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EFFECTS OF AN EDUCATIONAL GAME ON PARENT KNOWLEDGE OF THE INDIVIDUALIZED EDUCATION PLAN

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

by

Hazel Jean McKinney Linton, B.S., M.Ed.

*****

The Ohio State University
1979

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Finally, in loving memory of my mother, who dreamed of this achievement and provided the love, patience and guidance during my formative years to make the dream a reality.
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CHAPTER I
INTRODUCTION

The impact of federal legislation on special education has been and will continue to be massive. On November 29, 1975, President Gerald Ford signed Public Law 94-142 entitled "The Education for All Handicapped Children's Act". This law is a statement of the rights of all handicapped children and their parents.

Public Law 94-142 and comparable state litigations guarantee to handicapped children and their parents certain rights related to the education of handicapped children. It details specific procedures for assuring a free appropriate education for every handicapped child, regardless of the type or severity of handicapping condition. It requires that an Individualized Education Plan (IEP) be developed and maintained for each handicapped child, that the IEP specify educational objectives and instructional procedures, and that this written plan be reviewed and evaluated at least on an annual basis. The law also mandates that children are to be educated in the least restrictive environment that meets their individual
needs, assures the rights of handicapped children and their parents to due legal process in labeling or referring children for special services, and that parents be informed, and wherever possible involved in all decisions regarding the education of their handicapped child.

To insure that parents will be able and will choose to remain involved in all phases of the educational process, the regulations for Public Law 94-142 instruct local school agencies to provide parent counseling and education/training when needed to inform parents of their rights and roles regarding their child's schooling.

Parental rights and responsibilities primarily involve access to school records and involvement in the development of educational policy (Turnbull, Strickland & Brantly, 1978). Parents are an appropriate focus in dealing with educational goals and objectives. Since parents have the primary influence during the formative years (Hawkins, 1972) they are natural and necessary for educational programming. Patterson (1969) has written that data collected by Barker & Wright (1953) showed the social agents who had the most contact with the child are the mother, teacher and peers. They further stated that
training parents would be a necessary activity for effectively preventing deviant child behavior.

In recent years, parent training techniques have received increased attention from behavioral and social scientists (Buscaglia, 1975; Cooper & Edge, 1978; Heward, Dardig & Rossett, 1979; and Norton, 1977). Research has turned toward developing procedures for identifying the salient variables in training. Studies have been conducted on the efficacy of various training strategies (Mira, 1970), multiple outcome measures (Kovitz, 1976) and parent predictor variables (Kaplan, Katsushige & Katzenberg, 1973).

Need and Rationale

Although parental education, when properly conducted, may assure that parents acquire relevant skills and information, parent training programs have not been without problems. The literature suggests several problem areas. These are, motivation, irregular attendance, completion of assignments, and generalization and training to other situations.
Foremost among the problems is motivation. Goldstein and Lanyon (1971) have stated that parents must be highly motivated to spend the necessary amount of time each day in training. Motivational problems have also been reported by Patterson, McNeil, Hawkins, and Phelps (1967).

Attendance problems have been reported by Morris (1973). He found that up to 50 percent of the parents were absent from at least one meeting and that the average absentee level was 20 percent per meeting. Mira (1970) has reported some parents never attend meetings though they sign up for sessions.

One procedure, perhaps, that can be used to alleviate motivational problems that may develop during parent training programs is to teach the needed skills through the use of an education game. Educational games are becoming recognized as an effective medium for learning with enjoyment. They are essentially a method of packaging concepts. Researchers (Bigge, 1976; Carlson, 1969; Cejka & Wedemeyer, 1977; Humphries, 1972; and Shubik, 1975) are in agreement
that educational games can increase motivation, clarify concepts and processes, help socialize participants and integrate participants of diverse ability levels.

Games have been used in various settings to a small degree but with significant success. For example, games have been used in teaching nursing skills (Smith, 1968), and in biology classes (Farron, 1970). Games helped to increase the vocabularies of all students in freshman English class at the University of Arizona (Ryan, 1968).

As instructional devices, games provide variety in dealing with a particular topic, active participation in the learning process and repeated exposure without becoming bored (Kennedy & Michon, 1973). Games also provide challenging experiences at the learner's level, an opportunity for intellectual success, a chance to solve problems, an opportunity to be creative, as well as a chance to have fun (Cratty, 1971). It seems highly probable that games will also provide an exciting way for parents to learn about their rights as guaranteed by Public Law 94-142. The acquisition of this knowledge may enable parents to
use their rights constructively to increase their child's options for the future.

**Purpose of the Study**

The purpose of this study was to determine the effectiveness of an original educational game designed to teach components of Public Law 94-142 to parents. The component that was incorporated in the game was the individualized education plan.

**Objectives and Questions of the Study**

Educational games have not been available readily for instructional activities. Thus, the constitute a virtually untapped source for providing fun and practice while learning. The first priority of this study was to create an educational game designed to teach individualized education plans to parents. The game consisted of one caller board measuring approximately 80 by 100 centimeters, a player board of the same dimensions and 56 cards containing illustrations, questions and examples of the components of an individual education plan. The 56 cards contained a block or charge figure on one side and the number of points on the other. The game was called block because the object of the game was to earn points by answering questions or causing the opponent to lose points by blocking his opportunity to answer questions.
It was proposed that using the game as an instructional device would be an effective means to increase parents' knowledge of individualized education plans.

Specific objectives of the study were:

1. To determine the parents' knowledge change after participation in an educational game designed to teach the individualized education plan.

2. To determine the effectiveness of the educational game on a criterion test on an individualized education plan.

3. To determine the effectiveness of the educational game or teaching format on parental attendance during the data collection period.

4. To assess parental attitudes about parent group training on individualized education plans.

The following research questions were addressed:
1. Will the parents who participate in the educational game display a change in knowledge concerning Public Law 94-142?

2. Will there be a functional relationship between parental knowledge change and participation in the educational game?

3. Will comprehension scores on a criterion test measuring parent knowledge of individualized education plans be differentially affected by participation in the game?

4. Will comprehension test scores on a criterion test increase as the number of sessions attended increases?

5. Will the subjects acquire an 80 percent or above on a comprehension test after participation in four games?
6. Will a parent with one or more handicapped children obtain a higher score on a comprehension test than a parent with no handicapped children?

7. Will parental attitudes about educational games in a parent training course be differentially affected by participation in the game?
Operational Definition of Terms

Annual Goals - General categories describing the progress the child is expected to make in one year.

Annual Review - A conference held once a year consisting of the parents, teacher, and other school personnel to evaluate the child's progress for the current year.

Due Process - The procedural safeguards for parent and educators to ensure that children who are handicapped will receive a free appropriate public education.

Educational Game - An instructional tool or activity used to provide repeatable patterns or practice, fun and competition to teach new skills or to practice former skills by following rules.

Effective Date - The day the parents approve the IEP.

Handicapped Child - Those children evaluated as being mentally retarded, seriously emotionally disturbed, hard of hearing, deaf, speech impaired, visually impaired, other health impairments, multihandicapped or having specific learning disabilities who because of
those impairments need special educational and related services.

**Individualized Education Plan** - A written statement for each handicapped child developed by the parents and local school which indicates programs, related services and instructional objectives to be utilized in meeting the needs of handicapped children.

**Least Restrictive Environment** - An appropriate educational environment designed to meet the unique needs of each handicapped child in such a way as to assure that the child's removal from the regular education environment is no more restrictive than necessary to insure a maximum educational experience. This term is sometimes referred to as mainstreaming.

**Multi-factored Evaluation** - An evaluation in more than one area of a child's functioning so that no single procedure shall be the sole criterion for determining an appropriate educational program placement. It is the determiner of whether a child is handicapped and the nature and extent of the special education and related services that the child needs.
**Parent** - Either parent. If the parents are separated or divorced, parent means the parent with legal custody of the handicapped child.

**Parental Consent** - Written permission for evaluation and placement.

**Placement** - Those activities involved in arriving at a decision regarding the most appropriate pattern of special education programs and/or related services for the child and includes actual implementation of the decision.

**Public Law 94-142** - Federal law governing education of all handicapped children.

**Related Services** - Transportation, and such developmental, corrective, and other supportive services as may be required to assist a handicapped child to benefit from Special Education.

**Short Term Objectives** - Short measurable objectives indicating how long range (annual goals) goals on the individualized education plan will be accomplished.

**Special Education Program** - The required related services and instruction specifically designed to meet the unique
needs of a handicapped child, including classroom instruction, home instruction, and instruction in hospitals and institutions.

**Unserved** - An appropriate education program and/or related service(s) is not being provided for the child, that child has been diagnosed as handicapped and that the child needs a special education program and/or related service(s).
CHAPTER II
REVIEW OF LITERATURE

Each day thousands of persons are exposed to the humbling responsibility of preparing a handicapped child to cope with the demands of a complex and constantly changing world. Most are expected to assume the responsibility without adequate preparation. They are forced by the absence of available education to rely on their own family experiences and interaction with parents of handicapped children as guidelines for bringing up their offspring.

In the past decade and a half (1964-1979), recognition of the need for presenting parents with new kinds of knowledge and skills has led to the development of parent training techniques, programs and workshops. For example, many disadvantaged parents were taught techniques of behavior modification via programmed instruction under group leaders (Becker, 1971); clinical psychologists have trained parents of children with behavior disorders to use behavioral approaches in the elimination of specific problems (Becker, 1971;
Christopherensen, Arnold, Hill & Quilitch, 1972; Hall, Axelrod, Tyler, Grief, Jones and Robertson, 1972; Brockway and Williams (1976) described a prevention-oriented child management model that utilized a variety of techniques; Finch (1978) developed an educational game to teach principles of behavior modification to parents.

The current parent training movement is a recent fusion of several trends and social forces. Special education in particular has come to exemplify parent-teacher interactions and will continue probably to serve as the leading edge in the new frontier of parental reintegration into the educational process (Clements & Alexander, 1975).

This review will examine parental involvement regarding exceptional children's academic growth as well as legal aspects and implications for parent involvement, select parent training programs, training variables and procedures, problems of maintaining interest and involvement in parent programs and the use of games as instructional devices.
Parental Involvement in the Schools

Educators at all levels of the American educational system have become increasingly interested in involving parents in the work of the school (Bauch, Vietze & Morris, 1973; Caliguri, 1970; Clements, 1978; Hoskinson, Sherman & Smith, 1974; Radin, 1972). This interest in involving parents in the formal school based education of their children has grown substantially since the mid 1960's and can be traced to developments in pre-kindergarten education (Bauch, 1973). The best known of the pre-kindergarten programs is Project Head Start which was begun in 1965 in connection with the war on poverty.

Even though involving parents in the school has been endorsed in the literature (Bauch, 1973; Ferrara, 1978; Kean, 1975; McLoughlin, Edge & Strenecky, 1978; Yoshida, 1978) parents have been ignored by both teachers and administrators and even pushed aside when they indicated an interest in helping their children (Edge, Strenecky & Mour, 1978). Some authorities believe that two factors appear to be associated with unsuccessful parental involvement programs: the attitude of professional personnel
toward parents and their inadequate skills in working with parents (Karnes, Zehrbach & Teska, 1972).

Three recent trends in education have emphasized the importance of parental involvement and the effective parent-teacher relationship to the education of exceptional children. First, research support the contention that parental involvement assists in the educational development of the exceptional child (Appell, Williams & Fishell, 1964; Bauch, 1968; Haring & Phillips, 1962; McCowan, 1968). Second is the supportive role parents can play in actual, direct teaching of specific skills to their children (Cooper & Heron, 1979). Finally, the Education for All Handicapped Children Act of 1975 (Public Law 94-142) demands that parents be informed and wherever possible, involved in all decisions regarding the placement, planning and delivery of special education and related services to exceptional children.

With the advent of Public Law 94-142 professionals in education no longer have a choice as to whether or not they will accept parents as having a major role in the education of their handicapped
children (Fanning, 1977). Parental involvement in educational decision-making is secured through Public Law 94-142 by the extension of rights to parents to be involved in the development of educational policy.

Clearly a major effect of the litigation that has occurred is the new role that parents have been playing in the planning and placement process for their children (Yoshida, Fenton, Kaufman & Maxwell, 1978). Each process in almost every state under Public Law 94-142 contains a set of due process safeguards, including an appeal process when the school district and parents cannot agree on the placement decision (Turnbull, Strickland & Brantley, 1978).

Parents are involved in the planning, placement and the appeal process at the initial problem identification stage and during any subsequent change in the student's program. According to Kroth (1975), the primary focus should bring a level of awareness to the parents' expectations for the child, to their expectations for the school program, and to an analysis of these expectations in reference to the child's accomplishments.
The literature in special education (Calvert, 1971; Kelly, 1973; Kingsley, 1971; McKinnon, 1970) regularly cites the need for parent involvement. It also delineates for parents methods and techniques for working with behavior problem areas in childhood (Becker, 1971; Gordon, 1971; Russo, 1964; Stranghan, 1964). The literature also points to the need for providing parents with some understanding of the nature of their children's problems and indicate the importance of sharing educational and treatment methods and goals (Hubbard, 1967; Jessell & Rathney, 1965; Wetter, 1972).

The behavioral approach for assisting parents of exceptional children with home/school related problems demonstrates the critical role that the parents can and do play in the training of their exceptional child. By the late sixties and early seventies, researchers had demonstrated clearly that parents could use behavioral technology to solve problems within the home (McKenzie, Clark, Wolf, Kethera & Bensen, 1968; Wahler, 1969; Zeilberger, Sampen & Sloane, 1968) and school environment (Kroth, Whelan & Stables, 1970). The seventies have seen an expansion of the parent as therapist using
behavioral technologies to deal with serious school related problems, school phobias (Tahmision & McReynolds, 1971), behavioral problems (Hall, Axelrod, Tyler, Grief, Jones & Robertson, 1972; Herbert & Baer, 1972), transportation problems (Alexander, Jens & Center, 1975), physiological conditions (Daniels, 1973) and relatively normal behavioral occurrences.

Research evidence (Bank & Brooks, 1971; Barsch, 1968; Feldman, Byalick & Rosedale, 1975; Flint & Deloach, 1975; Haring & Phillips, 1962; O'Connell, 1975) suggests that advantageous benefits can be expected to develop for the exceptional child when parental involvement is effected. Through their involvement, parents are learning skills that enable them to help their children more effectively.

Parent Training Programs (Three Models)

Lily (1974) indicates that parent programs tend to follow one of three primary models -- behavioral, psychological insight, or experiential. These are all unimodal models that rely on methods drawn from a single conceptual framework to provide a methodological foundation.
The first model, the behavioral approach, involves teaching parents how to apply the principles of behavior management to their specific child-rearing situations (Becker, 1971; Cooper & Edge, 1978; Patterson & Gullion, 1971; Rose, 1969). The second major approach, psychological insight, involves training built around the client centered concepts developed by Rogers (1951). This approach to parent training focuses on developing a comprehension and understanding of why children behave as they do and emphasizes parental awareness, understanding, and acceptance of children's feelings (Ginott, 1965; Gordon, 1970; Guerney, 1964; Stewart, 1974). The development of patterns of parent-child communication that minimizes distortion and clarifies the meaning and interpretation of actions and statements is encouraged (Auerbach, 1969). The third approach, experiential, includes parent education programs that focus on providing direct learning experiences for parents through modeling exposure and directed structured activities and interaction between parent and child.
Behavioral

The first model, the behavioral approach, involves teaching parents how to apply the principles of behavior management to their specific child-rearing situations (Becker, 1971; Cooper, 1978; Patterson & Gullion, 1971; Rose, 1969). Parents are taught basic terminology, principles of reinforcement, observation, measurement, and consequation procedures. Following one or a combination of training procedures, the parent-trainer usually serves as a consultant to the parents in applying what they have learned to specific behaviors that they want to change.

