the evaluation of changes over time, changes in the number of children served, the types of services provided and the members of the intervention team. Because of the importance of having data available, it now becomes pertinent to look into the status of early intervention in Kansas, in order to determine what services are provided, who receives those services, and what professionals provide those services.

#### Background of the Problem

With the implementation of this law in Kansas, several pertinent data need to be made available, specifically in

early intervention. Hebbeler (1991) suggested that creating a database of early intervention services, will help to improve intervention services in the long run and to provide necessary information for evaluation and decision-making.

Since 1991-1992 was the first year Kansas fully implemented the new law, new information sources about the types of services available, number of clients, and types of disabilities being served will be available. The Kansas Board of Education defined Least Restrictive Environment (LRE) as the setting wherein children with disabilities would be provided with the services in a setting as close as possible to the natural environment had they not been diagnosed as disabled. Because LRE plays a major role in the provision of services for young children, it is important to assess its affect on the service delivery models being implemented in Kansas.

#### Statement of the Problem

The passage of P. L. 102-119 reinforces the fact that early intervention is important. Research has shown that early intervention programs are generally effective and that these early intervention programs differ in the types of service delivery, such as location of services, service providers, size of the program and types of disabilities being served. Research has shown that the types of intervention services differ in the rural and urban areas.

The following questions will be asked regarding

services for children three through five years of age in Kansas:

- a. What are the types of service delivery models being implemented for children three to five years of age?
- b. Is there a difference between the type of service delivery model in rural, large rural and in urban Kansas?
- c. What types of disabilities are being served in these programs?
- d. Who are serving these young children who are at-risk or disabled?

#### Purpose of Study

The purpose of this study is to investigate the types of service delivery programs currently being implemented in the state of Kansas. This study intends to determine if relationships exist between the type of service delivery program being implemented and several variables.

#### Research Questions

The major purpose of this study is to examine the types of service delivery approaches used in the state of Kansas.

Specifically, the following questions will be asked:

1. Is there a relationship between the choice of the service delivery model and type of disabilities being served?
2. Is there a relationship between the service delivery model and staff available?
3. Is there a relationship between the service

delivery model and size of school district or cooperative?

4. Is there a relationship between the service delivery model and population of the community where the school district or cooperative is located?

5. Is there a relationship between the service delivery model and length of time the school district or cooperative have been providing early intervention services?

#### Definition of Terms

The following operational definitions will be used in this study:

At-risk Young Children - children ages zero through six who are at-risk for developmental delays or later learning problems due to a variety of conditions (Peterson, 1987).

Center-Based Model - early intervention programs that serve young children with disabilities or at-risk for delays by providing early childhood education experience for a group of children at a central location (Kansas State Board of Education, 1991)

Combination Model - program that utilizes both the center-based and the home-based model (Kansas State Board of Education, 1991)

Developmentally Delayed - children who cannot be accurately diagnosed as having a specific disabling condition but who have one or more diagnosed conditions which cannot be medically corrected and are associated with educationally disabling conditions or who test 25% or more

below chronological age on criterion or norm-referenced, validated test instruments in specific skill areas (Kansas State Board of Education, 1990).

Early Childhood Special Classroom - a classroom designed to serve only children with disabilities. Children are served in multi-categorical groupings designed to meet the individual needs of each child (Kansas State Board of Education, 1991).

Early Intervention - programs designed to prevent or ameliorate disabling conditions, specifically for children age three to five years who are disabled or at-risk for developmental or learning problems (Peterson, 1987).

Home-Based Model - early intervention programs that serve young children with disabilities or at-risk for delays in their own homes. This program model involves the family, most often the mother, in its intervention program (Kansas State Board of Education, 1991).

Integrated Classroom - a classroom designed to serve children with and without disabilities in a single classroom setting. Children with disabilities constitute no more than two-thirds of the class enrollment with it being permissible for the classroom to have a predominance of children without disabilities (Kansas State Board of Education, 1991).

Large Rural Communities - all communities with a total population between 2,501 and 49,999.

Mildly/Moderately Disabled - children who have one or

more disabling condition(s) which to a significant extent impede age-appropriate behavior in specific skill areas. Special assistance is required to minimize or to compensate for identified limitations (Kansas State Board of Education, 1990).

Regular Early Childhood Classroom - a classroom primarily designed for children without disabilities that can be employed as a placement for children with disabilities (Kansas State Board of Education, 1990).

Rural Communities - all farms, open countryside and places of less than 2,500 residents (U.S. Bureau of Census, 1992).

Severely Disabled - children who require intensive teaching and related services for more than 75% of the school day and cannot actively participate in more than 25% of the regular early childhood education activities (Kansas State Board of Education, 1990).

Urban Communities - all places with a minimum of 50,000 residents (U.S. Bureau of Census, 1992).

Young Children with Disabilities - children ages zero through six who have specific types of disabilities (Peterson, 1987).

#### Statement of Significance

Public Law 102-119 mandates that children with disabilities or at-risk be provided with appropriate and necessary services beginning at age three. As of school year



1991-1992, services are mandated in the state of Kansas for young children who are diagnosed with disabilities and/or who are at-risk for delays or learning problems.

The information that this study could provide may help the state form a data base on early intervention services. Specifically, it will provide information on service delivery approaches being implemented in the state of Kansas. With this data base, more specific research studies can be done. This study will also be vital in providing information when evaluating the early intervention programs available in Kansas. It can also help in comparing the programs available in Kansas with the programs in other states. There may also be implications in decision-making and record-keeping as a result of this study.

#### Summary

In this chapter, the issues surrounding the provision of early childhood special education services were discussed. With the implementation of P.L. 99-457, several issues need to be addressed. In Kansas, the first year it fully implements the law, information needs to be gathered regarding what is available for young children with disabilities or at-risk for delays.

This study will focus on early childhood special education services available in Kansas. Specifically, it attempts to identify the types of service delivery models being implemented this school year. Also, relationships will

be investigated between the service delivery model available and types of disabilities being served, service providers available, size and location of the school district and length of time service has been provided.

## CHAPTER 2

### Review of Literature

In this chapter the literature review is divided into seven specific topics, namely: the history of Early Childhood Special Education (ECSE), laws governing ECSE, efficacy of early intervention, center-based models, home-based models, combination models, and rural vs. urban schools.

#### History of ECSE

The field of early childhood special education traces its beginnings from three parallel movements. Peterson (1987) described these movements as the parent fields of early childhood special education. First, is the field of special education which dates back to the late 18th to early 19th century. Notable figures from Europe are Itard and Seguin and from America, Howe and Gallaudet. Their work with persons with disabilities pioneered the movement in providing education to children with disabilities (Hallahan & Kaufmann, 1988). Second, is the regular early childhood education which began earlier than special education. With figures such as Rosseau and Pestallozi stressing the importance of the early years in a person's life, the movement brought about awareness and acceptance of early childhood education (Peterson, 1987). Other notable child theorists who came later are Gesell, Piaget and Montessori. All have supported what the earlier theorists have suggested

that learning during the early years of life are as important as learning in the later years. Third, is the compensatory movement which was created to provide intervention for children coming from low-income environments. Project Head Start, Home Start and Follow-Through pioneered this movement (Peterson, 1987; Samuels, 1981). These three movements have influenced and paved the way for the development of early childhood special education.

#### Laws Governing ECSE

Public Law 94-142, the Education for All Handicapped Children Act (EHA) of 1975 paved the way for the advances in early childhood special education (Peterson, 1987). This law was amended in 1990 and is now known as P.L. 101-476, the Individuals with Disabilities Education Act (IDEA). This law mandates the provision of a free and appropriate education for individuals with disabilities between the age of 3 to 21 years old.

In September, 1986, the United States Congress passed Public Law 99-457, the Education of the Handicapped Act Amendment (Cornwell & Thurman, 1990; Guralnick, 1989; Smith, 1987). This monumental law, passed in recognition of the importance and effectiveness of early intervention studies and programs, requires state education agencies to provide a free and appropriate public education to all children who are at-risk or disabled beginning at three years of age.

P.L. 99-457 states that all states comply by school year 1991-1992 or they would lose all their funding (Cornwell & Thurman, 1990; McIntosh & Parsons, 1987; Smith, 1987).

Two landmark programs were established with P.L. 99-457. First, the Preschool Grant Program basically extended the services of P.L. 101-476 to children beginning at age three. Second, was the creation of federal programs for children who are disabled or at-risk from birth to three years of age and their families. This second program, is not required but rather is voluntary on the part of the states (Cornwell & Thurman, 1990; McIntosh & Parsons, 1987; Smith, 1987).

P.L. 99-457 emphasizes family involvement in the intervention service through Part H (Cornwell & Thurman, 1990; Mahoney, O' Sullivan & Dennebaum, 1990; McGonigel, Kaufmann & Johnson, 1991; Olson, 1989; Shonkoff & Meisels, 1991; Turnbull & Turnbull, 1990). Turnbull and Turnbull (1990) described the two entitlements under Part H. The first entitlement is to an appropriate early intervention program and the second is to least restrictive programs and placements. Furthermore, they wrote that the purpose of Part H is "to enhance the development of infants and toddlers. It also aims to maximize their potentials for independent living; to minimize their potential for developmental delay and to enhance the family's capacity to meet their children's needs" (p. 21).

