

INFANTS TO FULL POTENTIAL

by

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	Page
ABSTRACT	i
DEDICATION	ii
INTRODUCTION	1
CHAPTER	
I Piaget's View of Infancy.	3
II Infant Competencies	9
III Caregiver (Father/Mother) Influences	17
IV Educational Assessment Instruments for Infant Programs	25
V Infant Stimulation Programs	31
VI Application of Practicum Experience	40
VII Conclusion:	43
BIBLIOGRAPHY	
APPENDIX	

ABSTRACT

Infancy is a time of rapid growth and development. Jerome Bruner refers to this period in life as a time of "absorption" or as a time when the infant "soaks" in his environment. The infancy period is a time of great change with many memorable landmarks, as the infant experiences his new world, and interacts with his caregivers.

The significant factors in this interaction process are the naturalness and the mutuality of the new situation. The infant and caregiver spontaneously engage in social exchanges and feelings of warmth, security, and love.

Because the emphasis on the area of infancy is relatively new, many assessment instruments are being used to try and tap this fascinating period of growth, and infant stimulation programs are striving to enhance this period of growth and therefore are being investigated by many. However, with the lack of substantial research in this area, one has to critically investigate these programs and the assessment instruments being administered.

This area of study is rapidly emerging especially with some of the exciting research of T.B. Brazelton and B.White (1975). Both advocate looking at the infant as an active organism, as a competent human being uniquely his or her own. They also see caregivers as persons to be commended and supported in their efforts to raise their children.

This report is intended to give the reader a picture of the applied infancy area. Also, it is intended to inspire the reader to investigate infant stimulation programs and their assessment instruments, but primarily it is to spark the reader to take a critical look at the human infant.

Infant Programming . . .

Early Intervention for the
Developmentally Delayed Child

DEDICATION

This report has been inspired and enriched by a baby girl named Angela Rothrock. Angela was born December 3, 1978, and was diagnosed as having Down's Syndrome. After the initial shock, her mother began to seek help for Angela through an infant stimulation program at the Institute of Logopedics in Wichita, Kansas. Her mother, Linda, received the kind of support and encouragement there to inspire her to really begin to work with Angela. They were doing so well. Angela was beginning to learn to walk, but she would hold her heart when she tried too hard. She had open heart surgery on March 26, 1980, and she died.

This picture was printed on the Institute of Logopedic brochure right before Angela died, and so I am dedicating this report to Angela, and for all the love and work my cousin, Linda and her husband John, used to try to help their little angel, Angela, to her fullest potential. She is there now.

INTRODUCTION

Infancy, despite its short duration, is viewed by many (as well as myself) as being the most critical segment of life. Many theories assert that experiences in infancy shape the entire subsequent course of a human's life.

According to Burton L. White (1975) the informal education that families provide for their children makes more of an impact on a child's total educational development than the formal educational system. My position in the area of infancy has developed over a long span of time, and has been influenced by many people and experiences. As I have grown in my awareness of this area, my position has become stronger and more specific. I seem to be an advocate of White and Piaget.

I first began by studying Piaget's (1952) theory of sensori-motor development, and I must admit I became very confused by the difficulty of his theory, however I learned that the infant was a much more complex being than I had previously assumed. This theory made me aware of how the infant competencies that I had previously been aware of, and showed me how they fit into the nature of Piaget's sensori-motor theory of development. I was also intrigued by the caregiver's role in the developmental process of the infant. My study of Piaget's theory also taught me to look at the logical order of progression that builds the infant in to a mature adult.

Burton White (1975) was very influential in my ability to look at the caregiver and the interaction process. His theory challenged me to look at the infant as a competent, active human being with much to give to the interaction process. T.B. Brazelton also directed my attention to the caregiver as a competent person, with a need for respect and support.

As I began to look closer in this area, I felt the need to investigate the many assessment instruments and see just what they were trying to tap as significant features of the infant. I found in my investigation that the assessment instruments

were primarily being used by professionals and paraprofessionals. This made me wonder where the caregiver's part was in this process. I found in my search through infant stimulation programs, that those who used the parent's participation most seemed to be the most effective. And so through my practicum experience I tried to focus on parents and what their needs seemed to be.

I feel my position on the importance of the infant's development and the importance of the caregiver in the developmental process has grown and becomes stronger with every new experience I have had when dealing with caregivers and young children.

It is my desire and hope for the reader of this paper to have a new awareness of the importance of this area of study and a new appreciation of the human infant and his caregiver.

CHAPTER I

Piaget's View of Infancy

Probably the most influential contribution to the recent concern with infancy has been the work of Jean Piaget. Piaget is recognized for his method of research, the "methode clinique", and his conception of infant intelligence (Ginsburg and Oppen, p. 12). Piaget's definition of the sensori-motor period of development will be used in this report to define infancy.

Piaget's theory of sensori-motor development is complicated, however with this theory one learns to appreciate the complexity of the human infant. Piaget helps us to see that a child's development comes in an orderly process, it is a step-by-step building on previously learned instincts and skills.

Piaget's theory(1952) gives a way of focusing in on a specific period in the life of the child, infancy. With this focus, we can begin to understand the progression and establish realistic expectations and goals for that child.

Piaget was one of the first to see the infant as an "active organism" (Piaget, 1952, p. 4) and now many of the prominent authors and researchers see the infant in this active role as a competent contributor to the developing relationship with caregivers. In this period the infant's thoughts are expressed through actions. Reflexes are used by the infant to interact with his environment. By reflexes we mean the biologically given, automatic, unlearned behavioral reactions to stimuli (Flavell, 1977). Some examples would be the rooting reflex, the sucking reflex, and the tonic neck reflex.