"Working with Parents of Handicapped Children" (Heward, Dardig & Rossett, 1979); "Managing Behavior" (McDowell, 1974); "Communicating with Parents of Exceptional Children" (Kroth, 1975), and "Behavioral Counseling" (Krumbaltz & Thorensen, 1969), for example, give teacher-oriented systems for approaching problem solving that uses the educator as the instructor of the parent of the exceptional child. "Parenting: Strategies and Educational Methods" (Cooper & Edge, 1978); "Behavior Guides" (Sloane, 1976); "Living with Children" (Patterson &
Gullion, 1971); "Parents Children Discipline -- A Positive Approach" (Madsen & Madsen, 1972), and "Parents are Teachers" (Becker, 1971) are extensively parent-oriented in their approach.

Berkowitz and Graziano (1971); Gardner (1974), and O'Dell (1974) indicated that cooperative and articulate parents are able to understand and apply the principles of applied behavior analysis to modify target behaviors of their children. Generally, most programs focus on training parents in specific procedures to modify common problem behaviors such as non-compliance, bedwetting and tantrums.

Behavior research studies report the successful training of parents to change and control their children's behavior. Parents have modified school phobia (Patterson, 1965), enuresis (Tough, Hawkins, McArthur & Raversway, 1971), oppositional behavior (Wohler, 1969), educational skills (Lindsley, 1968), excessive scratching (Allen & Harris, 1966), reading (Staats, et al., 1970), aggression (O'Leary, O'Leary & Becker, 1967) and disobedience (Hawkins, Peterson, Schweid, Byon, 1966; Shah, 1969).
Parent training programs in applied behavior analysis have been conducted in both individual and group settings. The initial enthusiasm over success of training individual parents in behavioral techniques gave impetus to training parents in groups (O'Dell, 1974).

One of the earliest formal investigations of parents as behavior therapists is found in the investigation of Williams (1959) who trained parents to modify a child's bedtime tantrums. In this investigation, the "tyrant-like" tantrums of a twenty-one month old boy were extinguished by his parents not reentering the bedroom after he had been put to bed.

Numerous other studies have employed parents as primary treatment agents or therapists for their children who exhibited behavior problems. Russo (1964) demonstrated that parents can serve as behavior modifiers in both clinical and home environment. In a playroom setting the mother was instructed to observe the correct interaction patterns that the therapist used with the six year old girl who exhibited severe tantrums. The mother gradually assumed control of the sessions. The undesirable behavior was distinguished by reinforcing incompatible behaviors.
Wahler, Winkel, Peterson and Morrison (1965) instructed mothers in the use of social reinforcement to modify deviant child behavior. Mothers were given instruction and cueing in differential attention and interacted with their child when cued by the investigator.

Allen and Harris (1966) taught the parents of a five year old to carry out behavior modification procedures in a laboratory and home environment. Positive reinforcement, extinction and a token economy were used to occasion non-scratching behavior.

Zeilberger, Sampen and Sloane (1968) demonstrated that parents could use programmed differential reinforcement contingencies to control their child's emission of undesirable behaviors. The four year old boy's parents were instructed in differential reinforcement, extinction and time out procedures. Consequation of the child's behavior excited strong control over the extent to which the child followed instructions.

In an investigation by Christophersen, Arnold, Hill and Quilitch (1972), two sets of parents received
instructions on administering a home-based token economy program with their children. Target behaviors were identified by each family and assigned a specific token value. Parents received additional instruction in the procedures of data collection, reliability observations and recordkeeping. A multiple baseline across behavior was used to demonstrate experimental control. Very little time was spent in teaching general behavioral principles. The parents were taught a single behavior management system and were encouraged to rely on it.

Lance and Koch (1973) reported training parents to teach self-help skills to their young, multihandicapped children. The program assumed that parents are capable educators of their own children and further worked to keep direct professional intervention. "Eating with a spoon" and "toilet training" were the first behaviors taught since they had been rated by parents as the most important and difficult to teach.

Herbert, Pinkston, Hayden, Sajivay, Pinkston, Cordua and Jackson (1973) trained six parents in a laboratory setting to attend to desired child
behaviors and to remove attention following the emission of undesired child behaviors. Predelinquent children and their parents were trained together to develop negation responses in a program reported by Kifer (1974).

Many other researchers have reported the control of children's undesirable behavior through differential reinforcement contingencies (Hawkins, Peterson, Schweid & Byon, 1966; Zeilberger, et al., 1968) and differential social attention (Herbert & Baer, 1972; Knight & McKenzie, 1974) with parents as therapists.

Parents from lower socioeconomic communities have been helped to become more effective in rearing their children by systematically applying application of behavior modification principles to child rearing practices (Becker, 1971; Horne, 1974; Patterson & Gullion, 1971). In "Project Follow Through", for example, programmed instruction under the direction of group leaders was used to teach techniques of behavior science to disadvantaged parents (Becker, 1971; Patterson, Reid, Jones and Conger, 1975).

Research has also shown that guidance counselors, school social workers and special education teachers
have taught parents to use contingency management techniques with a particular child (Patterson & Brodsky, 1966; Zeilberger, Sampsen & Sloane, 1968).

Empirical studies, text and program packages demonstrate the increasing interest in teaching parents to modify and manage their children's behavior through the application of behavioral techniques (Alexander, 1975; Allyon, Smith & Rogers, 1970; Bernal, 1969; Clark, Greene, Brandon, McCrae, McNees, Davis & Risley, 1977; Dardig & Heward, 1976; Hawkins, et al., 1966; Kifer, 1974; Kroth, et al., 1970; McKenzie, et al., 1968; Mira, 1970; O'Leary & O'Leary, 1972; Risley, Clark & Cataldo, 1976; Shelton, 1977).

The references cited include studies in which parent training was conducted in clinical or institutional settings to totally home-based training. While the majority of studies are concerned primarily with deviant social behavior, a number of them have as their focus improved academic performance.

**Psychological Insight**

The second parent training approach, the psychological insight model, in contrast to the behavioral
approach, involves training built around the client-centered concepts developed by Rogers (1951). His approach to parent training emphasizes parental awareness, understanding, and acceptance of children's feelings (Ginott, 1965; Gordon, 1970; Guerney, 1964; Stewart, 1974). It focuses on developing a comprehension and understanding of why children behave as they do and emphasizes analysis of the interaction dynamics between parent and child (Auerbach, 1968). The approach:

concentrates on the mental health of the child — and the parent — and on the relationship between them, always within the context of the community. Thus parent education may be thought of as an important part of the mental health movement as a whole. . . The goal of this educational process is the truly adequate person, fully functioning and self-actualizing both for himself and in cooperation with others. (pp. 4-5).

Ginott (Between Parent and Child, 1969; Between Parent and Teenager, 1971) popularized the psychological insight approach. Parent Effectiveness Training may be the most popular parent training program in history. More than 200,000 parents have taken the eight-session
course, and in excess of 500,000 volumes of Parent Effectiveness Training have been sold (Stewart, 1974). In addition, "Parents Learn Through Discussion: Principles and Practices of Group Education" (Auerbach, 1969) and "Counseling Parents of Exceptional Children: Principles, Problems and Procedures" (Stewart, 1974) are other literature for this approach.

The development of patterns of parent-child communications that minimize distortion and clarifies the meaning and interpretation of actions and statements is encouraged (Gordon, 1970). Communication styles are emphasized and parents are taught to identify and deal with their children's problematic emotions (Gordon, 1970).

**Experiential**

The third parent training approach, the experiential model, has been implemented, basically, within early childhood, preschool programs, programs for language deficit and with hearing impaired children. It focuses on providing direct learning experiences for parents through modeling exposure and directed structured activities and interactions between parent and child. These training sessions
may target a developmental stage or may target a skill such as language development. Prevalent literature in this area is, "Teach Your Child to Talk" (Pushaw, Collins, Czuchna, Gill, O'Betts & Stahl, 1969; Rotter, 1969), and "The Exceptional Child's Early Years" (Jordan, 1971). Active teaching and academic instruction by parents in a classroom setting (Karnes & Zehrbach, 1972) is encouraged.

Although some emphasis was given to handicapped populations, the predominant thrust of the experiential programs has been directed toward children from low income families. A number of these programs trained mothers along a continuum from the minimal direct teaching of the child by the parent trainer (Gordon, 1969; Karnes, Teska, Hodgins, Badger, 1970) to the extensive tutoring of the child (as a means of teaching the mother) by the parent trainer (Levenstein, 1971; Weikart, 1969).

Gordon (1969) conducted a study in which the mother was the primary agent of change. Weekly home visits were made by paraprofessional staff to train a mother to facilitate the development of her infant. Five groups of infants were involved. The study lasted
for two years. Reported results during the first year revealed that on the Griffith Mental Development Scale for Testing Babies from Birth to Two Years, the experimental children whose mothers received training scored four points (a significant difference) higher than the comparison children whose mothers received no training.

Weikart (1969) in a pilot study with infants (six to nine months of age) used professional teachers to train mothers at home. His program involved weekly home visits by professional teachers whose role was to guide mothers in becoming more effective teachers of their infants. The professional teachers tutored the infants with the mother present as a means of involving the mother and enhancing her skills. Mothers were encouraged to take over these activities during the sessions. The study reported significant gains on the Bayley mental scales in a two-month period.

In the Karnes, et al. (1970) project, mothers of infants were trained in weekly two-hour group meetings. One hour was devoted to parental concerns and the other to specific activities to stimulate the infant
at home. A toy-lending library and monthly home visits by the staff to observe the mother implementing the plans developed during the weekly meetings were integral parts of the program.

Levenstein (1971) conducted a home-based mother training program with one to three year old children. Weekly visits were made to the home by toy demonstraters whose role was to teach the mother effective techniques for teaching her child. The study reported a mean IQ gain of both the two and three year old groups was seventeen points, while the mean IQ of the control group remained essentially unchanged.

In summary, studies reviewed in this section indicate that parent training programs for normal and handicapped children exemplify comprehensive and innovative systems of parent involvement.

Parent Training Variables

Parent training literature and research studies (Galloway & Galloway, 1970; McLean, 1976; O'Dell, 1976; Patterson, 1974; Rinn, et al., 1974) indicate that parent characteristics related to successful training generally
tend to focus on three variables -- education level, socioeconomic status, and measure of hypothetical constructs such as anxiety and depression.

**Education Level**

Research has turned its attention to educational level and parent performance during parent training programs (Galloway, Galloway, 1970; Gardner, 1972, 1974; Mira, 1970; O'Dell, 1976; Patterson, et al., 1969) in an attempt to draw some conclusions regarding educational level and successful completion of parent training programs. Investigations were made in the areas of formal educational level (Mira, 1970), attendance (Galloway & Galloway, 1970) and verbal ability (O'Dell, 1976).

In a report by Mira (1970), psychiatrists, social workers and teachers were no more successful than parents in managing cases during a behavior modification program for parents and teachers. In the report, eighteen percent of the managers were professionals but managed only twelve percent of the successful cases. The studies by Salzinger, Feldman and Portnoy (1970) and Patterson and his associates (1969) yielded opposite
results. The parents who scored the highest on the test on conditioning principles were more successful significantly than those who scored lower. However, the authors did caution against concluding that written test performance and high levels of formal education were prerequisites for success. It was suggested that the data pointed to the variety of instructional methods to which highly educated parents respond (Salzinger, et al., 1970; Patterson, 1969).

Parent characteristics of families who attended group meetings was discussed by Mira (1970). With a sample size of twenty-seven families no clear conclusion was drawn regarding the educational levels of those families who did not attend group meetings, attended between one and three group meetings, and those who attended four or more meetings.

The most useful information relating to characteristics of nonprofessional trainees was provided by Gardner (1972, 1974). Under a traditional lecture discussion format, trainees with the highest degree of formal education were able to achieve higher test scores than less educated trainees. The differences
between the two groups diminished when operant conditioning principles (contingent teaching) of shaping and consequences for "study" were applied.

Kaplan, Kazaoka and Katzenberg (1973) administered the Minnesota Multiphasic Personality Inventory (MMPI) and the Quick Word Test, Level One, to twenty-six parents to investigate prediction of success in parent training programs. This investigation was conducted with parents who attended one of four parent training groups that met once weekly. The Quick Word Test and MMPI were given during the first session. Concurrent with group sessions, home visits were made and family interactions were recorded. The study reported that percentage of reduction in the frequency of average target behavior was up for those parents who obtained higher scores on the MMPI and Quick Word Test. This indicated a correlation between scores calculated with selected scales of the MMPI and the Quick Word Test and success in the program.

Gardner (1974) suggested the use of texts and group instruction requires a considerable proficiency in abstraction. The use of such procedures requires standard scholastic skills. Thus, it could be expected, that across groups, highly educated people would be more skilled. There is evidence, however, that verbal skills
in the form of knowledge of general behavior principles is unnecessary (Goodall, 1972; Lindsley, 1966, 1970; O'Dell, 1976).

The efficacy of behavioral principles training as a precursor to training groups of persons to carry out modification projects was investigated by O'Dell (1976). The investigation was conducted to determine whether verbal pretraining would assist in acquisition of performance skills, involvement, attendance, attrition, contracting, assignment completion, implementation of skills, whether the child's behavior was modified, attitudes toward training program on the child, the reported use of procedures after training, differential effects of verbal ability. Forty subjects were assigned to one of three training groups: (1) verbal pretraining, (2) placebo pretraining, and (3) no pretraining control. The reported results indicated no significant differences that would favor longer behavioral principles pretraining for conducting workshops. There was no evidence that subjects with higher verbal intelligence were significantly helped by such principles, or, that subjects with lower verbal intelligence performed better with
only direct skill training.

**Socioeconomic Status**

Another variable that has been related to performance is that of socioeconomic status. Rinn, Vernon and Wise (1976) suggested that parents from lower socioeconomic backgrounds often have fewer experiences which result in verbal deficits. These parents were significantly less successful in behavioral change programs.

Galloway and Galloway (1970) reported attendance problems of parent training meetings. They found that blue collar workers were less likely to attend an initial parent meeting than either white collar or professional parents. However, blue collar parents were more successful than white collar or professional parents in their behavioral programs once they attended the first meeting. One hundred percent of blue collar parents had successful programs while only sixty-six percent of the professionals were successful.

Patterson (1974) reported a significant correlation between lower socioeconomic status and lack of treatment success. The cases of greatest difficulty
involved welfare mothers who lived alone with their children and perceived themselves as being unable to cope. Further evidence to support the correlation between socioeconomic status and treatment success was provided by Rinn, et al. (1976) who found that lower income parents were significantly less successful than middle income parents.

The training outcome goals of the programs were presented by Gardner (1974) as a possible explanation for these differences. The two training levels discussed were technician or application level and generalist level. No differences are found in either test results or client changes in programs such as Gardner (1972) and Staats (1970) which attempt to train at the technician or application level. Parent training programs such as Galloway and Galloway (1970), Patterson (1974) and Rinn, et al. (1976) required a wide range of skills because parents were trained at the generalist level. Thus, the relationship between socioeconomic status and outcome is dependent upon the type or level of training.
Psychological Constructs

The relationship between positive outcomes in behavior modification programs and "personality variables" associated with training can be found in investigations and discussions by Gardner (1972a), Kaplan, et al. (1973), Patterson (1974) and McLean (1976).

Gardner (1972) reported that individuals who had a high need to succeed, to do things for friends, and little need to analyze their own or others' motives were more likely to facilitate adaptive behavior change in severely and profoundly retarded residents.

In a prediction study, Kaplan, Kazaoka and Katzenberg (1973) reported that depression was negatively related to positive outcome in behavior modification programs conducted by parents. A similar relationship was reported by Patterson (1974) in his study with parents of boys who exhibited conduct problems.

The relationship between effective parenting and depression has also been discussed by McLean (1976). He reported in a discussion article, that self-report data from depressed parents indicated ineffective child management. The parents perceived their depression as being the result of ineffective child management. Al-
though it has not been supported empirically, it seems that depression renders the parent less capable of effective parenting and sets the occasion for children to acquire ineffective interpersonal coping strategies through social modeling.