An integral part of both P.L. 101-476 and P.L. 102-119 is the provision on Least Restrictive Environment (LRE). The Kansas State Board of Education (1991) defined LRE as:

that environment which to the maximum extent appropriate, children with disabilities are educated with children without disabilities and that removal from their natural environment occurs only when the nature or severity of the disability is such that education in that environment, with the use of supplementary aids and services cannot be achieved satisfactorily (p. 21).

LRE was first used as a term in court decisions and legislation which came about as part of a movement to include persons with disabilities in the mainstream (Murphy & Hobbs, 1986). In the field of early childhood special education, LRE has become highly controversial (Smith & Strain, 1988). Issues on what is the best practice to depict the very principle of normalization have caused contention not only among the professionals in the field but as well as parents and families of young children themselves. Research (Odom & McEvoy, 1988; Smith & Strain, 1988) has shown that integration is the best practice. But is that what is best for the young child? The Kansas State Board of Education (1991) specifically stated that each local education agency (LEA) shall provide the support services to enable each child with a disability to remain in a setting where they

would be found if not disabled. Furthermore, "a continuum of placement options should be provided so that there is a least necessary deviation from the developmental experiences provided for a child with disabilities and their non-disabled peers" (p. 21). The provision on LRE greatly affects the services that are and will be provided for young children with disabilities or who may be at-risk for it.

### Efficacy of Early Intervention

Dunst (1985) referred to early intervention as programs which are either experimental, educational or therapeutic in nature. Such programs were designed as a preventive or curative measure specifically for infants, toddlers and preschool aged children who have disabilities or may be at-risk for developmental problems. The intervention programs are designed around the target clientele. The programs are implemented by either professionals from the fields of education, medicine, allied medicine, psychology or social work, paraprofessionals or the parents or family of the child. Efficacy of intervention are primarily gauged by the child's progress.

According to Meisels (1989), early childhood intervention consists of any "sustained and systematic effort to young, disabled and developmentally vulnerable children from birth to age three and their families" (p. 451). He described two rationales for early intervention. First, "that behavior and developmental potential are

neither fixed in early life by genetic factors nor impossible to change after a supposed sensitive period" (p. 452). This rationale is supported by the results of research studies (Fewell & Oelwein, 1989; Hagin, 1983; Helmich, 1985; Rothenberg, 1988) which have shown positive changes in the children provided with early intervention. The second rationale states that "the influences on child growth and development as extending beyond the infants' genetic capacities to include environmental effects as well" (p. 453).

Shonkoff and Meisels (1991) define early intervention as a "continuum of individualized services ranging from periodic assessment to the intensive mobilization of highly specialized therapeutic and educational resources" (p. 22). Michael and Paul (1991) describe early intervention as the "establishment of educational and support services for children, age three and younger, with or at-risk for disabilities and their families" (p. 202).

Mahoney, O' Sullivan, and Dennebaum (1990) wrote that early intervention services for children with disabilities "evolved from medical science and learning theory models of etiology and treatment" (p. 1). With P.L. 99-457, the therapeutic and instructional value were increased by incorporating the position of socio-ecological theories of development.

Edmiaston and Mowder (1985) addressed four issues



regarding early intervention. First, efficacy of early intervention showed strong evidence that early intervention is better than no intervention at all. Second, early intervention is effective across a variety of disabilities. Third, the effects of early intervention lasts. Fourth, substantial savings are gained when intervention is implemented before age six.

Many research studies (Clarke & Clarke, 1989; Edgar, Heggelund & Fischer, 1988; Guralnick, 1989; Horacek, Ramey, Campbell, Hoffmann & Fletcher, 1987; Jelinek, 1985; McIntosh & Parsons, 1987; Meisels, 1991; Meisels, 1989; Shaddock & Batchler, 1986) have discussed the advantages of early intervention. Edgar, Heggelund and Fischer (1988); Horacek, Ramey, Campbell, Hoffmann and Fletcher (1987); Jelinek (1985); McIntosh and Parsons (1987) and Meisels (1991) all write that, early intervention can prevent later school problems. Early intervention as a preventive measure is more cost-effective than providing special services in the later years (Jelinek, 1985, p. 168). In addition, Meisels (1989) wrote that "early intervention enhances development, remediates existing problems and improves family functioning" (p. 452).

One of the more popular and highly successful early intervention programs is Head Start (Samuels, 1981). It brought national recognition and attention to early intervention by "paving the way for other innovative

alternative models of early childhood and elementary school programs" (p. 58). Peterson (1987) wrote that Head Start generated tremendous enthusiasm about the promise it held for young children. It is a program that involves multidisciplinary intervention primarily for disadvantaged children (Samuels, 1981).

One of the major studies conducted to show that a stimulating environment has positive effects in the development of young children was that of Skeels and Dye in 1939 (Edmiaston & Mowder, 1985; Peterson, 1987). It was one of the earliest studies that revealed a difference in IQ between orphans who were provided with a nurturing environment and those who were not. The ones provided with the nurturing environment increased their IQ more than those who were not. In 1966, Skeels followed up on this study and after 25 years, he found that the children who were provided with the nurturing environment have achieved a higher education level as well as better paying occupation than those who were not.

A more recent study showed the efficacy of early intervention on children with Down's Syndrome. The University of Washington began the Model Preschool Program in 1971 to study the effects on the rate of development of the students during the pretest and intervention phase (Fewell & Oelwein, 1989). The authors' studies revealed that the rate of development was significantly greater during the

intervention.

Rothenberg (1988) assessed the effects of early intervention over an eight year period. The researcher compared the progress of three groups of children. Task analysis was used as a method for early educational intervention. The results revealed that the task-analysis intervention group consistently achieved at higher levels as measured by several abilities tests as compared to the contrast groups.

Hagin (1983) conducted her study with a diverse group of kindergarten students in a Manhattan school. She implemented the prevention of learning disabilities programs which basically builds the foundation necessary for reading. The research focused on the effect of early intervention on school promotion. This study confirmed the efficacy as they found less students repeating a grade level with the intervention.

Ongoing studies funded by the United States Department of Education are being conducted at Utah State University in Logan, Utah (White & Mott, 1987). Most of the studies look into the efficacy of early intervention with young children with disabilities.

#### Center-Based Model

A center-based program, according to the Kansas State Board of Education, is where a child is provided with the necessary service outside the home. Services can be provided

in a number of settings such as in the school, hospital, clinic, or rehabilitation center. Three types of center-based models were identified by the Board: a Special Early Childhood Program, an Integrated Early Childhood Program and a Regular Early Childhood Program.

According to the Kansas State Board of Education (1991), Special Early Childhood Programs are those programs wherein all the students in the program have some type of disability or are at-risk for it. The Integrated Early Childhood Programs are those which serve both students with and without disabilities. The students with special needs constitute a higher proportion of the class population in this type of program. The Regular Early Childhood Programs are those which are designed primarily for students without disabilities but include a number of students with special needs who are able to benefit in such settings.

Pelligrini (1982) wrote that child care centers outside of the home are most effective in facilitating cognitive growth when there is a stable core of caretakers with whom the child can interact. Furthermore, research indicates that children in center-based programs made statistically significant gains in the Bayley Mental Motor Developmental Scales.

Edgar, Heggelund and Fischer (1988) looked into the educational placement of children who were once placed in early childhood special education programs. They found that

students who go into regular education programs from preschool tended to stay in the regular classes.

Furthermore, they found that majority of the students after initial placement are often are placed to less restrictive settings.

One of the earliest and more popular center-based early interventions is the Head Start Program (Samuels, 1981). It started in the early 1960's as an outgrowth of the Economic Opportunity Act. The efficacy of Head Start became highly controversial as conflicts arose on the interpretation of the research (Peterson, 1987). Samuels (1981) contended that inadequate instrumentation and serious methodological problems were some of the factors that lead to unclear results. Despite the controversy, Samuels believed that because of the program's flexibility and continuing change, "Head Start has the potential to utilize the most current concepts of prevention, early detection, parent involvement and consultation" (p. 68).

Lewis and Vosburgh (1988) analyzed several research studies which supported their hypothesis that kindergarten intervention programs are effective in promoting school success. Furthermore, their study revealed that kindergarten programs with extensive parental involvement are more effective.

The Early Prevention of School Failure Program (EPSF) was established by Werner in 1971. This program was designed

to prevent school failure by early identification and remediation of developmental deficiencies that could adversely affect school performance (Anderson, 1985). The program focused on screening four, five and six year old children and the provision of remediation and follow-up on the Individualized Education Plan (IEP). This program has been replicated in many school districts across the country. Evaluation results suggested that the program has been successful. A longitudinal study in 1982 showed that the students who underwent EPSF had consistently gained greater as compared to students who did not go through EPSF.