The literature reviewed in this section did not present definite conclusions regarding the relationship between education level, socioeconomic status, psychological constructs, and successful parent training programs. It does suggest that success is related to verbal ability in those programs whose training goals are at a generalist level. The relationship between socioeconomic status and outcome were dependent on the type of training program, and the self-reported presence of depression was found to be negatively related to success in behavior change programs.

**Parent Training Procedures**

While there are numerous techniques advocated for parent training, very little research on the relative efficiency of various techniques has occurred (Clements, 1974). There is general agreement, however,
on the need to select approaches after analyzing what is possible and most apt to be successful (Criscuolo, 1974; Johnson, 1977). Considerations must also be given to value judgment and resources. According to Levitt and Cohen (1975), parent programs should move in the direction of more structured, action-oriented training for developing the skills of parents.

The procedures that have been found to be of value to researchers in parent training can be divided into two broad categories — instructional coaching and behavioral rehearsal or social modeling.

**Instructional Coaching**

Instructional coaching is probably the most generally used method in parent training programs. It is simply the procedure to specify and describe what behaviors and activities the parent is to engage in. These may be verbal directions (Salzinger, 1970; Hall, Axelrod, Tyler, Grief, Jones, and Robertson, 1972), audiovisual instruction (Grass & Wallace, 1974; McDowell, 1974), programmed materials and texts (Becker, 1971; Patterson & Gullion, 197; Ray, 1965), and cueing (Zeilberger, Sampen
& Sloane, 1968; Stumphaser, 1971). While a host of variables influence the success of this procedure, some general principles include clear and specific instructions to parents, relatively short and delimited task requirements and responsibilities, discussions and appropriate social reinforcement (Nay, 1975).

Salzinger, et al. (1970) gave advice and instructions in behavior change programs to parents. A similar format has been used for individual (Allen & Harris, 1971; Wahler, 1969) and group (Hall, et al., 1972; Walder, Cohen, Brieter, Datson, Hirsh & Leibowitz, 1969) parent training programs.

Hall and his associates (1972) conducted parent groups under what is called the "Responsive teaching model". This procedure utilizes lectures, films and discussions to teach parents the basic principles of behavior modification.

McDowell (1974) developed a kit for parent groups which uses color filmstrips and audio-cassette tapes. According to Grass and Wallace (1974), there is some evidence to suggest that given the choice, parents will pay more attention to visual presentations than written material.
A number of parent training programs use programmed instruction. Ray (1965) used programmed materials to train four mothers of atypical children in a series of five group meetings. The mothers were trained to use reinforcement principles. Reported results indicated significant changes in the behavior of mothers.

Becker (1971) designed a programmed instruction book to assist parents in becoming effective teachers of their children. Social reinforcers, activity reinforcers, tokens and punishers were the various methods used in the program. Parents were instructed to use consequences in a systematic manner to teach their children positive behaviors. Field testing of Becker's program included parents from low socioeconomic background, average parents and parents of children with special problems. All groups reported that the training program helped them to develop positive attitudes in interacting with their children.

Gullion (1971) developed a system of programmed instructions that were based on the social learning approach. This program was to be used under the direction of professionals and consisted of teaching parents
to systematically use behavior science techniques to increase desirable behaviors and extinguish undesirable behaviors in their children.

According to O'Dell (1976), the use of programmed texts is parsimonious in terms of time and effort, provide parents with a theoretical framework and produce a general increase in the magnitude of treatment effects.

Another instructional coaching technique that has been used by various investigators to train parents while they interact with their children is cueing. This technique has been used by Zeilberger, Sampen, and Sloane (1968); Wahler (1969); Krapfl, Bry & Nawas (1969); and Stumphauzer (1971). The Bug-in-the-ear appears to be the most reliable of these devices. The Bug-in-the-ear sound system is a feedback system. It enables trainers to communicate with parents as they interact with their children. This procedure is usually conducted in a laboratory or clinical program and provides immediate feedback to the parents on training behaviors.

Instructional coaching when combined with feedback can be extremely productive and efficient in both individual and group training programs.
Behavioral Rehearsal

Behavioral rehearsal consists of having the parent actually engage in the activity or task in other environments or situations than those in which they will be expected to perform (Goodman, 1975). It is one of the most successful techniques. It has been used successfully by Gardner (1972) to evaluate the effectiveness of role-playing and lecture when teaching behavior modification techniques. Benson and Ross (1972) trained parents through introductory workshops and social modeling. This program trained parents as aides to (1) provide more individualized instruction and (2) to prepare parents to work with their children at home.

Modeling often occurs spontaneously when working with parents, but systematic and sequential demonstrations by the teacher followed by parents modeling the teacher's behavior while the teacher observes is probably more reliable in establishing specific response in the parents' behavioral repertoire.

Researchers (Nay, 1975; Glogower & Sloop, 1976) are beginning to investigate systematically instructional techniques for parent training.
Nay (1975) investigated the effectiveness of verbal instruction, written presentations, modeling and role-playing in teaching time-out procedures. The subjects in this study were randomly assigned to one of the four above conditions. Seventy-seven mothers received the treatment whereby identical information regarding the concept of time-out were constructed for the four conditions. The study concluded that each of the techniques were superior to a no-treatment control. No significant difference between teaching methods when a question-answer assessment of knowledge of methodology was the criterion. An implication from this study is that emphasis should be placed on more behavioral and less verbal training.

In a study conducted by Glogower and Sloop (1976), combination and specific parent training was investigated to determine whether specific parent training would allow for greater success in home programs. The combination training group sessions were devoted to teaching general principles of behavior modification during the first four sessions of a ten-week course. During the remaining sessions the group received training that dealt with
specific target behaviors. The specific parent training group concentrated on training parents to deal with specific target behaviors. The results reported significant differences between the two groups. Mothers in the combination group improved significantly more than the specific training group on several measures. Follow-up data revealed that combination group mothers successfully implemented additional programs after the termination of the training programs while only one mother in the specific training group reported doing so.

The literature reviewed in this section suggests that various techniques have been successfully used by parent trainers to aid parents in acquiring skills for working with their own or other children within or outside educational settings.

Maintenance of Interest and Involvement

Although parental education, when properly conducted, may assure that parents acquire relevant skills and information, parent training programs have not been without problems. The literature suggests several problem areas. These are motivation, irregular attendance,
completion of assignments, and generalization and training to other situations. In this section of the review, studies are presented where such problems are discussed and remedial tactics employed.

Foremost among the problems is motivation. Goldstein and Lanyon (1971) have stated that parents must be highly motivated to spend the necessary amount of time each day in training. Numerous other investigators (Patterson, 1967; Patterson & Reid, 1970; Mira, 1970; Pine, 1970; Salzinger, et al., 1970; Morris, 1973; Gardner, 1974; Patterson, 1974) have discussed the problems associated with training parents.

In a parent training program for parents of brain injured children, Salzinger, et al. (1970) reported that during a two-year period only seventy-two families responded to five hundred invitations with only twenty-five families responding the first year and forty-seven families responding the second year. Invitations were also sent by Pine (1970). He received only one hundred thirty of the twelve thousand invitations to parents to join a parent training program. The invitations were
sent through the school system. Similarly, Morris (1973) sent letters describing free training to eighty sets of parents. Of the eighty sets of parents contacted, only forty-one sets of parents agreed to participate.

Attendance problems have been reported by Cohen (1970), Eyberg and Johnson (1974), Mira (1970), Morrey (1970) and Patterson and his associates (1967). Parental attendance at meetings is not guaranteed even when parents agree to participate in training programs. Eyberg and Johnson reported that twenty-six percent of their sample terminated contact on their own following intake but before treatment.

Patterson, et al. (1967) suggested lack of parent enthusiasm as a possible variable for irregular attendance. They reported that during the first three weeks of their experiment, mothers found frequent occasions for being absent when they wished to make observations. The absentee rate decreased when the program began to produce noticeable behavior change in their children.

Mira (1970) has reported that some parents never attend meetings though they sign up for sessions. This
finding is supported by Morris (1973) who found that up to fifty percent of the parents were absent from at least one parent group meeting, and that the average weekly absentee level was approximately twenty percent per meeting. Similar findings were also reported by Galloway and Galloway (1970) who reported that of the twenty-seven families having children in a day care center, nine families either did not attend meetings or attended three or fewer of the parent group meetings.

Other reported attendance problems are irregular attendance and cancellation of individual sessions. Mira (1970) reported that although requirements were not stringent, of the one hundred thirteen referrals, eighteen parents never came to a meeting. Cohen (1970) reported that attendance dropped over fifty percent during the phase of training in which counting and graphing were taught.

Somewhat related to attendance problems is assignment completion. Most parent training programs are structured and require parents to complete weekly assignments, such as data collection, graphing and writing treatment plans to facilitate skill development. Comple-
tion of these assignments also affect the child's progress (Morris, 1973). Investigators (Morris, 1973; Patterson & Reid, 1972; Shearer & Shearer, 1972) have turned their attention to these disruptive factors of parent training programs.

According to Morris (1973), failure to complete assignments, collect data and write treatment plans produce different levels of knowledge among trainees, present problems of scheduling review sessions, and may hinder the child's progress. Shearer and Shearer (1970) reported that during the first month of their project, thirty percent of the parents did not record child behaviors. Efforts to get one family to complete assignments were discussed by Patterson and Reid (1970). The parents did not read the programmed text nor listen to the programmed tape constructed to take its place. After having been given detailed instructions on data collection, no recordings were made until the behavior was "hand" shaped during three one-hour sessions.

Several possible solutions to motivational problems have been suggested by a number of researchers (Conway & Butcher, 1976; Eyberg & Johnson, 1974; Gardner,
1974; Mira, 1970; Patterson, et al, 1967; Pine, 1971). Patterson, et al., suggested maintaining motivation by allowing parents to subtract one dollar from their clinic fee each time they recorded and consequted appropriate child behaviors. This fee manipulation technique was first introduced by Tighe and Elliot (1968), and has proven to be the most popular of the techniques for reinforcing parental behavior reported in the literature.

The fee manipulation system requires parents to deposit an amount of money which is returned to them contingent upon fulfillment of the program's requirements. Contingent upon certain prescribed behaviors, clients are reinforced with their own money or if they fail to meet the requirements, lose it.

Pine (1971) developed a contingency contract with parents which provided consequences for parent attendance, punctuality and participation. The emission of specific parent responses enabled the parents to earn back part of their clinic fee. The fee manipulation technique has been reported as effective in reducing such problem behaviors as smoking (Tighe & Elliot, 1968; Winnet, 1971). Similar contingencies involving money
have been used by other investigators (Walder, et al., 1967; Kovitz, 1976).

Conway and Butcher (1976) suggest that the controlling factor for maintenance of parent behavior during training and after program completion is one of reinforcement control. When initiation and maintenance of supportive parental behavior is largely controlled by the therapist, parental behavior change is seen as avoidance behavior and therapist control primarily negatively reinforcing (Conway & Butcher, 1976). For example, Reid and Hendricks (1973) reported a case in which the father implemented the program to keep the therapist from "bugging" him. Some parents have little invested in training programs and only may be involved through coercion by the courts and schools (Conway & Butcher, 1976). There is little reason to expect maintenance of parent behavior change when the program is terminated.

Fee manipulations, consultation time with the therapist, and contingent teaching are the solutions that have been incorporated into parent training programs with success.

Mira (1970) used therapist time as a contingency. Access to therapist time was contingent upon parental
records of data collection. Consequation for three missed appointment times before effecting a behavior change was dismissal from the parent training program. Patterson (1971) made access to one hour of therapist time contingent upon reading the textbook on social learning in the Oregon training program. Parents were enrolled in group classes contingent upon several days of "consistently good" data following instructions in observing and recording child behaviors.

Some researchers (Kovitz, 1976; Rinn and associates, 1975) have used a combination of a contingency contract and fee manipulation. This procedure is known as a "deposit contract system". In these programs, requirements that must be fulfilled by clients to have a portion of their initial deposit returned are listed by the group leaders or therapists. For example, Rinn and his associates (1975) required parents to pay an initial enrollment fee of Thirty Dollars ($30.00). Ten Dollars ($10.00) of the enrollment fee was to be refunded if parents attended classes, were punctual, completed homework assignments, and produced changes in the targeted behaviors. These contingencies were specified and
presented to parents in a contract which the parents were
requested to sign during the first class session. Completed assignments, which consisted of program sheets,
were required for admission to subsequent class sessions.
Parents were randomly assigned to one of two treatment
conditions at program entry. The treatment conditions
were contingent group (reimbursement contingent upon
attendance and project completion) and non-contingent
group (reimbursement not contingent upon attendance and
project completion). The treatment outcome indicated
that the contingent group attended significantly more
sessions and completed significantly more projects than
the non-contingent group. Similar results have also
been reported by Hirsh and Walder (1969), Eyberg and

In the Kovitz (1976) study, parents signed a
contingency contract which allowed them to earn back
Forty-Eight Dollars ($48.00) of the Fifty Dollar ($50.00)
fee. Parental behaviors and monetary consequences were
specified in the contract as follows: attendance—Three
Dollars ($3.00) per week refunded if both parents at-
tended (One Dollar [$1.00] if only one parent attended);
data collection—Two Dollars ($2.00) per week refund; two reliability observations per week—Two Dollars ($2.00) per week refunded. This study reported extremely regular attendance for all sessions for both individual and group conditions with ninety-nine percent assignment completion.

Pine (1971) has also used a contingency contract with monetary consequences to increase parental performance. He developed a contingency contract with parents which consequated attendance, punctuality and participation. The parents were able to earn back part of their clinic fee for specified responses. The contract and monetary consequation resulted in an increase in performance.

Fee manipulations, consultation time with the therapist and contingent teaching may be difficult to manage within the confines of public institutions such as elementary and secondary schools which may wish to offer parent training as a service.

One motivational system that has received considerable attention is the token economy system. The "token economy" has been used in parent training pro-
grams to increase motivation (Pine & Munro, 1970), and to increase job performance of house parents (Pommer & Streedbeck, 1974). Parents have also been trained to use the token system in the home (Becker, 1971; Christophersen, et al., 1972; Hall, 1972; Thorne, Tharp & Wetzel, 1967).

Pine and Munro (1970) investigated a token system in a group parent training program with twenty-eight parents of children labeled autistic, brain damaged, emotionally disturbed, psychotic or slow learners. The dependent measures in this study were attendance, punctuality, assignment completion, and hand raising. The parents were assigned to two training groups that attended ten two-hour sessions over a five-week period. The parents in the lecture and demonstration group (Group I) were compared with parents in a lecture group where tokens were employed (Group II). The targeted behaviors of attendance, punctuality, assignment completion, and hand raising were reinforced with poker chips worth one cent each. A response cost contingency was used when parents were tardy and/or failed to complete assignments. These
procedures were implemented with Group II at the initial meeting. Group I was exposed to token reinforcement during sessions seven and eight. Hand raising, attending behavior and asking questions were intermittently reinforced during session seven. During session eight, tokens were replaced with pennies for attending and asking questions and nickels for hand raising. The token program was discontinued for the remaining sessions. In Group II, hand raising was placed on extinction during session seven. In session eight, a response cost contingency was implemented for hand raising. Results indicated that attendance, punctuality and hand raising were significantly higher for the contingency-managed group. The mean scores were: contingency-managed group: $\bar{x} = 76.9$ percent versus 59.7 percent for attendance, $\bar{x} = 86.7$ percent versus 44.9 percent for punctuality, and $\bar{x} = 9.7$ percent versus 3.7 percent for hand raising.

Hand raising which had received reinforcement during sessions three through six increased during extinction for Group II and decreased markedly when the response cost contingency was implemented. Hand
raising for Group I did not increase when reinforced with tokens during session seven. However, hand raising increased markedly when tokens were replaced with nickels.

In a study by Pommer and Streedbeck (1974), a token program was used with nine house parents of children with severe maladaptive behaviors. The residential treatment facility was designed to operate as much like a family as possible. The targeted behavior was increased job performance with the dependent measures being jobs to be done (clean dishwasher, repair toaster, buy new shoes for Wilhemenia, etc.), and specific procedures for each child (give Douglas Edward allergy medicine, begin teaching Suzanna how to brush her teeth on Monday, etc.). Baseline measures indicated that the house parents performed an average of forty-two percent of assigned jobs and instituted forty percent of the planned procedures. A reversal design was used to determine the effectiveness of public notices and job slips (tokens worth $1.00). The public notice phase lasted for six weeks. During this phase charts were
posted on a board itemizing each staff member's duties. Completed jobs rose to seventy-seven percent, however, the average percent over the first three weeks was eighty-six percent. The percentage dropped to sixty-four percent during the second three weeks. Implemented treatment procedures increased to seventy-seven percent but showed the same downward trend. This average for the first three weeks was eighty-four percent but declined to sixty-seven percent for the final three weeks. A gradual increase in performance over the six weeks to ninety percent job completion and eighty-five percent new procedures implemented was obtained when job slips (tokens worth $1.00) were added. Both targeted behaviors decreased during a three week reversal. The results indicated that reinstating both public notices and job slips increased staff performance to its highest levels within one week. Both target behaviors rose to ninety-three percent.

The Pine and Munro (1970) study is the only one that has used tokens in a parent training program that directly involved parent behavior as the target. However, parents have been taught to use tokens with their
own children (Becker, 1971; Christophersen, et al., 1972; Hall, 1972; Thorne, Tharp & Wetzel, 1967). Token programs have also been employed in a variety of settings, such as: an adjustment room (O'Leary & Becker, 1967); a remedial classroom (Wolf, Giles & Hall, 1968); normal classrooms (McLaughlin & Malaby, 1972); campus bus (Everett, Hayward & Meyers, 1974); and correctional institutions (Milan & McKee, 1974).

The diversity of token programs is evidence of the effectiveness of token procedures in altering a wide range of responses (Kazdin, 1977). The advantages of using a token reinforcement system is that it provides for individual differences in selecting reinforcers. This system permits tokens to be given immediately and easily while providing a built-in schedule of increasing the number of responses required for fewer tokens (Becker, 1971).

Thorne, Tharp and Wetzel (1967) taught parents how to use a token reinforcement system in their home. A juvenile court had recommended the behavior clinic to help the parents of a seventh grade boy in eliminating stealing and other deviant behaviors. Thorne,
et al., taught parents how to make rewards contingent upon desired behaviors. Becker (1971) taught a mother to use token reinforcement procedures to decrease fights between her four boys. Another mother was taught to use the token-point system to eliminate thumbsucking in her daughter (Becker, 1971).

Another investigation that has demonstrated the effectiveness of teaching parents to use tokens in the home was the one implemented by Christophersen, et al. (1972). They reported training a family with three children to use a token reinforcement program to increase desirable behaviors such as daily chores, and decrease undesirable behaviors such as bickering, bedtime horseplay and whining. The children could earn or lose points which could be exchanged for certain privileges. Records were kept to measure the frequency of the behavior before and after implementation of the token system.

The studies illustrating token reinforcement systems have demonstrated the effectiveness of token economics in changing behaviors. Although token systems have not been used frequently in parent education
programs they may prove to be an ideal system for changing parent behaviors and eliminate some of the problems that parent trainers are experiencing in parent training programs.

Incentive systems have been criticized by Gardner (1974). He stated that the use of incentive systems with parents carries with it the implicit assumption that parents are not really interested in assisting their children. His concern centered around parental behaviors after the incentive system was withdrawn. Successful intervention can be dampened if maintenance and generalization do not occur.

Behavior analysts (Baer, Wolf & Risley, 1968; Stokes & Baer, 1977) have recognized the generalization and maintenance problem and their role in treatment effectiveness. They have insisted that generalization is not automatically accomplished. The point was explicitly stated by Baer, et al. (1968) "...generalization should be programmed, rather than expected or lamented" (p. 97); and Stokes and Baer (1977):
Perhaps the most pragmatic orientation for behavior analysts is to assume that generalization does not occur except through some form of programming. . . .behavioral research and practice should act as if there was no such animal as "free" generalization--as if generalization never occurs "naturally", but always requires programming. (p. 365)

Thus, intervention alone will not assure the generalization and maintenance of newly acquired skills.

Patterson and Reid (1970) attempted to program generalization by training children to be more reinforcing to their parents. The reinforcement from the children was to serve as a reinforcement pattern to maintain parental behaviors.

Although one cannot ignore the concerns expressed by Gardner (1974), conseguation of appropriate parent behaviors in parent training programs (attendance, punctuality, and assignment completion) should occur to insure the occurrence of these behaviors.

The literature reviewed in this section provide empirical evidence that motivation, irregular attendance, and completion of assignments are indeed problems in parent training programs. Attempts to alleviate these
problems were demonstrated by researchers by using contingent reinforcement. A variety of incentive systems were used. The systems that appeared to be more effective were those where monetary rewards were used to occasion appropriate parent behavior.

Games as Instructional Tools

Educators have a challenging job ahead of them. They must bring together factors which affect both the educator and parent in viewing learning-problem children. They must reach and teach parents information that will help them meet the needs of their handicapped children. This right was secured with the passage of Public Law 94-142. Fanning (1977) states that the regulations for implementation confirm the parents' rights to be an integral part in their children's education and to provide an impetus for professionals to help parents in their role as teachers.

A general consensus among educators and investigators (Patterson, 1967; Patterson & Reid, 1970; Patterson, 1974; Mira, 1970; Salzinger, et al., 1970; Goldstein & Lanyon, 1971; Pine, 1970; Morris, 1973;
Gardner, 1974; Cohen, 1970; Galloway & Galloway, 1970) is that many parents in parent training programs have two fundamental deficiencies which are motivation and attendance. One procedure, perhaps, which can be used to alleviate these problems and/or stimulate and motivate parents is an educational game.

From 1968 to 1979, the use of instructional games has increased at all levels from preschool to post graduate classrooms. For example, games have been used in teaching nursing skills (Smith, 1968) and in biology classes (Farron, 1970). Games helped to increase the vocabularies of all students in a freshman English class at the University of Arizona (Ryan, 1968). There is a corresponding increase in the use of games with handicapped children. The use of instructional games in special education goes further back in history than their use in regular education (Fink, Sitko, Semmel & Shuster, 1971).

Finch (1978) states that different disciplines use games to denote various points of view. Lay persons use the term "game" to refer to recreational activities; the military and businessmen to logistics and industrial
strategies; social workers to rehabilitative devices; anthropologists to cultural forms; psychiatrists to diagnostic procedures; behavioral scientists to research instruments; and educators to instructional tools or learning aids (Avedon & Smith, 1971). In all cases, games consist of repeatable patterns, opposition, rules and outcomes (Avedon & Smith, 1971).

An educational game is a game developed for learning in which players must use clear and agreed upon principles of a subject or discipline (Gordon, 1972). Carlson (1969, p. 24) defined a game as "any contest played according to rules and decided by skill, strength, or apparent luck." A game usually requires the players to compete among themselves to obtain certain limited resources, and may involve physical and/or mental competition according to specified rules (Avedon & Smith, 1971).

A player may not always compete with other players in the game. Some games require an individual to compete with himself or with an external force (such as chance or criterion such as time limits). To do
this requires decision-making and constant decision-making should result in dynamic training experiences for the student (Shubik, 1964).

Educational games offer great promise of furthering change. Not only are they fun, but they require that all players share in making decisions throughout the game (Brown, 1977). They provide opportunities for intellectual success, creativity, problem solving and challenging experiences at the learner's level (Kennedy & Michon, 1973). Buchler and Nutini (1969) suggest that educational games constitute a virtually untapped source for teaching all kinds of skills and behaviors through repeatable patterns.

A game may be a contest or a simulation where rules and the materials used in the game represent some real-life objects and processes (Avedon & Smith, 1971; Carlson, 1969). The player uses strategies, by means of simulation or make-believe, and make decisions in a realistic environment in order to obtain success (Carlson, 1969). When playing the game, a role in the pre-determined environment is assumed by the player in an attempt to out-perform the vagaries of chance. The
player attempts to win in spite of the surrounding challenges (Avedon & Smith, 1971; Carlson, 1969).

All games have a set of rules to control the behavior of players. Successful play of any game depends upon the acceptance of these controls by all players. Therefore, even in the most intensively competitive game, there is an element of cooperation in abiding by rules (Carlson, 1969). For the players, however, the object of the game is to win.

The use of games for teaching purposes is in a relatively early stage of development, and not all problems regarding their use have been solved. Gordon (1972) believed that "despite the many questions remaining, games promise to become powerful educational tools, when that happens learning may, in fact, prove to be child's play." (p. 16)

Games as tools of instruction can enhance learning at different levels and provide an opportunity to deal with complex situations in creative and concrete ways. In a game, a student can make mistakes in the presence of his peers without actually being penalized (Finch, 1978). Educational games are also
valuable because they are self-judging and motivating (Carlson, 1969).

Games are supportive of the current educational trends of increasing interaction between the student and curriculum materials and the student and his peers. Many educational settings are attempting to allow the learner to deal directly with instructional materials, with the teacher acting as aid, rather than judge. The fact that good educational games require students to share in making decisions while learning through play and active participation has been historically supported in the literature (Birt & Nichol, 1975).

Philosophers and educators such as Plato, Locke, Rousseau and Pestalozzi have contributed to the belief that games make a worthwhile contribution to one's intellectual development (Birt & Nichol, 1975). Plato's observation that one learns more efficiently through play, Locke's postulation on a sound mind and body, Rousseau's thoughts on wholesome physical activity in early childhood, and Pestalozzi's belief that after an enjoyable activity, children delve into their studies
with greater interest support the tenet that intellectual development is enhanced through play (Finch, 1978).

Contemporary researchers (Armstrong & Taylor, 1970; Avedon & Smith, 1971; Cratty, 1971; Kennedy & Michon, 1973; Finch, 1978) also report that games present an effective learning medium for the development of concepts in many academic areas at the elementary, secondary and university levels.

A primary question being asked today is, whether or not educational games, which often resemble entertainment games, can be employed for serious purposes in education settings. Staunch supporters of the gaming technique would be quick to answer yes. Most observers agreed that games do teach, but many researchers believe that what they teach and why are yet to be precisely measured. There have been, however, several repeated findings in research studies on the effectiveness of games.

Carlson (1969), Edwards (1971), Gordon (1972) and Shubik (1975) all reported that the major effectiveness of games is their ability to motivate. The word motivation means "stimulus to action" (Gordon, 1972, p. 21).
People usually prefer to act, to participate, to make things happen—in preference to being spectators or passive receivers in their world. Games provide learners the opportunity for active participation. Edwards (1971) tested the claim that games motivate students by asking participants in a business game if they felt they had done more work and were more interested in the course as a result of participation in the game. The researcher author concluded that in general the students felt that the game had stimulated their interest and motivated them to do more work. Gordon (1972) summarized many researchers' beliefs about gaming and motivation: "If educational games did nothing more than motivate students, that would be sufficient justification for playing them." (p. 19)

The literature suggests that students prefer games to other classroom activities (Cohen, 1970; Gordon, 1972; Seidner, 1976). This finding holds true for students from elementary school through high school. Seidner (1976) states that "not only do students report that they prefer gaming activities even when compared to other innovative teaching techniques, but behavioral
indicators indicate that they mean what they say."
(p. 236)

Cohen (1970) investigated the effects of a consumer game on the learning and attitudes of seventh graders. The students involved in the study were not highly motivated and displayed poor attitudes toward school. Results indicated that the students' behavior in school and their attendance records also improved during the time they used the game. The main reasons these students gave for preferring games to conventional teaching methods were that games (1) were more interesting and challenging, (2) involved more competition, (3) involved more cooperation, (4) made better use of their talents and abilities, and (5) were easier.

Few critics will deny that games are exciting, motivating, advantageous and spur enthusiasm. However, researchers point out that few of the investigations that have been made confirm that students learn from games what they could not have learned from traditional methods (Carlson, 1969; Gordon, 1972; Livingston, 1971). The fact that some students are more
motivated and enjoy the game technique more than conventional methods gives support to the use of games (Gordon, 1972).

According to Cratty (1971), the excitement that games provide can be utilized advantageously by teachers of all grades. As instructional devices, games provide variety in dealing with a particular topic, active participation in the learning process and repeated exposure without becoming bored (Kennedy & Michon, 1973).

Educators that adhere to the game approach as an instructional strategy believe that games can serve several purposes within an educational setting (Gordon, 1972; Kennedy & Michon, 1973; Seidner, 1976). Games may serve different purposes for different types of students. They may serve as motivation for students who have lost interest in a subject, provide another approach to a subject for a student who is having difficulty or inspire good students by giving them a change of action.

Seidner (1976) described the studies conducted by the John Hopkins Games Program. These studies
provided convincing evidence that participation in educational games can increase cognitive skills. Students participating in the math game "Equation" demonstrated a significantly greater increase in arithmetic reasoning than the control group. Arithmetic reasoning increased 1.3 years in the experimental group and 0.6 years in the control group. The Hopkins Games Program also presented evidence that better retention may result from action-oriented learning environments of which games would be a type. The dominate reason given by gaming practitioners and players who claim that educational games are a useful way to learn and organize facts is that "a game usually provides a handy scheme for supplying associative links between facts and as such it may aid both learning and remembering" (Shubik, 1975, p. 30).

Cohen, Williams, Kuehn and Winters (1964) reported observable changes in students who participated in playing educational or strategy games. The students were quicker and more sophisticated about abstracting and organizing and using information from a complex and diffuse environment.
Reinforcement from educational games generally comes from one of three sources: (1) the game itself, (2) peers who themselves are a part of the educational context, and (3) post-game discussion. In educational games, "Knowledge of results is usually immediate and repeated plays reinforce learning" (Seidner, 1976, p. 231). Since many educators strive to reinforce learning, it appears that games would be a viable tool for instruction.

Emphasis should be placed on "debriefing" or post-play discussion and evaluation when using educational games (Avedon & Smith, 1971; Coleman, 1967). Debriefing is usually led by the teacher and provides an opportunity for students to generalize from the questions raised by the game.

In summary, the literature has surfaced several modes and reasons for using educational games. While all games help players learn something new, an educational game goes about it with certain deliberations. However, no researcher suggested that games serve as the only instructional aid or method of instructing.
Games have been found to be most effective when used along with other media, not as a supplement but as an integral part of the program (Gordon, 1972; Klietsch, 1968). This researcher concluded that there is no question that games, when used properly, can have value in an educational setting. Since games increase motivation, spur enthusiasm and provide self-directed learning, they may be a viable method for teaching parents the individualized education plan.

Summary of Relevant Literature

In the past decade and a half (1964-1979), recognition of the need for presenting parents with new kinds of knowledge and skills has led to the development of parent training techniques, programs and workshops. This interest in parent education has signaled the recognition of increased parental demands to be actively involved in the process of educating and socializing their children. Special education in particular has come to exemplify parent involvement.
Professionals recognize that parents should and need to be involved in the education of their children. The evidence to emphasize the need for parental involvement comes from research, the supportive roles that parents can actually play and the passage of the Education for All Handicapped Childrens Act (Public Law 94-142) which mandates parental involvement in the education of their exceptional children.

There are a number of models available today to meet the rising demands for parent training. These models tend to follow one of three primary frameworks. They are behavioral, psychological insight and experiential.

The behavioral approach involves teaching parents basic terminology, principles of reinforcement, observation, measurement and consequence procedures. Parents are taught how to apply these procedures to their specific child-rearing situation. Following one or a combination of training procedures, the parent trainer usually serves as a consultant to the parents in applying what they have learned to specific behaviors they want to change.
Research with families has shown parents to be successful and effective change agents for their children under several parental delivery systems in both individual and group family programs. While several of the studies reported here are primarily concerned with deviant social behavior, a number of them have as their focus improved academic performance.