Helmich (1985) reviewed different preschool programs which served children coming from low-income families. The investigation suggested that children from low-income families are at-risk for school related failure. Such high quality intervention programs have direct long term effects not only on the child but the family and the whole society as well. The review of early intervention showed that it was more cost-effective and that the results are more impressive than that of later intervention programs.

Project CARE, which stands for Carolina Approach to Responsive Education, was designed as a test of intensity of preventive interventions (Ramey, Bryant, Sparling & Wasik, 1985). In this study, families with infants at-risk for delayed development were assigned to one of three experimental conditions: a Developmental Daycare Plus Family

Education; Family Education Alone; and a Control group. Tests of mental development were administered two years later. As a result, the more intense intervention which provided developmental daycare for high risk children as well as parent education for their families prevented the decrease in the intellectual development of the sample as compared to the two groups which received a less intense intervention. In a later article about Project CARE, Bryant, Ramey, Sparling and Wasik (1987), reestablished their previous findings that participation in a day care program can be "a potentially positive experience for both parents and children" (p. 48). Furthermore, they stated "that despite reports of harm on infants in day care groups, it has proven beneficial to many parents and children" (p. 49).

The Model Preschool Program for Children with Down Syndrome and Other Developmental Delays of the University of Washington began in 1971 provided individualized programs to meet each child's abilities (Oelwein, Fewell & Pruess, 1985). Systematic instruction was used as a teaching technique to help the children acquire necessary skills. Aside from the school program, parental involvement was also encouraged through training and observation. This Model Preschool Program was used as a training site for students in undergraduate and graduate programs and was replicated in several sites through federal funding. The Developmental Sequence Performance Inventory (DPSI), developed by the

program staff, was used to measure gains. The results showed significant gains were made in specific skill areas. The results of the study offer positive support that this program is generally effective. In a related study by Fewell and Oelwein (1990), the children from the Model Preschool Program were once more assessed to investigate the impact of time in integrated instructional environments. The Classroom Assessment of Developmental Skills (CADS) was used, and as a result, the findings of this study "confirms the impact of integrated settings on the developmental gains of young children with special needs and of the importance of quality programs in the field of early intervention" (p. 115).

White, Innocenti and Goetze (1991), presented data that showed a significant difference in favor of motor domain of children in center-based programs. In comparison with home-based programs, center-based programs are favored as more effective in terms of gains in necessary skills.

#### Home-Based Model

The Kansas State Board of Education (1991), defined home-based model as the setting wherein the child is provided with the necessary services primarily in the home setting. Bailey & Simeonsson (1988) defined home-based intervention as a service delivery approach given at home as opposed to a center. It is a kind of delivery system wherein families work with professional home visitors. These are families who have young children with special needs.



Programs usually last for months and can begin anytime and anywhere between the prenatal period through two years (Halpern, 1986). Pelligrini (1982) described home-based programs as those where "both mother and child are targeted for intervention" (p. 118). A service provider often goes into the child's home and teaches the parent or caregiver ways of interacting with the young child which will help to facilitate cognitive growth. Halpern (1984) wrote, "home-based early intervention constitutes a remarkably diverse intervention technology. What contributed to this diversity are the differing theoretical frameworks, target population, institutional bases and differences in onset and duration of the intervention" (p. 33).

In home-based programs, the case managers generally focus on parent support and education (Aaronson, 1989). Halpern (1984) suggested that "home visitors' roles also included psychosocial support, counseling of parents, assessing family needs, networking and surveillance of infant health and developmental status" (p. 34). In most programs, the home visitor determines the family's strengths and weaknesses by talking with the immediate family members. Another role the home visitor assumes is to assist the family in finding solutions to their concerns and at the same time, meeting their needs of family by adapting the standardized protocol.

The home-based model is generally custom-made for each

family. This approach allows the families to develop the skills to identify the needs of their child thus, creating a program to meet those needs (Barrera, Doucet & Kitching, 1990).

Home-based programs developed around the 1960's (Halpern, 1984). The programs that were introduced then centered more on training the parents or teaching the infants directly at home. In 1972, Home Start began as an off-shoot of Head Start (Aaronson, 1989; Halpern, 1984 and Samuels, 1981). This program was to provide low-income families the necessary service at home rather than in a center.

Research on home-based programs revealed significant gains in the positive development of the child and the increase of involvement of the parents (Aaronson, 1989; Barrera, Doucet & Kitching, 1990; Halpern, 1984; Rodger, 1986; Samuels, 1981). Barrera, Doucet and Kitching (1990) investigated the effects of home intervention on the social and emotional development of infants. The Vineland Social Maturity Scale and Flint Infant Security Scale were used to measure the effect of the intervention. Their study resulted in findings that suggest that first, parent-infant intervention was effective in nurturing both security and trust. Second, "mothers and infants are able to establish an interactive style of behavior that would foster the development of a strong and healthy attachment despite early

difficulties" (p. 154).

A study on the effects early intervention had on infants with Down Syndrome was conducted using the Down's Syndrome Infant-Parent Program which is a home-based early intervention program (Hanson & Schwarz, 1978). Using a standard checklist to assess the development of the infant, results showed that infants in the intervention program achieved milestones slightly later than the norm for children without disabilities. But the infants were consistently earlier in achieving their milestones than other infants with Down Syndrome who were not involved in the program. Piper & Ramsey (1980) noted that infants with Down Syndrome showed minimal decline in measured intelligence as compared to infants also with Down Syndrome but who were not involved in the program.

The SKI-HI Model or the Sensory Impaired Home Intervention Model is one proven model that is widely used and successful in providing necessary service specially to children in the rural areas (Clark, 1986). It was found cost-effective and ensured smooth transition from home-based to center-based programs.

A similar program model which provides intervention for preschool children with disabilities is the Portage Project (Rodger, 1986). The efficacy of this project was investigated by several researchers and all have found significant gains in the acquisition of skills.

Questions have been raised as to the effectiveness of parents as teacher or therapist to their own children (Bazyk, 1989; Rodger, 1986). However, studies that have been discussed above show that parents can be as effective. In the study by Bradley & Caldwell (1980), findings showed a significant relationship between the home environment and IQ. They said that salient features of the home help in the learning of the child. Specific findings in their study suggest that boys' cognitive development are enhanced when parents or the caregivers provide an organized environment for them. They also found that maternal responsiveness, punishment and a variety of stimulation all have a significant relationship to IQ. In contrast, another study showed no strong relationship between long-term IQ and maternal interaction (Madden, O'Hara & Levenstein, 1984). However, they did not discount the fact that maternal behavior has effect on children. They emphasized that maternal relationships are too complex to make any conclusive statements about its effect on IQ.

The study by Greenberg, Calderon & Kusche' (1984), found that deaf children who went through a home-based program improved their communication skills significantly. These children were found to be more advanced in terms of their receptive and expressive skills as compared to their peers who did not go through the home-based program.

Haegert & Serbin (1983) did a study wherein they

compared the efficacy of educating parents. They found that the group of parents whose education focused on developing that ability to recognize developmental progress of their children were most motivated to work with their children. Being able to recognize small improvements in their children seem to act as a reinforcer for these group of parents. This resulted with the parents continuing with the program for their children.

Bailey & Simeonsson (1988) cited a study by Moran in 1985 wherein she found that mothers who participates in home-based intervention programs develop stronger relationships with the professionals with whom they work with. The mothers tended to follow-up on their child's activities more consistently. Moreover, home-based programs have been found to help ease stress in many homes.

In a recent study by White, Innocenti and Goetze (1991), home-based programs showed no consistent results in the Vineland Social Maturity Scale. Although, it was determined that indeed Home-Based programs are most common early intervention programs and have the potentials to be effective.

#### Combination Model

The Kansas State Board of Education (1991) defined the combination program as one which utilizes both the center-based and the home-based model. Services may be provided in any proportionate combination of the individual and the

group models, provided the minimum requirement of a full 100% program are available. The combination program allows the teacher to provide direct instruction to the parent/caregiver and for follow-through by the parent/caregiver, on instructional objectives.

Studies that used the combination model have been described earlier in this chapter. The Project CARE study showed that the most significant gains made were by those assigned to the Developmental Daycare Plus Family Education group (Ramey, Bryant, Sparling & Wasik, 1985). The Model Preschool Program of the University of Washington also showed success by combining the school program with parental involvement (Oelwein, Fewell & Pruess, 1985).

#### Rural vs Urban Schools

The provision of services differ greatly in urban and in rural settings. Until the landmark legislation P.L. 94-142 came into effect, rural children with disabilities were typically unserved or at best, underserved (Swanby, 1988). In the study by the American Council on Rural Special Education (1986), the researchers found that many states with rural populations have made efforts to offer a free and appropriate educational services to students with disabilities after P. L. 94-142 was passed.

Snow's (1987), findings showed that a fairly large number of the respondents from the rural school districts said that students with learning problems were not receiving

the services they needed. Whereas, a smaller number of urban district respondents felt the same way.

Swanby (1988) wrote that educational services for the disabled population in rural areas are not clearly established. Factors such as population differences, distance and travel between school, the community and the home and the community structure in general were not taken into account when considering the services needed for the students with disabilities. Often, the services made available in the rural areas are based upon what is made available in the urban districts. In comparison, urban schools have greater placement opportunities simply because, most of the necessary and required services are readily available. Rural schools have often limited number of placement which in turn dictates the placement of the students with disabilities.

The American Council on Rural Special Education (1986) said that the traditional models are much less appropriate for rural school systems mainly because of the geographic locations of many rural school systems. Furthermore, these models assume the existence of a greater number and variety of staff available in the school district. This becomes a problem as staff turnover is higher in rural schools. What rural schools need they say, is to have a model which will best fit the needs of their community and of course, the children they serve.

### Summary

In the review of literature, seven areas were covered to better understand the issues evolving in this particular study. Studies, scholarly papers and recent research presented in conferences were reviewed. The topics covered were on the history of early childhood special education, the laws governing early intervention, efficacy studies of early intervention, center-based programs and home-based programs, combination model and rural vs urban schools.



CHAPTER 3  
Methodology

Database

This study investigated the types of service delivery programs in Early Childhood Special Education for children three to five years of age currently being implemented in the state of Kansas. It was expected that a relationship between the type of service delivery program being implemented and types of disabilities being served, number and type of service providers available, size and location of the school district or cooperative would be found. The school districts and cooperatives in Kansas that are providing early intervention this school year were surveyed to determine these relationships.

All school districts in Kansas were contacted by the researcher by mail to request permission to conduct the survey. The superintendents for each school district were requested to pass on the survey form to the staff member who was most informed about the early intervention program in their district. The respondents were given three weeks to complete the questionnaire.

The school districts and cooperatives were first divided into four main groups. The first group consisted of school districts in the urban area. The second group consisted of schools districts in the large rural area. The third group consisted of cooperatives in large rural and

rural areas. The fourth group consisted of school districts and cooperatives in the rural areas.

All school districts and cooperatives in the state of Kansas were sent a letter with the survey form. The coordinator or staff member who was most informed about the early intervention program was asked to complete the questionnaire. The school districts were listed according to county. Each district was then assigned a number. The researcher assumed that a minimum of 80% of the school districts would participate in the study.

Confidentiality was enforced by creating a code system. Each questionnaire was assigned an identification number. A master file was kept that matched the identification numbers to the number assigned to the school district. This procedure allowed the researcher to look back into the records during the study whenever the need arose. The master file was not made available to others.

### Design

This study used the cross-sectional survey design. The main purpose of this study was to investigate the types of delivery programs available in Kansas for the school year 1991-1992. This was done by conducting a survey of school districts and cooperatives that are offering early intervention programs.

This type of research investigated the relationships among the different variables. For validation purposes,

Early intervention programs in urban school districts were compared to early intervention programs in large rural school districts cooperatives in combined large rural and rural school districts and rural school districts and cooperatives.

### Procedure

The researcher sent out a packet to all school districts in the state of Kansas. Each packet contained a letter of introduction addressed to the superintendent of the school district. The survey form was included in the packet with a stamped, self-addressed envelope.

A three-week waiting period was given for the respondents to complete and return the questionnaire. In the event of nonresponse, the researcher sent follow-up postcards as a reminder to return the questionnaire form immediately after the deadline. Cooperatives responding to the questionnaire were contacted by telephone to confirm their responses in the survey form.

The researcher first divided the population into four main groups. School districts in the urban areas, school districts in large rural areas, cooperative in combined large rural and rural school districts and school districts and cooperatives in rural areas. The researcher then tallied the number of specific service delivery models available in each area. The service delivery programs could either fall into any of the four categories: Center-Based; Home-Based;

ombination Model; and Others.

Another table was used to tally the types of disabilities being served in the school district or cooperative. This was then grouped according to the service delivery model in which the students are being served. The number and type of service providers available was also tallied and grouped according to the service delivery model in which they are served. Last, the size of the school district or cooperative in terms of school population was also tallied and grouped according to the service delivery models provided this school year.

This study attempted to prove that:

1. There is no relationship between the types of service delivery model being provided and the population of the community where the school district or cooperative is located.
2. There is no relationship between the types of service delivery models being provided and the types of disabilities being served.
3. There is no relationship between the types of service delivery models being provided and the types of service providers available.
4. There is no relationship between the types of service delivery models being provided and the size of the school district or cooperative.
5. There is no relationship between the types of

service delivery models being provided and the length of time the school district or cooperative have been providing the early intervention service.

### Analysis of Data

Data in this study was analyzed using chi-square analysis. This technique was necessary since the data to be analyzed was reported in categories. Since the researcher is employing the null hypothesis, the chi-square test was most appropriate to compute the distribution of values assuming that there is no relationship between the variables.

According to Babbie (1990), chi square is computed by subtracting the expected frequency for the given cell from the observed frequency. The quantity will then be squared and divide the squared difference by the expected frequency. This is repeated in each given cell in the table and the results are added together. The final sum becomes the value of the chi-square.

A discrepancy does not necessarily mean that the variables are related (Babbie, 1990; Fraenkel & Wallen, 1990). A possible normal sampling error can be attributed to this discrepancy. The researcher used a standard set of chi square values to further analyze the values obtained. This required the computation of the degrees of freedom. This was done by multiplying the number of rows in the table of observed frequencies, minus one by the number of columns, minus one. The chi-square value was matched against the

minus one. The chi-square value was matched against the critical value for each table.

### Limitations

Data for this study was collected through a mail survey. This type of survey was relatively cost-effective. It did not require any special facility and was accomplished by the researcher with the assistance of few individuals.

However, mail surveys are also known to have poor response rates. Often, a serious problem is the nonresponse of the respondents. In this case, to reduce the possibility of nonresponse, several measures were employed by the researcher. First, the questionnaire was designed in an organized, simple and non-threatening manner. Second, follow-up postcards were sent immediately after the deadline to return the questionnaire forms.

Another major problem that arose with the use of this survey design was the time for collecting all the data. The cover letter and the questionnaire included the deadline to send back the survey form to remind the respondents of when it was needed. The same procedures that was used for nonresponse was also employed to ensure a shorter time for data collection.

This study seeks to be representative of early intervention programs in a Midwestern state. Specifically, it aims to be representative of rural, large rural and urban school districts and cooperatives in the state of Kansas.

It is possible that the results of this study may not be applied to early intervention programs in some other states because of several differences.

1. The state policies and laws governing the provision of early intervention services differ in all states. Some states may allow service delivery models that the state of Kansas not allow.
2. The budget allotted for early intervention programs varies from state to state. Budgetary concerns will affect the provision of service delivery models thus, some states may prioritize specific programs while others may not.
3. The types of disabilities diagnosed in each state can also affect the early intervention services.
4. Urban and rural communities in each state are also different. Rural Kansas may be totally different from rural California as much as urban areas in Kansas will be different from urban areas in New York.
5. The service providers available and the certification laws enforced may also vary from state to state. This may affect the type of delivery model available as it is also dependent on the service providers available.

#### Summary

This study investigated the types of service delivery models available in the state of Kansas. The population for this study were the school districts and cooperatives in the

urban, large rural and rural areas in Kansas. The data was collected by conducting a mail survey. The researcher analyzed the data using chi-square analysis. In the next chapters, the results of the study are discussed as well as their implications to the field of early childhood special education.



## CHAPTER 4

### Results

This study investigated the types of service delivery approaches in Early Childhood Special Education (ECSE) programs in the state of Kansas. A survey was used to collect data and the results are discussed in this chapter. The statistical technique of chi-square analysis was used for testing the null hypothesis.

#### Response Analysis

A total of 304 questionnaires were sent out to all school districts in the state of Kansas. Of the 304, 5 were determined as urban school districts, 77 as large rural school districts and 222 as rural school districts. A total of 270 questionnaires were returned which resulted in an 88.8% return rate. Of the 270 returned, 3 of 5 (60%) were from the urban school districts, 71 of 77 (92.2%) from large rural school districts and 196 of 222 (88.2%) from rural school districts. All responses were received within a three-week time period after mailing. A summary of the response return rate is tabulated in Table 1.

A total of 32 Educational Service Centers and Cooperatives responded for several school districts. These cooperatives have 220 member school districts. Of the 32 cooperatives who responded to the survey, five were composed mainly of rural school districts, and 27 were a combination of large rural school districts and rural school districts.

Table 1

Total Number of Responses

School District Classification	Number Sent	Number Returned	Percent Return
Urban	5	3	60%
Large Rural	77	71	92.2%
Rural	222	196	88.2%
Total	304	270	88.8%

All urban, large rural and cooperatives offer early intervention services for children ages three to five. Four school districts (11.1%) in the rural areas indicated that they are not offering early intervention services. Table 2 gives a summary of the types of communities that offer early intervention services.

The questionnaire asked each school district and cooperative to indicate the types of disabilities that they are serving. They were asked to state the number of students they have for each disability. There were a total of 1169 (43.8%) students who are diagnosed as developmentally delayed being served in early intervention programs. School districts and cooperatives were also asked to indicate if they have other types of disabilities being

erved. A total of 149 (5.6%) students with various types of disabilities are being served. Majority of these students are diagnosed as having speech and language problems. A summary of these data is shown in Table 3.