The psychological insight parent training approach, by contrast, involves training built around the client-centered concepts developed by Rogers (1951). This approach focuses on developing a comprehension and understanding of why children behave as they do. It emphasizes analysis of the interaction between parent and child.

The final parent training approach discussed in this review is the experiential approach. While this approach also focuses on interaction between parent and child, its major thrust has been with early childhood and preschool programs. Parents are taught by providing learning experience through modeling and directed structured activities.
The literature reviewed indicate that parent training programs for normal and exceptional children exemplify comprehensive and innovative systems for parent education.

Investigations into variables which contribute to success in parent training tend to focus on education level, socioeconomic status, and measure of hypothetical constructs such as anxiety and depression. There were no definite conclusions regarding the relationship between education level, socioeconomic status, hypothetical constructs and success in parent training programs. However, the literature does suggest that success is related to verbal ability in those programs whose training goals are at a generalist level. The relationship between socioeconomic status and outcome were dependent upon the type of training program, and self-reported presence of depression was found to be negatively related to success in behavior change programs.

Various techniques have been used successfully by parent trainers to aid parents in acquiring skills
for working within or outside educational settings. These techniques can be divided into two broad categories—instructional coaching and behavior rehearsals. Instructional coaching is probably the most generally utilized technique in parent training programs.

The literature suggests several problem areas in maintenance of interest and involvement in programs. These are motivation, irregular attendance, completion of assignments, and generalization and training to other situations. These problems resulted in investigation of contingency-managed parent training where some form of fee manipulation was used to consequate parent behavior. The training agreements were formalized with contingency contracts. The report of the use of a token reinforcement system in parent training was relatively expensive. It is not clear how such contingencies may be managed within the confines of a public institution that may wish to offer parent training as a service.

One procedure, perhaps, that can be used to alleviate problems and help parents gain knowledge about
the individual education plan is to teach the needed skills through the use of an educational game.

Educational games are becoming recognized as a channel for presenting concepts and stimulating interest in an enjoyable format. As instructional devices, games can increase motivation, stimulate interest, spur enthusiasm, provide variety in dealing with a particular topic, reinforce learning through repeated play and increase interaction between the student and curriculum materials. According to Cratty (1971), games also socialize participants of diverse ability levels, provide challenging experiences and offer an opportunity to have fun. It seems highly possible that an educational game would also provide an exciting and meaningful way for parents to learn a component of Public Law 94-142 (the individual education plan).

The present experiment investigated the effectiveness of an educational game to teach the individualized education plan to parents. The content consisted of an educational game written in a programmed instructional format.
CHAPTER III
RESEARCH METHODOLOGY AND PROCEDURES

This chapter describes the specific methodology and procedures that were used to investigate the effectiveness of an educational game in teaching a component of Public Law 94-142 (the individualized education plan) to parents. A description of the subjects, setting, materials, measurement procedures and research design are described in the first section. Baseline, intervention strategy and interobserver agreement are described under the procedural heading.

Subjects
To identify subjects for this study, the researcher contacted agencies that provide services to handicapped and non-handicapped children and parents such as the Nisonger Center, the Youth Services Bureau and the Statewide Parent Information Network (SPIN). These agencies were asked to provide the names of parents that might be interested in participating in a parent training program-study dealing with the Educa-
tion for All Handicapped Children Act (Public Law 94-142).

Responses from the contacted agencies were as follows: the parents involved with the Nisonger Center had received prior training on this law; SPIN had distributed booklets, pamphlets and other information to parents that had contacted the agency; and the Youth Services Bureau, which did not have any scheduled parent training programs during the summer months, identified several prospective parents-subjects.

Failing to gain a sufficient number of parents through these agencies, the researcher canvassed the homes in the University City area to identify additional subjects. This approach proved to be quite successful, with a larger number of parents indicating a lack of knowledge and an interest in Public Law 94-142. Of the homes canvassed, eighteen parents indicated an interest and willingness to participate in this study on the effectiveness of an educational game in teaching a component of this law (the individualized education plan).
The researcher contacted the parents recommended by the Youth Services Bureau by telephone to ascertain their willingness to participate in an experiment to test the effectiveness of an educational game and gain information about Public Law 94-142. From this group of parents identified by the Youth Services Bureau, seven indicated a willingness to participate in this study.

During the initial interview, the parents were asked if they were familiar with or had ever participated in any workshops dealing with Public Law 94-142. If the parents' response was yes, the researcher informed them that their prior knowledge about the law would disqualify them for this experiment. The researcher thanked the parent for this expressed interest and cooperation. The parent responding no, was asked by the researcher if he or she would be willing to take a pre-test to determine the level of their present knowledge about the law.

From this initial interview information was ascertained on the parent's educational background, the number of children and their ages. The parent was
asked to indicate if any child in the family had been diagnosed as handicapped. Possible convenient meeting times and places were discussed and telephone contact times were arranged for further communication.

The researcher met with the participating parents in their homes at their convenience to administer the pre-test. The pre-test consisted of multiple choice, short-answer, and true or false questions about the contents of an individualized education plan, the time line for developing the IEP, required participants in the IEP meetings, and procedural safeguards that must occur before, during and after placement to assure that due process has occurred. The pre-test was given to twenty-five parents of handicapped and non-handicapped children.

The researcher scored the pre-test. A parent with a score of forty or below on this one hundred point pre-test was considered a potential subject. Of the twenty-five parents tested, twelve subjects were selected to participate in the experiment. The twelve subjects were selected according to the following criteria:
1. Score on pre-test.

2. Ability to work out a convenient schedule for the purposes of this study.

3. Expressed interest in training via this study.

4. No former participation in programs or workshops concerning Public Law 94-142.

5. Number of handicapped children.

The researcher contacted the parents not selected for the study by telephone and informed them that they were not selected because they did not meet one or more of the aforementioned criteria and the need for a limited number of subjects. The researcher thanked each of the parents for their cooperation and expressed interest in the study.

The twelve participating parents were designated subjects A - L and assigned to one of three experimental units with four parents in each. Unit I was composed of subjects A, B, C, and D; Unit II, subjects E, F, G and H;
and Unit III, subjects I, J., K and L. The unit assignment was based on the proximity of the subjects to each other and convenient meeting times for each of the parents. Parents residing in the same household were assigned to the same unit. The subjects included three married couples, two single mothers and four married mothers between the ages of 25 and 31. See Table 1 for demographic information about subjects. The subjects met with the researcher twice a week for one hour each session at their convenience in the home of one of the unit members.

Setting

Experimental sessions were conducted in the family room in the homes of three of the subjects. Each experimental unit met at the same site for each session. Experimental Unit I met in the family room of the home of subject D. The room measured approximately 5.5 meters by 4.1 meters and was furnished with a couch along the east wall, two large chairs (one along the north wall and the other in front of the window on the south side of the house), one straight back chair to accommodate one of the subjects, a cocktail table located in front of the couch, two lamp tables, two lampes, a television set and several plants. During
Table I
Demographic Information About the Twelve Subjects

<table>
<thead>
<tr>
<th>UNIT</th>
<th>SUBJECTS</th>
<th>SEX</th>
<th>RACE</th>
<th>MARITAL STATUS</th>
<th>HIGHEST GRADE COMPLETED</th>
<th>OCCUPATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>A</td>
<td>F</td>
<td>White</td>
<td>Married</td>
<td>16</td>
<td>Teacher</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>N</td>
<td>White</td>
<td>Married</td>
<td>19</td>
<td>Student</td>
</tr>
<tr>
<td>*</td>
<td>C</td>
<td>F</td>
<td>White</td>
<td>Married</td>
<td>12</td>
<td>Homemaker</td>
</tr>
<tr>
<td>D</td>
<td>F</td>
<td>White</td>
<td>Married</td>
<td>13</td>
<td>Homemaker</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>E</td>
<td>F</td>
<td>White</td>
<td>Married</td>
<td>13</td>
<td>Homemaker</td>
</tr>
<tr>
<td>F</td>
<td>M</td>
<td>White</td>
<td>Married</td>
<td>12</td>
<td>Carpenter</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>F</td>
<td>White</td>
<td>Married</td>
<td>16</td>
<td>Homemaker</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>M</td>
<td>White</td>
<td>Married</td>
<td>16</td>
<td>Teacher</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>* I</td>
<td>F</td>
<td>Black</td>
<td>Married</td>
<td>13</td>
<td>Clerk</td>
</tr>
<tr>
<td>J</td>
<td>F</td>
<td>Black</td>
<td>Married</td>
<td>16</td>
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<td></td>
</tr>
<tr>
<td>*</td>
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<td>F</td>
<td>White</td>
<td>Divorced</td>
<td>13</td>
<td>Keypuncher</td>
</tr>
<tr>
<td>L</td>
<td>F</td>
<td>Black</td>
<td>Single</td>
<td>14</td>
<td>Library Assistant</td>
<td></td>
</tr>
</tbody>
</table>

* Parent of child that has been diagnosed as handicapped.

Subjects A and B; E and F; and G and H are married couples.
each session, the subjects were seated on the couch and the straight back chair facing the game boards which were displayed on portable easels. Team members were seated next to each other.

Experimental Unit II met in the family room of subjects E and F. The room measured approximately 4.9 meters by 5.6 meters and was furnished with a couch along the north wall, an entertainment center along the west wall, one lounger and hassock, a large chair, a cocktail table, two lamp tables, two lamps and a television set. The seating arrangements for Unit II were the same as the one described for Unit I.

Experimental Unit III met in the family room of subject L. The room measured 4.1 meters by 5.0 meters and was furnished with a couch, a cocktail table, one large chair, one pole lamp, one lamp table, one table lamp, a television set and a straight back chair to accommodate one of the subjects. Seating arrangements for Unit III were the same as the one described for Unit I.

Materials

The game used in this study is an original game developed by the researcher. Its objective was to
teach the contents of an individualized education plan, information about the participants in an IEP conference and timeliness for IEP development.

The game consisted of a player board measuring approximately 80 centimeters by 100 centimeters. The player board has six levels (five levels with five squares on each level ranging in value from 10 to 50 points, and one bonus level with three squares worth 60, 80, and 100 points); one caller board of the same design with pockets to hold the question cards of corresponding value; 56 color-coded question cards; two easels; one clock or timer; play money (optional); 12 straws (six long and six short); score pads; pencils; and 56 blocking cards. The 56 blocking cards (hereafter called blocks) are matching in point value to the squares on the player board. Each block is coded on the back side with a red or green square. The questions are color-coded as follows: white = 10 points; yellow = 20 points; light orange = 30 points; dark orange = 40 points; red = 50 points; light blue = 60 points; dark blue = 80 points; and green = 100 points. The point value determined the difficulty of each question.
The player board was constructed of four-ply poster board, colored construction paper and wire hangers. The caller board was constructed of four-ply poster board and pockets to hold the question cards. The charge and block cards were constructed to two-ply poster board (measuring 10 centimeters by 15 centimeters) with green construction paper on the charge cards and red construction paper on the block cards. Questions were placed on index cards and placed in the pockets on the caller board.

The game was called block because the object of the game was to earn points by answering questions or causing the opponent to lose points by blocking his opportunity to answer the question.

Each question contained contextual clues similar to the ones used in programmed instruction. Some examples of the type of questions asked are:

1. Due process is the general term used to describe the procedure by which rights of the handicapped child and his parents are protected. Every handicapped child and his parents are entitled to __________;
2. Multifactored evaluation is a diagnostic or testing procedure used to determine whether a child is handicapped. It is an evaluation of more than one area of the child's performance. Each child that has been diagnosed has had more than one ____________________;

3. An IEP is the written plan for the education of each handicapped child. Every child in the same special education class should have the same IEP. (True or False?).

The subjects were requested to respond to the questions. The researcher had total control of the question cards, read all the questions and indicated whether or not an answer was correct.
Personal Data Form

A personal data form (Appendix G) was used to collect information about the subjects. The information obtained was their name, address, telephone number, educational level, names and ages of children, and the number of children diagnosed as handicapped. Pre-post test scores were also recorded on this form.

Questionnaire

Additional data for this study was taken from a questionnaire (Appendix H) which was designed to ask subjects to rate the game's content and instructional value. Subjects were also given an opportunity to respond to what they liked best and least about the game.

Measurement Procedures

The Pre/Post Comprehension Test (the principle dependent measure) of knowledge of an individualized education plan was administered to parents that expressed an interest in participating in the study. The test consisted of sixteen multiple choice questions,
seven short answer questions and three true or false questions. The questions were designed to test parental knowledge pertaining to the required contents of an IEP, timeliness for IEP development and the required participants in an IEP conference. Each question was worth four points. The maximum number of points that could be obtained on the test was one hundred. The twenty-five item Pre/Post Comprehension Test was readministered at the last meeting to determine whether parental knowledge level of an individualized education plan had increased after treatment.

Three other pre-post test measures were used in this investigation. They were labeled Pre/Post Test Forms A, B and C (Appendix B). Each test consisted of ten questions that had a corresponding value of ten points. These tests were designed to examine specific information that was presented in the game. Pretest Form A was administered to subjects A - D at the beginning of their first session. Subjects E - L received Pretest Form A after the first session and before session three. Subjects A - D did not receive another pretest during the study. Subjects E - H re-
ceived Pretest Form B at their first session. Subjects I - L received Pretest Form B after the third session and before session five. Subjects E - H did not receive another pretest. Subjects I - L received Pretest Form C at the fifth session. All pretests were administered before treatment.

Research Design

This study used a multiple baseline design (Baer, Wolf & Risley, 1968; Cooper, 1974) with three replications to evaluate the effectiveness of the original educational game. The dependent variable was response to test items that measured knowledge of an individual education plan.

Knowledge of an individualized education plan was assessed with pretests which served as baseline. Treatment then began on the contents of an individualized education plan by having subjects A - D play the game. No treatment was applied to the other subjects, thus leaving them in baseline conditions. After the game has been played, the test scores should increase.
A functional relationship between the dependent variable, score on post test items that measured parental knowledge of an individualized education plan, and the independent variable, performance in the game, was used to determine the effectiveness of the educational game.

A functional relationship is a lawful relationship between values of two variables. In behavior analysis, a dependent variable (behavior) and a given independent variable (intervention or procedure) are functionally related if the dependent variable changes systematically with changes in the value of the independent variable. For example, the effects of the educational game on parents' performance on the Pre/Post Comprehension Test, and Test Forms A, B, and C is demonstrated by improved performance on the test. Sequential intervention and improvement on tests across time as a convincing demonstration of the effectiveness of the treatment program.

PROCEDURES:

Baseline

Baseline measurement was taken in the form of pretest scores and was taken on all subjects. Subjects A - D took Pretest Form A for baseline followed by six sessions of treatment. Concomitantly, subjects E - H took Pretest Forms A and B for baseline followed by
four sessions of treatment. Subjects I - L took Pretest Forms A, B and C for baseline followed by four sessions of treatment.

Baseline began with a meeting for subjects A - D in which the experimental attempt to determine the effectiveness of the educational game was introduced, the purpose of the game was introduced and explained.

The subjects were seated facing the game boards which were displayed on portable easels. The researcher took from one to three minutes for some form of positive verbal interaction with the subjects by making statements such as the following: "I'm pleased that you've agreed to participate in this experiment." "I really appreciate the way you are giving your time to test the effectiveness of a new procedure." "Your concern for others is very evident tonight." "Are there any questions that you would like to ask me, or, are there any concerns that you have that you would like to discuss before we begin?" Following casual conversation, the experimenter read the following presentation to the subjects:
"This experiment is designed to test how well an educational game can teach you about a major component of Public Law 94-142. The component that will be taught is the individualized education plan. Tonight you will be administered a pre-test to determine what you already know. We will discuss the game rules, play the first phase of the game, and take another test. At the end of each session you will be administered a test. This experiment is scheduled to be completed within three to four weeks.

Are there any questions?"