A total of 1409 school districts and cooperatives provide more than one type of service delivery model. The respondents were asked to indicate the number of students enrolled in each of their models. A total of 839 (59.5%) students are being served in center-based settings. Only 139 (9.9%) are being served in home-based settings. There are a total of 182 (12.9%) students being served in other types of settings. A majority of these students are enrolled mainly in speech and language programs. Table 4 summarizes the responses collected for this item.

In question number 5 of the survey, the respondents were asked to indicate the number of service providers in their early intervention staff. A total of 868 service professionals was determined. Paraprofessionals working on a full-time basis comprised the majority of the service providers with a total of 318 (36.6%). Language therapists coming mostly from the rural school districts had a total of four (0.4%). A total of 50 (5.8%) different types of service personnel included school psychologists, social workers, nurses, hearing and vision specialists, coordinators, audiologists, learning specialists, adapted P.E. instructors, occupational therapists/physical therapists,

Table 2

Number of School Districts and Cooperatives that Provide  
Early Intervention Services for Children 3-5 Years Old

School District and Cooperative Classification	Yes (%)	No (%)	Total
Urban	3 ( 3.8%)	0	3
Large Rural	17 ( 21.5%)	0	17
Cooperative	27 ( 34.2%)	0	27
Rural	32 ( 40.5%)	4 ( 100%)	36
Total	79 (100%)	4 ( 100%)	83

paraprofessionals, and regular education specialists. Full-time school psychologists comprised the majority of the other service providers. Table 5 summarizes the responses collected in this item.

Statistical Analysis

In analyzing the data collected from a total of 71 school districts and cooperatives that offer early intervention services, chi-square analysis was used. Comparisons between the choice of service delivery model and the population density of the community, types of disabilities being served, service providers available, population of the school district or cooperative and length

Table 3

Number of Students Identified for Early Intervention  
Services in Each School District/Cooperative Classification

Type of Disability	Urban	Large Rural	Coop LR-RU*	Rural	Total (%)
Severely Disabled	92	81	91	87	351 ( 13.2%)
Mild/Moderate Disabled	199	224	464	109	996 ( 37.4%)
Developmentally Delayed	223	314	413	219	1169 ( 43.8%)
Others**	64	5	72	8	149 ( 5.6%)
Total	578	624	1040	423	2665 (100.0%)

\* LR = Large Rural and RU = Rural

\*\*includes: Speech and Language; Visually and Hearing Impaired; Physically Impaired; Other Health Impairments.

of time the intervention service has been available were presented in the null hypothesis form. These hypotheses served as a basis for analyzing the data collected. The .05 level of significance was selected to test the null hypothesis.

Table 4

Number of Students Being Served in School Districts and Cooperatives that Provide More than One Type of Service Delivery Model

Delivery Model	Urban	Large Rural	Coop LR-RU	Rural	Total (%)
Center-Based	68	340	327	104	839 ( 59.5%)
Home-Based	45	16	65	13	139 ( 9.9%)
Combination	30	75	95	49	249 ( 17.7%)
Others*	28	89	59	6	182 ( 12.9%)
<b>Total</b>	<b>171</b>	<b>520</b>	<b>546</b>	<b>172</b>	<b>1409 (100.0%)</b>

\*includes: Head Start; Community-Based; Consultation; Speech and Language; Itinerant.

Question No. 2 - What type of Service Delivery Model is your school district or cooperative providing this school year ?

From the 135 responses tabulated for this question, 66 (48.9%) offered center-based programs. A majority of these center-based programs are integrated early childhood classrooms. A total of 14 (10.4%) offer other types of service delivery models. Most of these are Head Start Programs.

A chi-square value of 8.19 was obtained in this table.

Using nine degrees of freedom (df=9), the critical value of 16.92 was needed to reject the null hypothesis at .05 level

Table 5

Type and Number of Service Providers in the Early Intervention Programs

Service Provider	Urban	Large Rural	Coop LR-RU	Rural	Total (%)
Early Childhood Teacher					
Full-Time (FT)	30	6	2	7	45 ( 5.2%)
Part-Time (PT)	—	—	—	—	—
Early Childhood Special Education Teacher					
FT	28	41	68	42	179 ( 20.6%)
PT	—	—	3	2	5 ( 0.6%)
Special Education Teacher					
FT	4	3	4	5	16 ( 1.8%)
PT	—	—	—	—	—
Speech Pathologist					
FT	29	19	39	22	109 ( 12.6%)
PT	1	4	5	5	15 ( 1.7%)
Language Therapist					
FT	—	—	1	3	4 ( 0.5%)
PT	—	1	—	—	1 ( 0.1%)
Occupational Therapist					
FT	6	8	15	9	38 ( 4.4%)
PT	—	7	9	4	20 ( 2.3%)
Physical Therapist					
FT	5	7	14	13	39 ( 4.5%)
PT	1	7	10	5	23 ( 2.6%)

(table continues)

Table 5 - (continued)

Service Provider	Urban	Large Rural	Coop LR-RU	Rural	Total (%)
<b>Paraprofessional</b>					
FT	83	63	122	50	318 ( 36.6%)
PT	—	1	3	2	6 ( 0.7%)
<b>Others</b>	—	17	26	7	50 ( 5.8%)
<b>Total</b>	187	184	321	176	868 (100.0%)

of significance. Since the obtained chi-square value is lower than the critical value, the null hypothesis which states that there is no relationship between the types of service delivery model being provided and the population density where the school district is located at is therefore accepted. Table 6 shows a summary of the chi-square table of observed and expected frequency for this item.

Question No. 3 - What are the types of disabilities enrolled in your school district's or cooperative's early intervention program?

A total of 419 responses were tabulated for this question. Of the 419, a total of 104 (24.8%) programs serve severely disabled students. Majority of these programs are center-based with a total of 56 (53.8%). Of the three types of center-based programs, severely disabled students are



mostly being served in special early childhood classrooms with a total of 27 (48.2%) programs. Center-based programs that serve the least severely disabled students are regular

Table 6

Contingency Table for Type of Service Delivery Approach and Location of School District/Cooperative

Delivery Model	Urban	Large Rural	Coop LR-RU	Rural	Total
Center-Based*	3** ( 2.93)***	17 (17.11)	22 (22.97)	24 (22.97)	66
Home-Based	1 ( 1.28)	5 ( 7.51)	13 (10.09)	10 (10.09)	29
Combination	1 ( 1.15)	6 ( 6.74)	10 ( 9.05)	9 (9.05)	26
Others****	1 ( 0.62)	7 ( 3.62)	2 ( 4.87)	4 ( 4.87)	14
Total	6	35	47	47	135

df = 9

Chi Square Value = 16.92

\* includes: Special Early Childhood Classroom; Integrated Early Childhood Classroom and Regular Early Childhood Classroom.

\*\* Observed Frequency

\*\*\* Expected Frequency

\*\*\*\* includes: Head Start; Speech and Language Therapy; Consultation; Community-Based and Developmental Kindergarten.

early childhood classrooms with a total of 6 (10.7%) programs. A total of five (4.8%) programs that include Head Start and Consultation serve severely disabled students.

There are 132 (31.5%) programs that serve mild-moderately disabled students. Majority of these programs are center-based comprising 86 (65.1%) programs. Special early childhood classrooms comprises the majority of these center-based programs that serve mild to moderate disabled students with 33 (38.4%) programs. A total of six (4.5%) programs that include Head Start and Consultation serve mild to moderately disabled students.

Majority of the programs serve developmentally delayed students with a total of 153 (36.5%). A total of 94 (61.4%) are center-based programs and of these 38 (40.4%) are special early childhood classrooms. Seven (4.6%) programs which includes Head Start, Consultation, Developmental Kindergarten and Speech Therapy serve developmentally disabled students.

A chi-square value of 5.02 was obtained from this data. Using nine degrees of freedom, the critical value of 16.92 was needed to reject the null hypothesis at .05 level of significance. Since the obtained chi-square value is lower than the critical value, the null hypothesis which states that there is no relationship between the types of service delivery models being provided and the types of disabilities being served is therefore accepted.

Question No. 5 - Who are the service providers in your early intervention staff?

A total of 777 responses were tabulated for this item. Majority of the programs have certified full-time early childhood special educators with a total of 132 (17.6%). Most of the programs are center-based with a total of 73 (55.3%) and of these center-based programs, 35 (47.9%) are special early childhood classrooms. Other professionals that 104 (13.4%) programs hired include, school psychologists, social workers, nurses and hearing and visual specialists.

A chi-square value of 24.21 was obtained. Using 50 degrees of freedom (df=48), the critical value of 67.50 was needed to reject the null hypothesis at .05 level of significance. Since the obtained value is lower than the critical value, the null hypothesis which states that there is no relationship between the service delivery models being provided and the types of service providers available is therefore accepted. Table 8 summarizes the chi square and critical values for this item.

Question No. 6 - What is the total student population in your school district? cooperative?

A total of 77 responses from individual school districts were collected for this item. There are equal numbers of programs with a student population between 0-500 and those that exceed 5,001. Each had a total of 22 (28.6%). The majority of all the programs are center-based and most

Table 7

Contingency Table for Type of Service Delivery Approach and  
Type of Disabilities Served

Type of Disability	Center Based*	Home Based	Combi- nation	Others**	Total
Severely Disabled	56(62.79)	23(18.86)	20(17.12)	5( 5.21)	104
Mild/Moderate Disabled	86(79.70)	21(23.94)	19(21.73)	6( 6.61)	132
Developmentally Delayed	94(92.38)	27(27.75)	25(25.19)	7( 7.66)	153
Others***	17(18.11)	5( 5.44)	5( 4.94)	3( 1.50)	30
Total	253	76	69	21	419

df = 9

Chi Square Value = 16.92

\* includes: Special Early Childhood Classroom; Integrated Early Childhood Classroom and Regular Early Childhood Classroom.

\*\* includes: Head Start; Consultation; Developmental Kindergarten and Speech Therapy.

\*\*\*includes: Speech Impaired; Visually Impaired; Physically Impaired; Other Health Impairments and Hearing Impaired.

Table 8

Contingency Table for Type of Service Delivery Approach and  
Type of Service Provider

Service Provider	Center Based*	Home Based	Combination	Others**	Total
<b>Early Childhood Teacher</b>					
Full-Time (FT)	19(15.91)	3( 4.62)	3( 4.37)	2( 2.08)	27
Part-Time (PT)	1( 0.58)	-	-	-	1
<b>Early Childhood Special Education Teacher</b>					
FT	73(77.80)	27(22.59)	24(21.40)	8(10.19)	132
PT	2( 2.94)	2( 0.85)	1( 0.81)	-	5
<b>Special Education Teacher</b>					
FT	16(16.50)	4( 4.79)	4( 4.54)	4( 2.16)	28
PT	1( 0.58)	-	-	-	1
<b>Speech Pathologist</b>					
FT	63(65.42)	21(19.00)	19(18.00)	8( 8.57)	111
PT	13( 7.66)	-	-	-	13
<b>Language Therapist</b>					
FT	6( 4.71)	1( 1.36)	1( 1.29)	-	8
PT	1( 0.58)	-	-	-	1
<b>Occupational Therapist</b>					
FT	43(41.85)	12(12.15)	12(11.51)	4( 5.48)	71
PT	19(20.63)	7( 5.99)	6( 5.67)	3( 2.70)	35
<b>Physical Therapist</b>					
FT	42(40.67)	12(11.81)	11(11.18)	4( 5.32)	69
PT	24(24.16)	6( 7.01)	7( 6.64)	4( 3.16)	41
<b>Paraprofessionals</b>					
FT	69(69.55)	21(20.19)	20(19.13)	8( 9.11)	118
PT	7( 7.07)	4( 2.05)	1( 1.94)	-	12
Others***	59(61.30)	13(17.80)	17(16.86)	15( 8.03)	104
<b>Total</b>	<b>458</b>	<b>133</b>	<b>126</b>	<b>60</b>	<b>777</b>

df = 48

Chi Square Value = 67.50 (df=50)

\* includes: Special Early Childhood Classroom; Integrated Early Childhood Classroom and Regular Early Childhood Classroom.

\*\* includes: Head Start; Consultation; Developmental Kindergarten and Speech Therapy.

\*\*\*includes: School Psychologists; Nurses; Social Workers; Hearing Specialists; Visual Specialists; Coordinators; Audiologists; Learning Specialists; Adapted P. E. Instructors; OT/PT Paraprofessionals; Regular Education Specialist.

of the center-based programs offer integrated early childhood classrooms. There are 11 (50.0%) center-based programs, 7 (63.6%) of which are integrated early childhood classrooms, that have student population between 0-500. In programs where there are more than 5,001 student population, there are 16 (72.7%) center-based programs, 6 (37.5%) of which are integrated early childhood classrooms.

A chi square value of 13.24 was obtained from this table. Using 24 degrees of freedom, a critical value of 36.42 was needed to reject the null hypothesis at .05 level of significance. Since the obtained value is lower than the critical value, the null hypothesis which states that there is no relationship between the types of service delivery model being provided and the size of the school district is therefore accepted. See Table 9 for summary of values.

A total of 73 responses were collected for the cooperative part of this item. There are 24 (32.9%) programs

that have 1,001-2,000 total student population in their cooperative. Of the 24, there are 17 (70.8%) center-based programs, nine (52.9%) of which are integrated early childhood classrooms. There is only one (1.4%) program offering integrated early childhood classroom as a form of intervention that has 7,001-8,000 total student population in the whole cooperative.

A chi square value of 16.67 was obtained from the data collected. Using 30 degrees of freedom, a critical value of 43.77 was needed to reject the null hypothesis. Since the obtained value is lower than the critical value, the null hypothesis which states that there is no relationship between the types of service delivery model being provided and the size of the cooperative is therefore accepted. See Table 10 for summary of values.

Question No. 7 - How long have you been providing early intervention services?

A total of 138 responses were tabulated for this question. There are 35 (25.4%) programs that have been in existence for 10 - 20 years now. Most of these programs are center-based with a total of 22 (62.8%), majority of which are Integrated Early Childhood Classrooms with a total of 9 (40.9%) programs. There are 20 (14.5%) programs that started this school year which comprises mainly of center-based programs with a total of 12 (60%). Six (50%) of these programs are special early childhood classrooms.

Table 9

Contingency Table for Type of Service Delivery Approach and  
Total Population of School District

School District Population	Center Based*	Home Based	Combi-nation	Others**	Total
0-500	11(14.00)	7( 3.71)	3( 3.14)	1( 1.14)	12
501-1000	5( 4.45)	1( 1.18)	1( 1.00)	—	7
1001-1500	6( 5.72)	2( 1.51)	1( 1.28)	—	9
1501-2000	4( 3.18)	—	1( 0.71)	—	5
2001-2500	2( 3.18)	1( 0.84)	2( 0.71)	—	5
3001-3500	1( 0.63)	—	—	—	1
3501-4000	3( 3.18)	1( 0.84)	1( 0.71)	—	5
4501-5000	1( 0.63)	—	—	—	1
5001 +	16(14.00)	1( 3.71)	2( 3.14)	3( 1.14)	22
Total	49	13	11	4	77

df = 24

Chi Square Value = 36.42

\* includes: Special Early Childhood Classrooms; Integrated Early Childhood Classrooms and Regular Early Childhood Classroom.

\*\* includes: Head Start; Consultation and Developmental Kindergarten.



A chi square value of 14.27 was obtained from this item. Using 30 degrees of freedom (df=33), a critical value of 43.77 was needed to reject the null hypothesis at .05 level of significance. Since the chi square value is lower than the critical value, the null hypothesis which states that there is no relationship between the type of service delivery being provided and the length of time the school district/ cooperative has been providing the early intervention program is therefore accepted. See Table 11 for summary of values.

Table 10

Contingency Table for Type of Service Delivery Approach and Total Student Population in the Cooperative

Cooperative Population	Center Based*	Home Based	Combination	Others**	Total
0- 1000	2( 1.68)	1( 0.65)	-	-	3
1001- 2000	17(13.47)	3( 5.26)	3( 4.27)	1( 0.98)	24
2001- 3000	2( 2.24)	2( 0.87)	-	-	4
3001- 4000	4( 3.93)	1( 1.53)	2( 1.24)	-	7
4001- 5000	3( 6.17)	2( 2.41)	4( 1.95)	2( 0.45)	11

(table continues)

Table 10 - (continued)

Cooperative Population	Center Based*	Home Based	Combi- nation	Others**	Total
5001- 6000	1( 1.12)	1( 0.43)	-	-	2
6001- 7000	2( 2.24)	1( 0.87)	1( 0.71)	-	4
7001- 8000	1( 0.56)	-	-	-	1
8001- 9000	1( 1.68)	1( 0.65)	1( 0.53)	-	3
9001-10,000	2( 2.24)	1( 0.87)	1( 0.71)	-	4
10,000 +	6( 5.61)	3( 2.19)	1( 1.78)	-	10
<b>Total</b>	<b>41</b>	<b>16</b>	<b>13</b>	<b>3</b>	<b>73</b>

df = 30

Chi Square Value = 43.77

\* includes: Special Early Childhood Classroom; Integrated Early Childhood Classroom and Regular Early Childhood Classroom.

\*\* includes: Head Start; Consultation and Developmental Kindergarten.