The researcher answered questions only if they did not concern the actual game content or the items on the tests. Each subject took a pretest over the individualized education plan.

If subjects asked interpretations or for assistance, they were instructed to answer the questions to the best of their ability, leave the paper blank or answer
I don't know. After all subjects completed the pretest, they were thanked by the experimenter, the materials were collected and no feedback on the pretest was given.

Subjects E - L were contacted by the researcher individually or in small groups to take the Pretest Form A. Pretest Form B was administered to subjects E - H at their first treatment session. Subjects I - L were contacted individually to take Pretest Form B. Subjects I - L received Pretest Form C at their first treatment session.

When Experimental Unit I had obtained a post test score of eighty or above on Forms A, B or C and/or had completed two sessions, intervention was begun for Experimental Unit II. Experimental Unit III remained in baseline until Experimental Unit II had obtained a post test score of eighty and/or had completed two sessions.

**Intervention: Educational Game**

Following baseline data collection, an educational game designed to teach information about the individualized education plan was presented. During this procedure,
the caller board and player board were displayed on two easels in front of the four subjects. The four subjects were allowed to pair off into teams. The teams agreed on who would serve as captain and were assigned team names of red team and blue team. The team color assignment remained constant throughout the experiment.

The game was explained by the experimenter. "This game is designed to teach a component of Public Law 94-142. The component that will be taught is the individualized education plan. You have chosen a partner and have been assigned a team color. Now we will talk about how to play the game." The subjects were shown the charge and block cards. "The team that decides to become the chargers will try to get to the top of this board in five minutes and avoid as many blocks as possible. We will go through the game rules to be sure you understand how the game is played." The game rules were as follows:

**Game Procedures:**

1. The caller (researcher flipped a coin. One of the team captains called heads or tails as the researcher flipped the coin.
2. The team that won the toss of the coin started the game by indicating whether they would charge (answer questions) or block (set the player board with blocks).

3. The charging team left the room while the blocking team plotted their strategies and set the player board with blocks.

4. The blocking team filled the player board with the blocks by placing the color-coded side down. The blocking team was allowed two minutes to set the blocks.

5. The team was allowed a total of seven blocks. No more than three blocks were placed on any one of the first five levels. One block was placed on the bonus level. The blocks corresponded with the value of the squares on the board.
6. The caller placed the question cards in the pockets on the caller board according to their color code. After a question had been correctly answered, a new question of the same value was substituted.

7. When the blocks had been set and the questions arranged, the charging team resumed their position. The captain declared the team's readiness. The caller set the timer. The captain then indicated level and point value of questions starting with level one, and continued to the bonus level within the designated time.

8. The charging team attempted to avoid the blocks and answer one question on each level within five minutes. A question had to be answered on each level by either the charging team or the blocking team before preceding to
the next level. In the event that all of the questions on one level were either blocked or missed, the charging team moved up to the next level.

9. When the charging team was successful in avoiding blocks and answered a question correctly, they earned the point value for that question. After a correct answer, the team moved quickly to the next level until all questions were answered or the time expired.

10. When a question was answered incorrectly, the blocking team would then have the opportunity to answer the question correctly thus winning the points. If the blocking team failed to answer the question correctly, both teams would be supplied the answer by the researcher and the charging team would then call for
a different question on the same level.

11. When the question called by the charging team was blocked, the team would lose points equal to the value of that question.

12. When the team succeeded in answering all the questions or the time expired, the points were tallied. The teams would then change positions. The blocking team would become the chargers and the charging team would become the blockers.

13. Rounds two and three proceeded the same as round one.

14. The team trailing at the end of round two would decide if they wanted to charge or block in round three.

15. The team scoring the most points
at the end of round three was declared the winner.

The game was composed of three five-minute rounds. A team could win a round either by charging or blocking. The team winning the round was awarded 20 bonus points. The charging team could win the round by avoiding the blocks and correctly answering the most questions within five minutes. The blocking team could win the round by: (1) setting the blocks; (2) answering questions with the highest point value and (3) the charging team's failure to answer a question correctly on each level within five minutes.

The subjects were cautioned to listen carefully while the question was being read because the answer to the question was hidden in the question or enough information would be supplied for their team to provide the correct answer.

Following the playing of the game, the researcher administered one of the post tests. The tests were collected and no feedback was given as to the correctness of a response. The subjects were thanked for their participation and were asked to return for the next scheduled session of the game.
During sessions the post tests were administered in the following order: Posttest Form A, B, C, A, etc. Subjects were given a copy of the test, asked to circle the word post at the top of the test and to complete the test.

The treatment program for subjects E - H and I - L was identical to that administered to subjects A - D.

Interobserver Agreement: Dependent Variable

This experiment generated data in the form of a permanent product. The permanent products were a twenty-five item Pre/Post Comprehension Test (the principal dependent measure); three ten-item tests labeled forms A, B and C; and a written questionnaire. The permanent products were scored independently by two persons other than the researcher. The two scorers were not aware of each other's identity. They were designated as scorers one and two. Each scorer was provided with an answer key and a form (Appendix I) to correspond with the numbers on the tests. The scorers were asked to check the tests and return the tests and forms to the researcher. The answers to all questions
had to correspond to the answers specified on the answer key.

In scoring the test items, each answer was considered independently. A correct answer on the Pre/Post Comprehension Test had a value of four points. A correct answer on test forms A, B or C had a value of ten points. The subject's test score was recorded in the space indicated on the form.

The following formula was used to compute interobserver agreement:

\[
\frac{\text{Number of Agreements}}{\text{Number of Test Items}} \times 100 = \text{Percentage of Agreement}
\]

Agreement occurred when each scorer agreed on the presence or absence of an answer on the subject's paper. The criterion for average agreement was 100 percent. Whenever the percentage of agreement was less than 100 percent, the evaluator would recheck the parent's paper by comparing responses to the experimenter's answer sheet until 100 percent agreement was reached.
Interobserver Agreement: Independent Variable

Two observers were trained by the researcher to play the game in a one and one-half hour session. The observers were given copies of the game purpose, objectives and rules and discussed each element with the researcher. Both observers played the game to familiarize themselves with the game format and procedures. Interobserver agreement was obtained during sessions 1, 3 and 5. The observers were given a rating form (Appendix J) to complete during game sessions. Both the observers and the researcher evaluated the ratings and interobserver agreement was computed by the researcher. Interobserver agreement was computed with the following formula:

\[
\frac{\text{Number of Agreements}}{\text{Number of Agreements} \& \text{Number of Disagreements}} \times 100 = \text{Percentage of Agreement}
\]

The criteria acceptable agreement among the two raters was set at 85 percent.

Data Analysis and Presentation

Graphing

Graphic representations of the percentage of correct responses to test items for each subject by training session was used to compare the differences between baseline and intervention.
CHAPTER IV
PRESENTATION, ANALYSIS
AND DISCUSSION OF DATA

This chapter presents the results of the intervention program on three experimental units. Data were collected with instruments developed and administered by the researcher. The instruments consisted of a twenty-five item Pre/Post Comprehension test which was composed of sixteen multiple choice questions, six short answer questions, three true or false questions, and three ten-item pre/post tests (labeled forms A, B, or C). These data were graphed for each of the twelve subjects across time. The plotted data consisted of the percentage of test items answered correctly by the individual subjects and the mean percent of itsm answered correctly by each experimental unit.

All data were studied for a functional relationship between playing the game and a positive increase in test scores on test forms A, B, and C and the Pre/Post Comprehension Test.

The twenty-five item pre and post instruction comprehension test was administered twice--once during
baseline and once following instruction, to measure parents' knowledge of an individualized education plan. Test forms A, B and C were administered once during baseline and twice after instruction. The tests were administered in the following order (Form A, B, C) during baseline and intervention.

Finally, a questionnaire was given to the subjects to assess their opinions about the game. The questionnaire required subjects to rate the game's content and effectiveness as an instructional aid. This instrument was administered during the final meeting of each unit.

EFFECTS OF INTERVENTION:
Comprehension Test Performance

A twenty-five item pre and post instruction comprehension test was administered to determine parents' knowledge of an individual education plan. The mean pretest/post test scores and standard deviation for the three experimental units are presented in Table 2. These data suggest increase in parents' knowledge of an individual education plan from pretesting to post-testing time in all three experimental units.
Table 2

Ranges, Means and Standard Deviations of Pre/Post Comprehension Test Scores for the Three Experimental Units

<table>
<thead>
<tr>
<th>Unit</th>
<th>PRETEST</th>
<th>POSTTEST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Range</td>
<td>$\bar{X}$</td>
</tr>
<tr>
<td>* I</td>
<td>4-32</td>
<td>21.0</td>
</tr>
<tr>
<td>II</td>
<td>20-40</td>
<td>29.0</td>
</tr>
<tr>
<td>* III</td>
<td>8-20</td>
<td>12.0</td>
</tr>
</tbody>
</table>

* These experimental units contained parents of handicapped children.
Figure 1 provides a more detailed account of changes in each experimental unit. Subjects in each unit scored an average of 21 percent, 29 percent and 12 percent, respectively, during baseline conditions. After participating in the educational game, Experimental Unit I (subjects A - D) increased by a mean of 72 percent by obtaining a 93 percent mean score. Experimental Unit II (subjects E - H) increased 59 percent over the baseline level with a mean score of 88 percent. Experimental Unit III (subjects I - L) increased by a mean of 83 percent over baseline level with a mean score of 95 percent.

Individual Data

An examination of individual subjects' data (Figures 2, 3, 4 and 5) indicated that experimental unit mean changes were representative of individual subject performance. In every instance, individual scores on the twenty-five item post instruction comprehension test were superior to those found during baseline.
Range and Mean Percentage of Items Answered Correctly

Figure 1. The range and mean percentage of correct responses per session for total subjects. Asterisks mark the sessions when interobserver agreement was obtained.
Figure 2. The percentage of correct responses per session for Subjects A, E and I. Asterisks mark the sessions when interobserver agreement was obtained.
Figure 3. The percentage of correct responses per session for Subjects B, F and I. Asterisks mark the sessions when interobserver agreement was obtained.
Figure 4. The percentage of correct responses per session for Subjects C, G and K. Asterisks mark the sessions when interobserver agreement was obtained.
Figure 5. The percentage of correct responses per session for Subjects D, H and L. Asterisks mark the sessions when interobserver agreement was obtained.
Analysis of Pre/Post Test Forms A, B and C

In Figure 1 the mean scores on Pre/Post Test Forms A, B and C were plotted. The figures depict a functional relationship between playing the game and a positive increase in test scores for all subjects. Experimental Unit I (subjects A - D), II (subjects E - H) and III (subjects I - L) scored an average of 17.5 percent, 28.75 percent and 13.33 percent, respectively, during baseline conditions.

During treatment (playing the educational game) for Experimental Unit I (subjects A - D) the mean scores increased from 75 percent to 97.5 percent with a median of 95 percent over six sessions, an increase of 77.5 percent over baseline conditions. Baseline mean scores for Experimental Units II (subjects E - H) and III (subjects I - L) remained stable at 28.75 percent and 13.33 percent, respectively. When treatment was introduced, the mean scores increased from 65 percent to 92.5 percent over five sessions for Experimental Unit II (subjects E - H) and from 82.5 percent to 92.5 percent for Experimental Unit III (subjects I - L). This is an increase of 63.75 percent and 79.1 percent over
baseline conditions for Experimental Units II and III, respectively.

Individual Scores

An examination of individual subjects' data (Figures 2, 3, 4 and 5) indicate that experimental unit mean changes were representative of individual subject performance. In every instance, individual subject scores during the treatment were superior to those found during baseline.

Interobserver Agreement (Dependent Variable)

Interobserver agreement of data recordings was taken for each of the parent training sessions. Reliability of the test items consisted of having two uninvolved persons grade the written tests independently. These completed ratings were then compared to determine which test items were scored the same (agreements) and which test items were scored differently (disagreements). Interobserver agreement was calculated using the following formula:
Interobserver agreement for all written tests was 100 percent for both independent graders.

Interobserver Agreement (Independent Variable)

Interobserver agreement was determined during sessions 1, 3 and 5. Game playing procedures were rated independently by the two observers. The completed rating forms were then compared to determine which elements were scored the same (agreements) and which elements were scored differently (disagreements). Interobserver agreement was calculated by dividing the number of agreements plus disagreements and multiplied by 100 to obtain percentage of agreement. The sessions during which interobserver agreement was measured and the percentage of agreement are given in Table 3. The maximum number of numbers on the observer rating forms were two per rating period. A number was not recorded by both observer for any item on the rating form.

PERFORMANCE BY PARENTS OF HANDICAPPED CHILDREN:
Individual Data for Test Forms, A, B, and C

Subjects I, C and K (Figures 6 and 7) were parents of children who had been diagnosed as handicapped by a public school (See Table 4). An examination
Table 3

Sessions in which Inter-observer Agreement Occurred and Range and Mean Percentage of Agreement on Game Procedure Rating Form

<table>
<thead>
<tr>
<th>UNIT</th>
<th>SESSIONS</th>
<th>NUMBER OF ITEMS RATED</th>
<th>HIGHEST AGREEMENT</th>
<th>LOWEST AGREEMENT</th>
<th>MEAN PERCENTAGE OF AGREEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1</td>
<td>10</td>
<td>100%</td>
<td>80%</td>
<td>90%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>10</td>
<td>100%</td>
<td>90%</td>
<td>95%</td>
</tr>
<tr>
<td>II</td>
<td>1</td>
<td>10</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10</td>
<td>90%</td>
<td>70%</td>
<td>80%</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>10</td>
<td>100%</td>
<td>90%</td>
<td>95%</td>
</tr>
<tr>
<td>III</td>
<td>1</td>
<td>10</td>
<td>90%</td>
<td>80%</td>
<td>85%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>10</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>10</td>
<td>100%</td>
<td>90%</td>
<td>95%</td>
</tr>
<tr>
<td>Experimental Units</td>
<td>Number of Families</td>
<td>Education Range in years</td>
<td>Number of Children</td>
<td>Number of Handicapped Children</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------------</td>
<td>--------------------------</td>
<td>--------------------</td>
<td>--------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Boys</td>
<td>Girls</td>
<td>Boys</td>
</tr>
<tr>
<td>I</td>
<td>3</td>
<td>12 - 19</td>
<td>7</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>II</td>
<td>2</td>
<td>12 - 16</td>
<td>2</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>III</td>
<td>4</td>
<td>12 - 17</td>
<td>5</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subject</th>
<th>Age of Handicapped Child</th>
<th>Type of Handicapping Condition</th>
<th>Number of years in Special Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>10</td>
<td>Learning Disabilities</td>
<td>1</td>
</tr>
<tr>
<td>I</td>
<td>14</td>
<td>Learning Disabilities</td>
<td>2</td>
</tr>
<tr>
<td>K</td>
<td>8</td>
<td>Learning Disabilities</td>
<td>3 months</td>
</tr>
</tbody>
</table>
of the data presented in Figures 6 and 7 suggest that subjects C, I and K did not score significantly higher than other parents in the study. Figure 6 indicates that subjects C, I and K had a comprehension post test score of 88, 92 and 96 percent, respectively. This suggests a knowledge gain of 56 percent, 84 percent, and 76 percent over baseline conditions for subjects C, I and K, respectively. Comprehension post test scores for all twelve subjects ranged from 76 percent to 100 percent. Figure 7 indicates that subject C had mean post test scores of 93.3 percent, 92 percent and 96 percent during treatment sessions (six sessions for subject C and five sessions for subjects I and K). Mean post test scores during treatment sessions ranged from 70 percent to 96 percent for all twelve subjects.