Table 11

Contingency Table for Type of Service Delivery Approach and  
Length of Time School District/Cooperative has been  
Providing Service

Length of Time	Center Based*	Home Based	Combination	Others**	Total
.6- 1 yr	12(11.73)	3( 3.91)	3( 3.33)	2( 1.01)	20
1.1- 2 yrs	12(11.73)	3( 3.91)	5( 3.33)	—	20
2.1- 3 yrs	7( 7.04)	3( 2.34)	2( 2.00)	—	12
3.1- 4 yrs	11(12.38)	5( 4.10)	2( 3.50)	3( 1.06)	21
4.1- 5 yrs	2( 2.34)	1( 0.78)	1( 0.66)	—	4
5.1- 6 yrs	2( 1.76)	1( 0.58)	—	—	3
6.1- 7 yrs	2( 2.93)	1( 0.97)	2( 0.83)	—	5
7.1- 8 yrs	2( 3.52)	2( 1.17)	2( 1.00)	—	6
8.1- 9 yrs	1( 0.58)	—	—	—	1
9.1-10 yrs	3( 2.34)	1( 0.78)	—	—	4
10.1-20 yrs	22(20.54)	6( 6.84)	6(5.83)	1( 1.77)	35
20.1 yrs +	5( 4.10)	1( 1.36)	—	1( 0.35)	7
<b>Total</b>	<b>81</b>	<b>27</b>	<b>23</b>	<b>7</b>	<b>138</b>

df = 33

Chi Square Value = 43.77 (df=30)

\* includes: Special Early Childhood Classrooms; Integrated Early Childhood Classrooms and Regular Early Childhood Classrooms.

\*\* includes: Head Start; Consultation and Developmental Kindergarten.

#### SUMMARY

A total of 270 questionnaires were returned which resulted in an 88.8 % return rate. Chi-square analysis was used to analyze the data collected. Results showed that all the obtained chi square values for each null hypothesis were lower than the critical value at a .05 level of significance. Therefore, all five null hypothesis were accepted.

## CHAPTER 5

### Summary, Conclusions and Recommendations

Public Law 102-119 mandates the provision of services for children from three to five years of age and creates programs for children at-risk and those with disabilities from birth through two. There are a variety of service delivery programs available for young children who are at-risk or disabled. With P. L. 102-119, the service delivery model is required to meet the individual needs of the children and the families who are in need of early intervention. Kansas implemented this law fully beginning with the 1991-1992 academic year. This study aimed to investigate the types of service delivery programs in early childhood special education currently being implemented in the state of Kansas.

#### Summary

All 304 school districts in the state of Kansas were sent a questionnaire developed by the researcher. The school districts were initially divided into three categories; urban, large rural and rural districts. A total of 270 (88.8%) responses were received by the researcher which exceeded the minimum requirement of 80% and therefore avoiding possible sampling bias. However, many districts sent the questionnaire to the interlocal special education cooperative providing services. Responses from these cooperatives were recorded as an additional category. There

are 32 Educational Service Centers and Cooperatives with 220 member school districts. Data from the cooperatives were either reported as cooperatives in combined large rural and rural school districts or were categorized under the rural school districts.

This study attempted to prove five null hypotheses. First, there is no relationship between the type of service delivery models being provided and the population density of the community where the school district is located. Second, there is no relationship between the service delivery models being provided and the types of disabilities being served. Third, there is no relationship between the types of service delivery models being provided and the types of service providers available. Fourth, there is no relationship between the types of service delivery models being provided and the student population of the school district or cooperative. Fifth, there is no relationship between the types of service delivery models being provided and the length of time the school district or cooperative has been providing the early intervention service. The results proved all five null hypotheses true, that is among the variables.

### Conclusions

The null hypothesis states there is no relationship between the types of service delivery models being provided and the population density of the community where the school district or cooperative is located, was accepted at .05

level of significance. About half of the programs available in all four school district classification are center-based programs. Large rural, cooperatives and rural school districts have more special early childhood classrooms. Urban school districts have slightly more integrated early childhood classrooms. Cooperatives in combined large rural and rural school districts have more home-based programs available as opposed to the other locations. In large rural school districts, a variety of programs are available such as Head Start, speech therapy, consultation and community-based programs more than in the other locations.

The statistical treatment of the data revealed that there is no relationship between population density and the types of service delivery model. This information supports the findings of Swanby (1988) who wrote that services in rural areas are often patterned after urban models. This trend, according to the American Council on Rural Special Education (1986), is a problem for most rural school systems because of given variables such as geographic location and the strengths and needs of children and families in rural areas which are different from children and families in the urban areas. It can be gathered from the data collected that center-based programs specifically, self-contained classrooms are twice more available in most communities in Kansas. Center-based programs as research has revealed are favored as more effective when compared with home-based

programs (White, Innocenti & Goetze, 1991).

The null hypothesis which states there is no relationship between the types of service delivery models and the types of disabilities being served was accepted at .05 level of significance. Data collected revealed there are more center-based programs specifically self-contained settings that are offered to young students with different types of disabilities. There are more programs that offer services to children with developmental delays. Home-based programs are offered to more young children with developmental delays and with severe disabilities.

Home-based programs are generally more popular for birth through two age group. This study specifically looked into programs available for children from three to five years of age. It can be concluded therefore that center-based programs are more often used for the three to five age group more than home-based programs.

The null hypothesis which states that there is no relationship between the types of service delivery models being provided and the types of service providers available was accepted at .05 level of significance. Center-based, self-contained settings accounted for more than half of the service providers in the field of early childhood special education in the state of Kansas. Early childhood special education teachers, paraprofessionals and speech pathologists comprise most of the professionals in center-



district or cooperative, the more center-based programs will be found.

The null hypothesis which states there is no relationship between the types of service delivery models being provided and the length of time the school districts or cooperative has been providing the early intervention service was accepted at .05 level of significance. Data from this revealed that the majority of the center-based, home-based and combination programs have been in existence from 10-20 years. This is the first year that Kansas is fully implementing the law requiring the provision of early intervention services. Data revealed many school districts and cooperatives in Kansas are ahead in requirements of providing early intervention for young children who are at-risk or disabled.

### Recommendations

This study gathered data regarding patterns of service delivery early childhood special education in the state of Kansas. Data could be used by other researchers for further studies concerning early intervention services in the state of Kansas. The following recommendations are made for further research in the field of early intervention.

Other researchers should take into consideration that no relationships were found in the null hypothesis formulated in this study. It is possible that the location of school districts has no direct relationship to the

service delivery model being used not because they have similar needs but rather, rural programs follow the pattern of programs developed and innovated in urban districts. Is it safe to assume that if urban school districts offer center-based programs that rural school districts should, too? Least Restrictive Environment (LRE) is a major part of P. L. 102-119 which requires the school districts to provide the most appropriate setting possible for each child. Further research is recommended on testing the efficacy and comparing center-based and home-based programs in rural school districts against center-based and home-based programs in the urban school districts. A major question to be asked is, is the child being provided the most appropriate setting as required by law? Furthermore, it is recommended that school districts and cooperatives examine whether or not if the types of services they are providing fall within the LRE clause of the law. Results revealed that many of the service delivery approaches are center-based. Of these center-based programs, the majority were self-contained classrooms. Further study on why there are more self-contained, center-based programs in school districts and cooperatives is recommended.

As the school year comes to a close, major decisions maybe made regarding the type of service delivery model used by the school district or cooperative. Early intervention is required for all school districts, thus, more young children

will be identified and eventually placed. How will the wave of new students with varying disabilities such as, Fetal Alcohol Syndrome, HIV positive and substance exposed, affect the service delivery models that are in effect this school year? A similar study could be done after a few years to see how much has changed in terms of service delivery models, the types of disabilities, and the number of potential students. A comparison study with another state is highly recommended. This will help Kansas evaluate its early intervention programs as it can be compared to another similar Midwestern state's early intervention programs. This will give the state a chance to look at and improve upon its strengths and work on its weaknesses with regards to early intervention. Early Childhood Special Education in the state of Kansas has come a long way. With passing of new laws, further research, and continuous evaluation, early intervention will definitely go a long way in reaching out to all young children.

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APPENDIX A  
Cover Letter

Dear

I am asking for your help in collecting data for my thesis project. This thesis is in partial fulfillment of the requirements for the Masters in Science degree in Special Education from Emporia State University. The purpose of my research is to explore the service delivery models used in Early Childhood Special Education programs in the state of Kansas.

In this connection, I request the assistance of your school district in the completion of the enclosed questionnaire. It is important that the respondent to the questionnaire is one who is the most informed about the early intervention program, specifically for the children ages three to five years in your school district. It will take approximately five minutes to complete the questionnaire.

Enclosed is the questionnaire and a self-addressed stamped envelope. It will be appreciated if this is completed and returned prior to April 6, 1992. Please call me or my advisor if you have any questions or concerns. Thank you in advance for your cooperation.

Sincerely,

ROSA MILAGROS SANTOS  
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APPENDIX B

Early Intervention Survey Form

# EARLY INTERVENTION SURVEY FORM

Please put a mark on the items which are applicable to your school district or cooperative.