Post Comprehension Test Performance

An examination of the data presented in Figure 6 and Figure 7 suggests that subjects C, K and I did not score significantly higher than other parents on the post comprehension test. Subjects C, K and I obtained mean scores of 88 percent, 96 percent and 92 percent, respectively. Mean scores ranged from 76 percent to 100 percent with a majority of subjects scoring 90 percent or above.
Figure 6. The percentage of correct items on the Pre/Post Comprehension Test for the total number of subjects.
* Parent of a child diagnosed as handicapped

Figure 7. The mean percentage of correct responses on post test forms A, B, C.
Results of the Questionnaire

In addition to the data taken from the test scores, a questionnaire (Appendix H) was given to the subjects during the final session to assess their opinion about the game. The survey required subjects to rate the game's content and effectiveness as an instructional aid. The results of the questionnaire appear in Table 5. These data suggest that parents rated the game favorably.

All subjects rated the game as excellent in terms of an easy way to learn and attractiveness. Eleven subjects rated the game excellent as an enjoyable way to learn. The other subject rated this item good. Ten subjects rated the game as excellent in providing a review of terms as compared to textbooks and pamphlets as an instruction aid. The other two subjects gave this item a rating of good. One subject rated the game as fair as compared to textbooks and pamphlets as an instructional aid. Nine of the subjects rated the game as excellent in terms of a learning experience, a quick way to learn, as compared to textbooks and pamphlets, and in providing good examples. Half of
Table 5
Results of Questionnaire

<table>
<thead>
<tr>
<th></th>
<th>EXCELLENT</th>
<th>GOOD</th>
<th>AVERAGE</th>
<th>FAIR</th>
<th>POOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. As a learning experience for you</td>
<td>9</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. As a quick way to learn</td>
<td>9</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. As an enjoyable way to learn</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. As an easy way to learn</td>
<td>11</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>5. As compared to textbook and pamphlets</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. In terms of playing time</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. In providing enough examples</td>
<td>9</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. In providing good examples</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. In providing review of terms</td>
<td>10</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. In attractiveness</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
the subjects rated the game as excellent in providing good examples. The other half gave this item a rating of good. In terms of playing time, four subjects responded excellent and six subjects responded good.

Discussion

This study sought to determine whether or not an original educational game would be effective in teaching a component of Public Law 94-142 to parents. The component that was taught was the individual education plan. The data collected supported the effectiveness of the game. Each subject showed substantially increased scores on the dependent measures.

The motivation and attendance problems reported by other researchers were not evident in this study. The twelve subjects attended all sessions. Unfortunately, it is not possible to determine the controlling variable or variables that produced these results. One explanation is the teaching device used to present the information.

The educational game generated excitement, provided variety, and required constant involvement. It also provided challenging experiences. Subjects were often engaged in strategies that would enable them to win the game and expe-
rience surprise at the amount of information they learned.

The project objective is another part that should be considered. The game was programmed for subjects to be successful and learn the information with few errors. The parents were not required to engage in changing behaviors and/or completing assignments. Perhaps the excitement, playfulness and fun of playing a game led to perfect attendance. The parents all stated that the game was an enjoyable way to learn. It appears that the information component was second in priority. The parents achieved the objective of a game. The object of a game is to win.
CHAPTER V
DISCUSSION, IMPLICATIONS,
RECOMMENDATIONS AND SUMMARY

The purpose of this study was to determine the effectiveness of an education game designed to teach a component of Public Law 94-142 to parents. The component that was incorporated in the game was the individual education plan. Results of the study suggest that the original educational game was effective in teaching the individual education plan to parents. As experimental units and individually, the subjects showed a substantial knowledge increase after completing a minimum of two training sessions.

The effectiveness of the educational game was demonstrated by a multiple baseline design across subjects with repeated replications. Baseline data revealed that all subjects performed poorly on pretest measures, although they did emit a number of correct responses.

The first question of this study was to determine whether parents who participated in the educational game would display a change in knowledge concerning Public Law 94-142. Six other research questions were asked. Answers
to the research questions were based on an analysis of the measures obtained in this study. These answers are presented below:

1. Will the parents who participated in the educational game display a change in knowledge concerning Public Law 94-142. Individual and experimental unit scores were compared across experimental conditions. Individual Pre/Post Comprehension mean scores increased from 20.6 percent during baseline conditions to 92 percent after experimental manipulation, with a range of 4-40 percent during baseline and 76-100 percent following intervention. Test forms A, B, and C increased from an individual mean score of 19.2 percent during baseline conditions to 87.5 percent during intervention with a range of 0-40 percent during baseline and 50-100 percent during intervention. Experimental unit mean scores increased from 21 percent, 29 percent and 12 percent, respectively, for Experimental Units I (Subjects A-D), Unit II (Subjects E-H) and Unit III (Subjects I-L) during baseline conditions to 93 percent, 88 percent and 95 percent, respectively, on the Pre/Post Comprehension Test with a mean difference of 72 percent, 59 percent and 83 percent. Mean scores sequentially increased for all experimental units demonstrating
2. Will there be a functional relationship between parental knowledge change and participation in the educational game? Data were compared across experimental conditions in two ways. First, the mean percentage scores of Experimental Units I, II and III were compared and found to be responsive to experimental manipulation. Each experimental unit's mean percent score sequentially increased over baseline conditions as a function of exposure to the independent variable. Second, individual test scores on test Forms A, B and C were compared as treatment was made available to an experimental unit. There was a substantial increase in test scores across subjects with a range of 0-40 percent correct responses during baseline with a mean of 19.2 percent to a range of 50-100 percent correct responses during intervention with a mean of 87.5 percent. Since treatment was sequential across subjects and scores increased only after treatment conditions were initiated, experimental control is demonstrated.

3. Will comprehension scores on a criterion test measuring parental knowledge of individual education
plans be differentially affected by participating in the game? The scores on the criterion test were differentially affected by participation in the game, however, differences were not large enough and consistent enough to be important. Figures 2, 3, 4 and 5 show the percentage of correct responses by subjects. Subject F consistently scored lower than the other subjects during all sessions (See Figure 3). There was a major increase in post test performance for each of the subjects. Each subject's post test score was higher than the pretest score. Graphic data for all subjects are presented in Figures 6 and 7.

4. Will comprehension test scores on a criterion test increase as the number of sessions attended increases? Comprehension test scores on criterion tests did not increase as the number of sessions increased. However, scores increased for all subjects after the first session. Data collected after session two indicate that the scores only fluctuated ten points below the highest score obtained during sessions. Three subjects received a score of 100 percent on criterion tests after six sessions and five subjects received a score of 100 percent on criterion tests after five
sessions. The average final session score for all sub-
jects was 95 percent with only one subject scoring be-
low ninety percent.

5. Will the subjects acquire a score of 80 per-
cent or above on a comprehension test after participating
in five sessions? Eleven subjects scored above 80 per-
cent on the comprehension test. Only one subject failed
to reach this criteria. Subject F obtained a score of
76 percent on the comprehension test. His post test
scores were consistently lower than other subjects in the
study. The mean percentage comprehension test score for all
subjects was 92 percent. Two parents scored 100 percent
on the comprehension test. Seven other parents scored
above 90 percent on the comprehension test with five
parents scoring 92 percent and two parents scoring 96
percent. The remaining parents scored 88 percent (2
parents) and 76 percent.

6. Will a parent with one or more handicapped
children obtain a higher score on a comprehension test
than a parent with no handicapped children? Parents
with one or more handicapped children did not obtain
a noticeably higher score on a comprehension test than parents with no handicapped children. However, the three parents of handicapped children scored 88, 92 and 86 percent on the comprehension test. During intervention these three parents obtained higher scores than other parents in their experimental units on test Forms A, B, and C with mean scores of 92, 93 and 96 percent. Only one other parent obtained a mean score of 96 percent during intervention. More "What can I do if...?" questions were generated in the experimental units that contained parents of handicapped children.

7. Will parental attitudes about educational games in a parent training program be affected by participation in the game? Parents' rating of the game as an instructional aid and its content were generally favorable. All subjects rated the game as an enjoyable way to learn. Eleven rated it excellent as an easy way to learn. Nine of the eleven subjects rated the game as excellent as a learning experience for them and a quick way to learn. The majority of the subjects rated the game good and average in terms of playing time.
They expressed a desire for the game to continue.

An interesting phenomenon that should be mentioned here is that all subjects attended all sessions. It is not possible to determine from data collected here whether this was a result of experimental unit sizes, location of the parent training programs (sessions conducted in parents' home) or team participation needed to play the game. Future research could investigate the effects of these three variables on attendance and/or completion of parent training programs.

**IMPLICATIONS**

The educational game used in this study appears to be an easy to use and effective method for teaching the individual education plan to parents. Although the findings of this study cannot be generalized to population other than the sample, the demonstrated knowledge change after participating in the game implies the need for replication to determine whether similar results can be obtained with other parents. The game should be further tested to compare knowledge change after parti-
cipating in the game with knowledge change as a result of another teaching method such as a group discussion on the same subject matter.

In addition to providing parent training, several characteristics of the present procedure are worth noting. First, the game was not complicated to administer. Second, the time required to complete the program was not excessive. The number of training sessions required for each experimental unit ranged from five to six one-hour sessions. The scores obtained during intervention indicated that sessions could be reduced to three or four with comparable results. Third, the design of the game made it adaptable for home training programs as well as classroom instruction. Fourth, materials for portable light weight easels (constructed with 0.6 x 3.75 centimeters) white pine wood and 2.5 centimeter machine screws with wing nuts) and cardboard (four-ply for game board and two-ply for charging and blocking cards) were readily available and inexpensive. The easels, 1.9 meters in height, will fold down to 1.2 meters for easy mobility and storage.

Finally, a point to be considered is that the educational game employed in this study may provide a way to teach skills that will have long term benefits for parents and children.
Recommendations

A series of studies could be proposed based on results of the present study. The following topics are recommended for further application and research:

1. A future study can determine whether parent training programs conducted in subjects' homes versus classroom and laboratories differentially influences participants completing the study.

2. The present study should be replicated using couples only and single parents.

3. The game should be further tested to compare knowledge change after participation in the game with knowledge change as a result of another teaching method such as a group discussion on the same subject matter.

4. Retention of knowledge learned through participation in the game should be tested for different time intervals; for example, after six weeks, three months and six months.
5. The game as an instructional program could be used with parents of varied educational backgrounds.

6. The game could be extended to include other components of Public Law 94-142.

7. Conduct the research study using a larger number of subjects or groups of subjects.

8. The present study can also be replicated to determine if the same procedure will produce similar results for other parents.

The studies recommended above would generate more recommendations for further research. These studies would furnish more empirical data on procedures for improving parent training programs.

Summary

A problem facing professional educators is how they can meet effectively, efficiently and economically the educational needs of children and parents concerning Public Law 94-142. The experiences of other parent
educators and researchers conducting parent training programs suggest approaches from which one can be selected to meet the needs of the parents. Different personalities work better with different methods. Levitt and Cohen (1975) indicate that parents must be comfortable with the instructional format.

Researchers in the area of parent training have investigated various approaches for involving parents in the education and programming of their exceptional children. Although parent training programs are fraught with many problems, considerable attention needs to be given to the development of a procedure for the delivery of training to parents concerning Public Law 94-142.

The purpose of this study was to determine the effectiveness of an original educational game designed to teach components of Public Law 94-142 to parents. The component that was incorporated in the game was the individual education plan. Outcome measures included data on criterion and comprehension tests of parental knowledge change of the individualized education plan.

Specific objectives of the study included:
1. To determine the parents' knowledge change after participation in an educational game designed to teach the individualized education plan.

2. To determine the effectiveness of the educational game on a criterion test on an individualized education plan.

3. To determine the effectiveness of the educational game or teaching format on parental attendance during the data collection period.

4. To assess parental attitudes about educational games in parent group training on individualized education plans.

Twelve of the twenty-five parents who volunteered to participate in this study were assigned to one of three experimental units. Four parents were assigned to each experimental unit. Parents in experimental unit 1 met with the researcher for approximately one hour two
days per week for six sessions. Experimental units two and three met with the researcher for approximately one hour two days per week for sessions. All of the sessions were conducted in the parents' homes.

A Pre/Post Comprehension Test and test Forms A, B and C were administered before and after exposure to the educational game to measure parents' knowledge of the individual education plan.

The effects of the educational game were analyzed by a multiple baseline design across subjects with repeated replications. The percentage of correct responses on the Pre/Post Comprehension Test and test Forms A, B and C were compared across subjects. In addition, parent attitude measures were collected through the use of a questionnaire. These data were descriptively presented.

The analysis demonstrated a functional relationship between participation in the game and parental knowledge change. Results of the Pre/Post Comprehension Test revealed that parents' scores were affected differentially by participation in the game, and that post
test scores were higher substantially than pretest scores. Similar results in increased post test measures after participating in a game were obtained by Finch (1978) and Brown (1977). These findings are also in agreement with Seidner (1976) and Shubik (1975) who both cited studies that confirmed that students learn facts from participation in education games. Attitude data suggested that parents rated the game as helpful, evaluated the materials positively and considered the game a quick, enjoyable and easy way to learn.

This study and other parent training investigations have provided ample evidence that parents can be trained with relatively simple and economical techniques.
APPENDIX A

PRE/POST COMPREHENSION TEST
PRE/POST COMPREHENSION TEST

Name_______________________________________________Date____________________

Directions: Fill in the blanks with the correct answer.

1. A written plan for education of each handicapped child is _______________________.

2. Eligibility for placement in a special education program is determined by the school psychologist. True or False? ________________.

3. The safeguards to which a parent and child are entitled to in order to protect their rights are called _______________________.

4. A child's present level of performance is determined from _______________________.

5. If the school district feels it does not have an appropriate program for a child, it may put the child on home instruction. True or false? _______________________.

6. Procedures to determine the nature of a suspected handicap in educational functioning are _______________________.

7. Prioritized steps that state expected progress for one year are called _______________________.

8. Results of IQ tests are enough to place a child in a county program for the trainable mentally retarded. True or False? ________________.

9. The scheduled conference for the reevaluation of an I.E.P. is called the _______________________.
Multiple Choice: Directions

Circle the correct answer to each of the following questions or statements.

1. Current level of performance means
   a. A written statement of an IQ test and results.
   b. A statement describing where the student's instruction should begin.
   c. the current school placement
   d. none of the above.

2. Service initiation date is the date that
   a. the student is identified as a special education student.
   b. the student is placed in a special education class.
   c. the student's IEP is approved.
   d. implementation of specified goals occur.

3. IEP's for newly identified handicapped students must be written
   a. within 30 days of diagnosis.
   b. within 60 days of diagnosis.
   c. fifteen days after placement
   d. as soon as the child has been identified as handicapped.

4. Short term objectives should be
   a. stated in measurable terms
   b. developed from annual goals.
   c. written in terms of grade levels
   d. all of the above
   e. a and b
5. The **required** participant(s) in the IEP meeting are
   a. a school representative.
   b. the child's parents.
   c. the child's teacher.
   d. all of the above.
   e. all of the above and the guidance counselor.
   f. only b and c.

6. Least restrictive environment means
   a. the safeguards to which a parent and child are entitled in order to protect their rights.
   b. an evaluation of more than one area of the child's functioning.
   c. the extent to which the handicapped child is educated with nonhandicapped children.
   d. none of the above.

7. An IEP is not required for a child in a state institution because
   a. the child does not attend public school.
   b. an educational evaluation is not necessary.
   c. the institution is totally responsible for the child.
   d. none of the above.

8. Multi-factored assessment (evaluation) is
   a. the diagnostic procedures used to determine the child's eligibility for special education.
   b. the diagnostic procedures that the child is given when he is placed in a special education program.
   c. a series of IQ test administered by a certified school psychologist.
   d. the diagnostic information provided by the child's parents.
9. A child's IEP must be reviewed
   a. at least every 6 months.
   b. at least once every two years.
   c. at least once a year.
   d. three times a year.
10. The extent to which a handicapped child will participate in the
    regular classroom is known as
    a. periodic review
    b. prioritized annual goals
    c. specific educational and support services.
    d. none of the above.
11. The individual(s) responsible for providing related services
    recommended in the IEP is (are)
    a. the child's parents
    b. the school
    c. both a and b
    d. none of the above.
12. For children entering school or newly identified handicapped
    students, IEP's must be developed:
    a. at the time of placement
    b. after the child has been placed in a special education program
       appropriate for his needs.
    c. prior to the provisions of special education or related services.
    d. none of the above
    e. both a and b
13. Parent Conferences
   a. are not required for IEP's.
   b. are only initiated after parental requests.
   c. are based on teacher recommendations.
   d. are required for IEP's.

14. An IEP must contain
   a. Annual goals and instructional objectives.
   b. Related support services.
   c. Background information about the child and his family.
   d. all of the above
   e. only a and b

15. Diagnostic procedures to determine the eligibility of a child for special education can
   a. only be administered by diagnosticians that are approved by
      the school district or superintendent.
   b. be independent evaluations obtained by the child's parents.
   c. be administered by the teacher that recommends placement in
      a special education program.
   d. be administered after the child has been placed in a special
      education program for testing.

16. The evidence presented to determine the student's present level of functioning is (are)
   a. An IQ test score that falls below the normal range.
   b. Medical history and evaluation of the child
   c. Evaluations in as many areas as necessary.
   d. only a and b
APPENDIX B

TEST FORMS A, B, C
PRE/POST TEST FORM A

Name____________________________________________ Date __________________________ Score ___________

Directions: Circle the answer to the following statements or questions.

1. Measurable steps to determine a child's growth over specified periods are called
   a. annual goals
   b. least restrictive environments
   c. short term objectives
   d. all of the above

2. The date that the child's special education and related services begin is
   a. determined from test scores
   b. not required for IEP's
   c. the date that the child is placed in special education
   d. the date that goals and related services are implemented.

3. The general term that describes the procedures by which rights of handicapped children and their parents are protected is
   a. multifactored evaluations
   b. least restrictive environment
   c. due process
   d. none of the above
   e. IEP

4. Public Law 94-142 establishes a legal basis for the evaluation of the IEP. This evaluation is called
   a. least restrictive environment
   b. annual goals
   c. periodic review
   d. all of the above
5. A written statement describing where instruction should begin is
   a. current level of performance
   b. an IQ test score and achievement test results
   c. stated in terms of the child grade level
   d. all of the above
   e. none of the above.

6. The safeguards to which a parent and child are entitled to in order to protect their rights as specified in Public Law 94-142 are called ______________________________.

7. Request to conduct multifactored evaluations must be__________________

8. Each handicapped child's special education program has to be written. This written program is called __________________________

9. How often should IEP's be viewed? _________________________________

10. Name two components of an IEP.

   __________________________________________
   __________________________________________
1. Instructional objectives should be
   a. stated in measurable terms
   b. derived from annual goals
   c. prioritized
   d. all of the above
   e. only a and b

2. The child's current level of performance is determined from
   a. annual goals
   b. due process
   c. instructional goals
   d. multifactored evaluation

3. The component of an IEP that tells where a student's instruction
   should begin is
   a. Periodic review
   b. Placement conference
   c. Educational and related services
   d. none of the above

4. A handicapped child cannot be placed in a special education program
   until he receives
   a. least restrictive environment
   b. multifactored evaluation
   c. parental consent
   d. only a and c
   e. only b and c
5. The component of Public Law 94-142 that protects handicapped childrens and their parents rights is
   a. impartial hearing
   b. due process
   c. case review
   d. none of the above

6. An IEP is not required for a child in a state mental institution because
   a. the child does not attend public school
   b. an educational placement is not necessary
   c. the institution is totally responsible for the child
   d. none of the above

7. The service initiation date is
   a. the date that the student is identified as handicapped
   b. the date that the child receives a multifactored evaluation
   c. the date that educational and related services are implemented.
   d. the date the child is placed in a special education program

8. Procedures to determine the nature of a suspected handicap in educational functioning are called _________________________.

9. Name two components of an IEP

   _________________________

   _________________________

10. The three people that must be present during the development of an IEP are:

    _________________________

    _________________________

    _________________________
PRE/POST TEST FORM C

Name_________________________________________ Date________________

Score-________________________________________

Directions: Fill in the blanks with the correct answer.

1. State the maximum number of days that can occur between identification
   of a handicapped child and IEP development._____________________

2. The law that is designed to provide parents and persons assisting parents
   in the process of assuring a free and appropriate public school
   education is______________________________________________.

3. The conference that is held to determine the child's eligibility for
   special education and related services is the________________________
   conference.

4. The amount of progress that a child is expected to make in one year
   as stated on the IEP is called__________________________________

5. The letters IEP are abbreviations for________________________

   ________________________

Directions: Choose the correct answer to the questions below. Circle
   your choice.

6. The person or persons responsible for providing a free and appropriate
   public school education is (are)
   a. the school and the parents
   b. the parents
   c. the school
   d. the federal government
7. The least restrictive environment is determined by
   a. the IEP
   b. the amount of available space in a classroom
   c. the school
   d. all of the above

8. A due process requirement when parents and the school district
cannot agree on evaluation and placement is called
   a. impartial hearing
   b. case review conference
   c. periodic review
   d. none of the above

9. The component of the IEP that requires handicapped children to be
   educated with non-handicapped children is
   a. educational placement
   b. annual goals
   c. least restrictive environment
   d. none of the above

10. The parent conference that is designed to discuss the amount of progress
    that the child has made is
    a. case conference
    b. periodic or annual review
    c. impartial hearing
    d. all of the above
APPENDIX C

EDUCATIONAL GAME
PURPOSE

This game is designed to teach a component of Public Law 94 142. The component that it will teach is the Individualized Education Plan.

OBJECT

The object of this game is to score the most points by answering questions or causing the opponents to lose points by blocking.

Option: The game can be played with money by substituting the dollar value for the point value of each correct answer or block. The team winning the most money wins the game. The caller serves as the banker when the game is played for money.

GAME EQUIPMENT

The equipment includes: One player board with six levels, (five levels with five squares ranging in value from 10 to 50 points, and one bonus level with three squares worth 60, 80, and 100 points); one caller board of the same design with pockets to hold the question cards of corresponding value; 45 color coded question cards; two easels; 1 clock or timer; play money; 12 straws (six long and six short); score pads; pencils; and, 56 blocking cards. The 56 blocking cards (hereafter called blocks) are matching in point value to the squares on the player board. Each block is coded on the back side with a red or green square. The questions are color coded as follows: white = 10 points; yellow = 20 points; light orange = 30 points; dark orange = 40 points; red = 50 points; light blue = 60 points; dark blue = 80 points and green = 100 points. The higher the point value of each answer, the tougher
the question will be. The correct answer for each question is on
the back of the card.

PLAYERS

This is a game of partners, accommodating two or more. Ideally
this game can be played by two teams with three to six players each.
Teams can be selected by pulling straws or can be designated by the
caller. The sides are then referred to as the red team and the blue
team.

THE CALLER

The caller is responsible for setting the caller board; reading
the questions; keeping time; indicating a right or wrong answer and
the awarding or taking away of points.

SCORING ROUNDS

The game is composed of three five minute rounds. A team can win
a round either by charging or blocking. The team winning the round
is awarded 20 bonus points. The charging team can win the round by
avoiding the blocks and correctly answering the most questions within
five minutes. The blocking team can win the round by: (1) setting
blocks; (2) answering questions with the highest point value and
(3) the charging team's failure to answer a question correctly on
each level within five minutes.

GAME RULES

1. Each team will select a captain. The caller flips a coin. One of
the team captains will call.
2. The team winning the toss of a coin will start the game by indicating
whether they will charge (answer questions) or block (set the player board with blocks).

3. The charging team will turn their back to the player board while the blocking team plots their strategy and set the blocks.

4. The blocking team will fill in the player board with the blocks by placing the color coded side down. The blocking team is allowed one minute to set the blocks.

5. The team is allowed a total of seven blocks. No more than three blocks can be placed on any one of the first five levels. One block may be placed on the bonus level. The blocks must match the value of the squares on the board.

6. The caller will place the question cards in the pockets on the caller board according to their color code. After a question has been correctly answered a new question of the same value will be substituted.

7. When the blocks have been set and the questions arranged the charging team will resume their position. The captain will declare the teams readiness. The caller sets the time. The captain then indicates level and point value of questions starting with level one.

8. The charging team will attempt to avoid the blocks and answer one question on each level within 5 minutes. A question must be answered on each level by either team before proceeding to the next level. In the event that all of the questions on one level are either blocked or missed the charging team will move up to the next level.
9. If the team is successful in avoiding a block and answering a question correctly they earn the points value for that question. After a correct answer the team moves quickly to the next level until all questions are answered or the time expires.

10. When a question is answered incorrectly the blocking team will then have an opportunity to answer the question correctly thus winning the points. If the blocking team answers correctly the charging team will then move up to the next level. If the blocking team fails to answer the questions correctly, the charging team will then call for a different question on the same level.

11. When the question called by the charging team is blocked the team will lose points equal to the value of that question.

12. When the team succeeds in answering all the questions or the time expires, the points are tallied. The team will then change positions. The blocking team will become the chargers and the charging team will become the blockers.

13. Round two will proceed the same as round one. See Rules 3-11.

14. The team trailing at the end of round two will decide if they will charge or block in round three.

15. The team scoring the most points at the end of round three is the winner.
APPENDIX D

GAME SET-UP
Figure 8. Game Set-up for playing the game entitled Block.
APPENDIX E

GAME EQUIPMENT
CALLER BOARD

<table>
<thead>
<tr>
<th>Level</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
</tr>
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<tbody>
<tr>
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</tbody>
</table>

White Yellow Light Orange Dark Orange Red

Figure 9. Caller Board designed to house question cards.
**PLAYER BOARD**

<table>
<thead>
<tr>
<th></th>
<th>Light Blue</th>
<th>Dark Blue</th>
<th>Green</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>20</td>
<td>30</td>
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<td>40</td>
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</tbody>
</table>

**Figure 10.** Player Board designed for setting block and charge cards.
Figure 11. Lightweight folding easel used to display caller board and player board during parent training sessions. The easel can be folded for easy carrying and storage.
## SCORE SHEET

<table>
<thead>
<tr>
<th></th>
<th>ROUND ONE</th>
<th>ROUND TWO</th>
<th>ROUND THREE</th>
</tr>
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<tbody>
<tr>
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<td></td>
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<tr>
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</table>
APPENDIX F
SAMPLE QUESTION CARDS
Question: Answer True or False

An IEP is the written plan for education of each handicapped child. Every child in the same special education classroom has the same IEP.

Answer: False

Value: 10 pts.

Question: Fill in the blank

Annual goals are required on all IEP's. They tell how much progress a handicapped child is expected to make in one ____________.

Answer: Year

Value: 20 pts.
The general term that describes the procedures by which the rights of handicapped children and their parents are protected is "due process". A child that has been denied admittance to special education programs when he is eligible has been denied ________________.

Answer: Du. Process

Value: 30 pts.

Multifactored Evaluation refers to those diagnostic procedures used to determine whether a child is handicapped. It must occur before determining placement of a handicapped child. Josephine is in a special education program. Josephine has had ________________.

Answer: Multifactored Evaluation

Value: 30 pts.
Question: Answer True or False

Eligibility for placement in special education is determined by the school psychologist.

Answer: False

Value: 40 points

---

Question: Fill in the blank

Least restrictive environment means that to the maximum extent possible a handicapped child will be educated with children who are not handicapped. Elenor spends 10 hours per week in a regular classroom. This is as much time as she can manage. Elenor is in her _________.

Answer: Least Restrictive Environment

Value: 50 pts.
APPENDIX G

PERSONAL DATA FORM
Subject No. ____________________________
Group No. ____________________________

Name ________________________________________________ Sex ______
Address ___________________________________________________________________________

Phone ____________________________ Highest grade completed in school. (Circle One)

<table>
<thead>
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** CHILDREN **

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* Child has been identified as handicapped

** TEST SCORES **

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APPENDIX H

QUESTIONNAIRE
**QUESTIONNAIRE**

Please circle the number that best describes how you feel about the Educational Game.

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<th></th>
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<th>Average</th>
<th>Fair</th>
<th>Poor</th>
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<td>2</td>
<td>3</td>
<td>4</td>
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<td>4</td>
<td>5</td>
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<td>3</td>
<td>4</td>
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<td>3</td>
<td>4</td>
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<td>5. As compared to textbooks and pamphlets</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>6. In terms of playing time</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. In providing enough examples</td>
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<td>3</td>
<td>4</td>
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<tr>
<td>8. In providing good examples</td>
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<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. In providing review of terms</td>
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<td>2</td>
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<td>10. In attractiveness</td>
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Please answer briefly:

1. What did you like best about the game?

2. What did you like least about the game?
APPENDIX I

OBSERVER RATING FORM
OBSE RVER RATING FORM

Directions: Place a check (✓) in the appropriate box.

1. The setting was adequate for playing the game.

2. The object of the game and game rules were explained by the researcher.

3. The game was played according to the stated rules.

4. One game was played during each session.

5. Subjects were given ample time to respond to questions.

6. The researcher controlled the tempo and/or flow of the game.

7. The researcher repeated a correct response when given by the subject.

8. The researcher provided a correct response when both teams were incorrect.

9. The researcher was fair and impartial in scoring the game.

10. The researcher provided feedback about pre/post tests.
APPENDIX J

INTER-OBSERVER GRADING FORMS FOR
PRE/POST COMPREHENSION TEST AND
PRE/POST TEST FORMS A, B, AND C
# PRE/POST COMPREHENSION TEST

Name___________________  Date ____________

Score_________________

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Observer
POST TEST FORM A

Name ______________________ Score __________________

Date ______________________ Observer __________________

1. 
a. ________
b. ________
c. ________
d. ________
e. ________

2. 
a. ________
b. ________
c. ________
d. ________

3. 
a. ________
b. ________
c. ________
d. ________

4. 
a. ________
b. ________
c. ________
d. ________

5. 
a. ________
b. ________
c. ________
d. ________

6. 

7. 
a. ________
b. ________
c. ________
d. ________

8. ______________________

9. ______________________

10. ______________________
POST TEST FORM B

Name ____________________________  Score ____________________________

Date ____________________________  Observer _______________________

1. 
   a. ________
   b. ________
   c. ________
   d. ________

2. 
   a. ________
   b. ________
   c. ________
   d. ________

3. 
   a. ________
   b. ________
   c. ________
   d. ________
   e. ________

4. 
   a. ________
   b. ________
   c. ________
   d. ________

5. 
   a. ________
   b. ________
   c. ________
   d. ________
   e. ________

6. ____________________________

7. ____________________________

8. ____________________________

9. ____________________________

10. ____________________________
POST TEST FORM C

Name __________________________ Score __________________________

Date __________________________ Observer __________________________

7. __________
   a. ________
   b. ________
   c. ________

8. __________
   a. ________
   b. ________

9. __________
   a. ________
   b. ________

10. __________
    a. ________
    b. ________
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    d. ________
LIST OF REFERENCES


Allen, K. E., & Harris, F. R. Elimination of a child's excessive scratching by training the mother in reinforcement procedures. Behavior Research and Therapy, 1966, 4, 79-84.


Benson, J., & Ross, L. Teaching parents to teach their children. Teaching Exceptional Children, 1972, 5, 1, 30-35.


Caliguri, J. P. "Will parents take over head start program?" Urban Education, 1970, 6, 53-64.


Hawkins, R. P. It's time we taught the young how to be good parents (and don't we wish we'd started a long time ago?) Psychology Today, 1972, 6, 28-30.


Hoskinson, K., Sherman, T., & Smith, L. Assisted reading and parent involvement. The Reading Teacher, 1974, 27, 710-714.


Morris, R. J. Issues in teaching behavior modification to parents of retarded children. Paper presented to the


Patterson, G. R. Changes in the status of family member as controlling stimuli: A basis for describing the treatment process. In L. A. Hamerlynck, L. C. Handy, and E.


Spitze, H. T. Games that teach. Journal of Home Economics. 64, No. 4, April, 1972.