1. Does your school district or cooperative have students identified or eligible for early childhood intervention programs?  
 \_\_\_\_\_ YES \_\_\_\_\_ NO (If NO, you do not need to complete the questionnaire. Please mail back this form in the enclosed stamped envelope)

2. What type of Service Delivery Model is your school district or cooperative providing this school year? (Please mark as many items as applicable)

a. Center-Based/Group Model   
 (an organized early childhood education experience for a group of children at a central location)

a.1 Special Early Childhood Classroom   
 (designed to specifically serve only children with disabilities)

a.2 Integrated Early Childhood Classroom   
 (designed to serve children with and without disabilities in a single classroom setting. Children with disabilities shall constitute no more than two-thirds of the class enrollment with it being permissible for the classroom to have a predominance of children without disabilities)

a.3 Regular Early Childhood Classroom   
 (program primarily designed for children without disabilities that can be employed as a placement for children with disabilities)

b. Home-Based/Individual Model   
 (one to one special education services are provided to the parent or caregiver in order to assist the parent/caregiver in providing on-going intervention to their child)

c. Combination Model   
 (utilizes both the center-based and home-based model)

d. Others ( please indicate)

\_\_\_\_\_

\_\_\_\_\_

3. What are the types of disabilities enrolled in your school district's or cooperative's early intervention program? Please indicate the number of students.

Number of Students

- a. **Severely Disabled** \_\_\_\_\_  
 (those who require intensive teaching and related services for more than 75 % of the school day and cannot actively participate in more than 25 % of the regular early childhood education activities)
- b. **Mild/Moderate Disabled** \_\_\_\_\_  
 (those who may have one or more disabling condition which to a significant extent impede age-appropriate behavior in specific skill areas. Special assistance is required to minimize or to compensate for identified limitations)
- c. **Developmentally Delayed** \_\_\_\_\_  
 (children who cannot be accurately diagnosed as having a specific disabling condition but who have one or more diagnosed conditions which cannot be medically corrected and are associated with educationally handicapping conditions or who test 25 % or more below chronological age in a criterion or norm-referenced, validated test instruments in specific skill areas)
- d. **Others (please indicate)** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4. (If the information is readily available, please write the number on the line. If you are unsure of the numbers, please make an estimate.)  
 If you are providing two or more service delivery programs, how many students are enrolled in each ?

Number of students\*

- a. **Center-Based** \_\_\_\_\_
- b. **Home-Based** \_\_\_\_\_
- c. **Combination Model** \_\_\_\_\_
- d. **Others (please indicate)** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\*If the number indicated is an estimate, please put a mark on the line \_\_\_\_\_

5. Who are the service providers in your early intervention staff?<sup>3</sup>  
Please indicate the number.

Number of staff

- a. Early Childhood Teacher \_\_\_\_\_
- b. Early Childhood Special Education Teacher \_\_\_\_\_
- c. Special Education Teacher (certified LD, MR, BD, Gifted) \_\_\_\_\_
- d. Speech Pathologist \_\_\_\_\_
- e. Language Therapist \_\_\_\_\_
- f. Occupational Therapist \_\_\_\_\_
- g. Physical Therapist \_\_\_\_\_
- h. Paraprofessional \_\_\_\_\_
- i. Others (please indicate) \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

6. What is the total student population in your:  
school district? \_\_\_\_\_  
cooperative? (if applicable) \_\_\_\_\_

7. How long have you been providing early intervention services ?  
Please indicate the number of year(s) and month(s).

8. Please use the back of this page if you have other information  
that you wish to share or for comments and concerns that you  
may have.

**Optional Information**

Questionnaire Completed By:

\_\_\_\_\_

Name

\_\_\_\_\_

Position

\_\_\_\_\_

Date

Mail to **Dr. BRENDA HUDSON/ROSA M. SANTOS** by:  
**Division of Early Childhood**  
**ESU - Box 37** **April 5, 1992**  
**Emporia, Kansas 66801**



APPENDIX C  
Follow-Up Letter

Have you mailed the EARLY INTERVENTION SURVEY yet?  
If yes, we appreciate your help.  
If not, you can still send it today.  
If you need another copy, give us a call and we'll send you one.

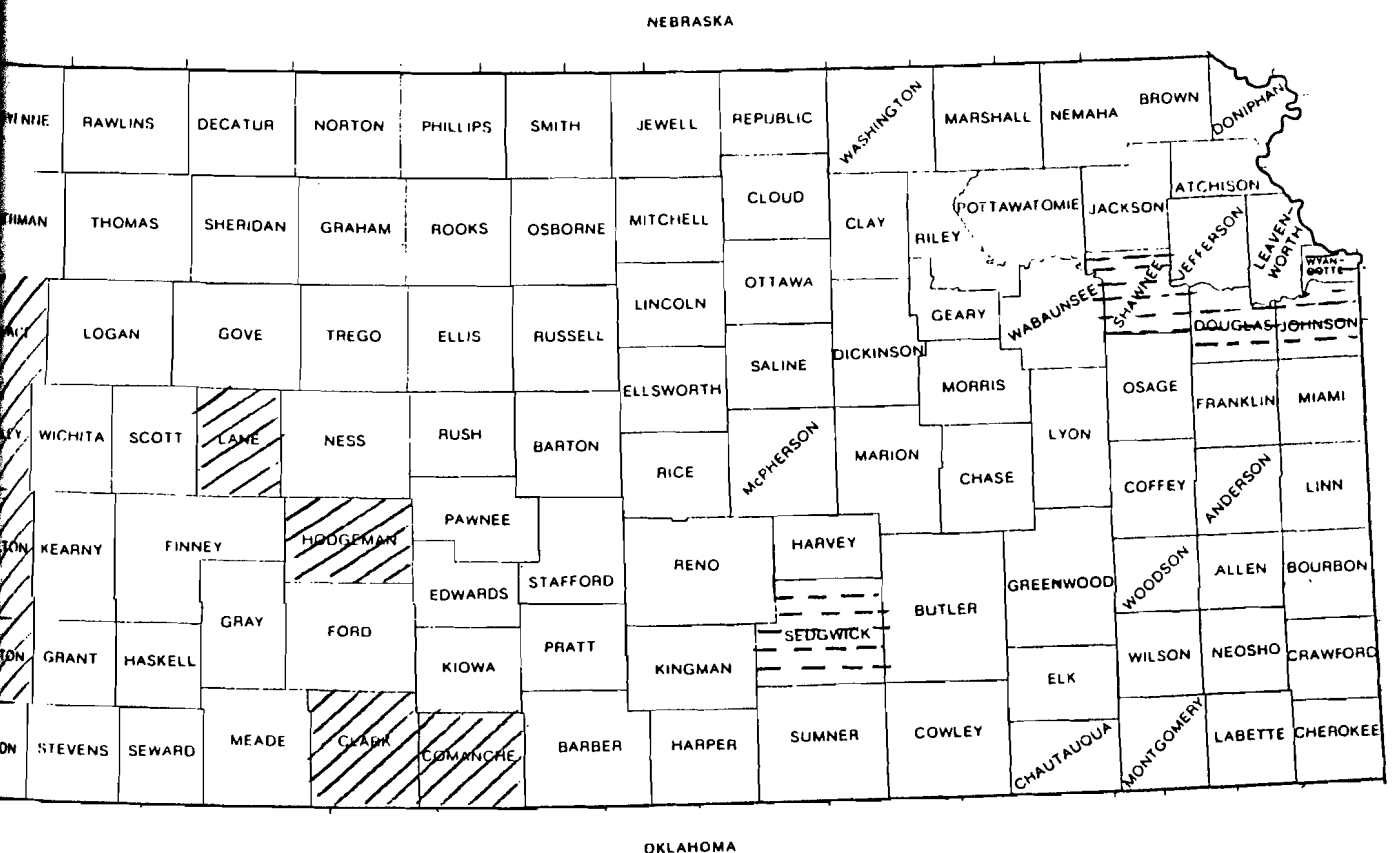
THANKS!

Dr. Brenda Hudson  
(316) 341-5626

Ms. Rosa Santos  
(316) 342-5038

APPENDIX D  
Population Density Map of Kansas

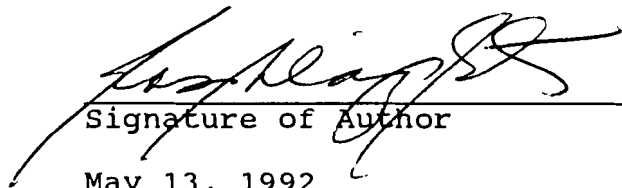
KANSAS



LEGEND:

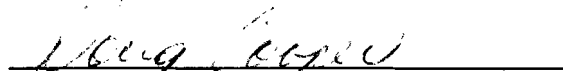
- /// = County with population less than 2,500
- (blank) = County with population between 2,501 - 49,999
- = County with population more than 50,000

I, ROSA MILAGROS SANTOS, hereby submit this thesis to Emporia State University as partial fulfillment of the requirements for an advanced degree. I agree that the Library of the University may make it available for use in accordance with its regulations governing materials of this type. I further agree that quoting, photocopying, or other reproduction of this document is allowed for private study, scholarship (including teaching) and research purposes of a nonprofit nature. No copying which involves potential financial gain will be allowed without written permission of the author.

  
\_\_\_\_\_  
Signature of Author

May 13, 1992  
Date

A Survey of Service  
Delivery Approaches of  
Early Childhood Special  
Education Programs in  
the State of Kansas  
Title of Thesis

  
\_\_\_\_\_  
Signature of Graduate Office  
Staff Member

July 30, 1992  
Date Received