Piaget believes that in stage one, which is during the first few months of life, the infant comes into the world with innate abilities which he uses to respond to his new environment.

"Even in the first month of life, experience plays an important role in modifying and supplementing the inherited mechanisms"(Ginsburg and Oppen, 1969, p. 29). Piaget also emphasizes that even in the first few days of life, the infant is seeking stimulation.

Stage two takes us through the next four months of life. The infant is functioning in the "primary circular reaction" mode (Ginsburg and Oppen, 1969, p. 34). The infant's behavior is one of repetition because he is exercising his schemes. These repetitive behaviors may appear as habits. The infant is beginning to organize his world in a very simple sense, and yet in a very complex way. "Organization is the tendency common to all forms of life to intergrate structures which may be physical or psychological into higher order systems or structures" (Ginsburg and Oppen, 1969, p. 18).

"Secondary circular reaction" (Ginsburg and Oppen, 1969, p. 43) occurs in stage three of this progression. Secondary refers to involving events or objects in the infant's external environment. He is now developing the ability to reproduce external events and develop schemes in an unintentional way. "Schemes" (Flavell, 1977, p. 16) refers to specific, readily labeled classes of sensori-motor action sequences that the infant repeatedly and habitually carries out. The scheme itself refers to the inner, mental-structural basis for these overt action sequences (Flavell, 1977). These structures are inseparable from the actions during the sensori-motor period.

In stage four, the infant's behavior is more systematic and organized, thus, he is described as learning to coordinate secondary schemes. His behavior at this stage appears for the first time as intentional (Ginsburg and Oppen, 1969).

"Teritary circular reactions" (Ginsburg and Oppen, 1969, p. 58) occur in stage five which is approximately twelve to eighteen months. The infant is now repeating a wide variety of actions and is trying to imitate events in his world.

The infant likes novel experiences and enjoys exploring his environment. The learning does not come solely from the environment, but more from the infant's interaction with his environment. The infant makes an important contribution as he interprets and gives meaning to the data of experience (Ginsburg and Oppen, 1969).

Stage six is referred to as the beginning of thought, or one might say the "dawn of thought". This stage is an important and significant stage because now for the first time actions and thoughts can be processed as separate entities. An infant at this stage is able to separate himself from the objects in his external environment and is less egocentric. "Stage six, however, forms the transition to the next period of development in which the infant is able to use mental symbols, and words to refer to absent objects" (Ginsburg and Oppen, 1969, p. 63).

Piaget (Ginsburg and Oppen, 1969) stress these key points

- 1) the age norms are only approximations
- 2) the ordering of the stages is invariant
- 3) development is a gradual and continual process
- 4) behaviors characteristic of a given stage do not disappear when the infant attains the next stage

"Adaptation, according to Piaget, is the individual's ability to act on information in the environment using skills that are already developed, and when those skills are not effective in mastering the information, to modify the skills so that the information can be understood" (Flavell, 1977, p. 17). There are two processes that comprise this adaptation: assimilation and accommodation. "The infant's cognitive activity consists of assimilating external data to internal cognitive-structural units called sensori-motor schemes, and of simultaneously accommodating these schemes to the structure of the external data" (Flavell, 1977, p. 18).

Assimilation is the "process by which the individual deals with an environmental event in terms of his current structures" and the process of accommodation describes the individual's tendency to change in response to environmental demands" (Ginsburg and Oppenheimer, 1969, p. 18). If the emphasis is on accommodation, the cognitive behavior will take the form of imitation. Assimilation and accommodation both are involved in equilibrium.

Equilibrium is the cognitive systems attempt to maintain balance. "The system attempts to deal with environmental events in terms of its structures (assimilation), and it can modify itself in line with environmental demands (accommodation)" (Ginsburg and Oppenheimer, 1969, p. 172). The child can now actively attempt to understand the world around him.

Infants gradually develop the ability to remember that an object exists even when it is taken out of their visual range. "Object permanence is the label assigned to the recognition that objects have substance and exist in time and space even when they are not apparent to the senses" (Sherrod, Vietze, and Friedman, 1978, p. 110). The lack of object permanence is demonstrated by the infant's apparent lack of interest or concern for an object or person once it is out of his visual range. At stage four the infant generally begins to search for an object once it has been removed from sight, and the infant will actively search for an object even if it is completely hidden (Sherrod, Vietz, and Friedman, 1978).

Piaget's (Flavell, 1977) makes three important statements about permanence

- 1) this first basic, obvious conception of objects is not inborn, but needs to be acquired through experience
- 2) its acquisition is a surprisingly protracted one, spanning the entire sensori-motor period
- 3) this process consists of a universal, fixed sequence of developmental stages, the infant picks up different aspects of the entire concept at different stages

It is necessary to recognize four factors which Piaget sees as affecting the total cognitive development of the child. These factors are significant for all the sensori-motor stages.

One factor is maturation. "Heredity equips the child with various physical structures affecting his intellectual development" (Ginsburg and Oppen, 1969, p. 168). Many of the mental structures necessary for more advanced cognition are not physically developed earlier.

The second factor is experience. "Physical experience involves actions with abstract or extract the physical properties of objects" (Ginsburg and Oppen, 1969, p. 169). Knowledge is drawn from the objects themselves. The other type is the logical-mathematical experience which is described as "knowledge that is acquired through an internal coordination of the individual's actions, and not through physical experience". Knowledge is not acquired directly from perceiving the object, but rather from the actions performed on the object.

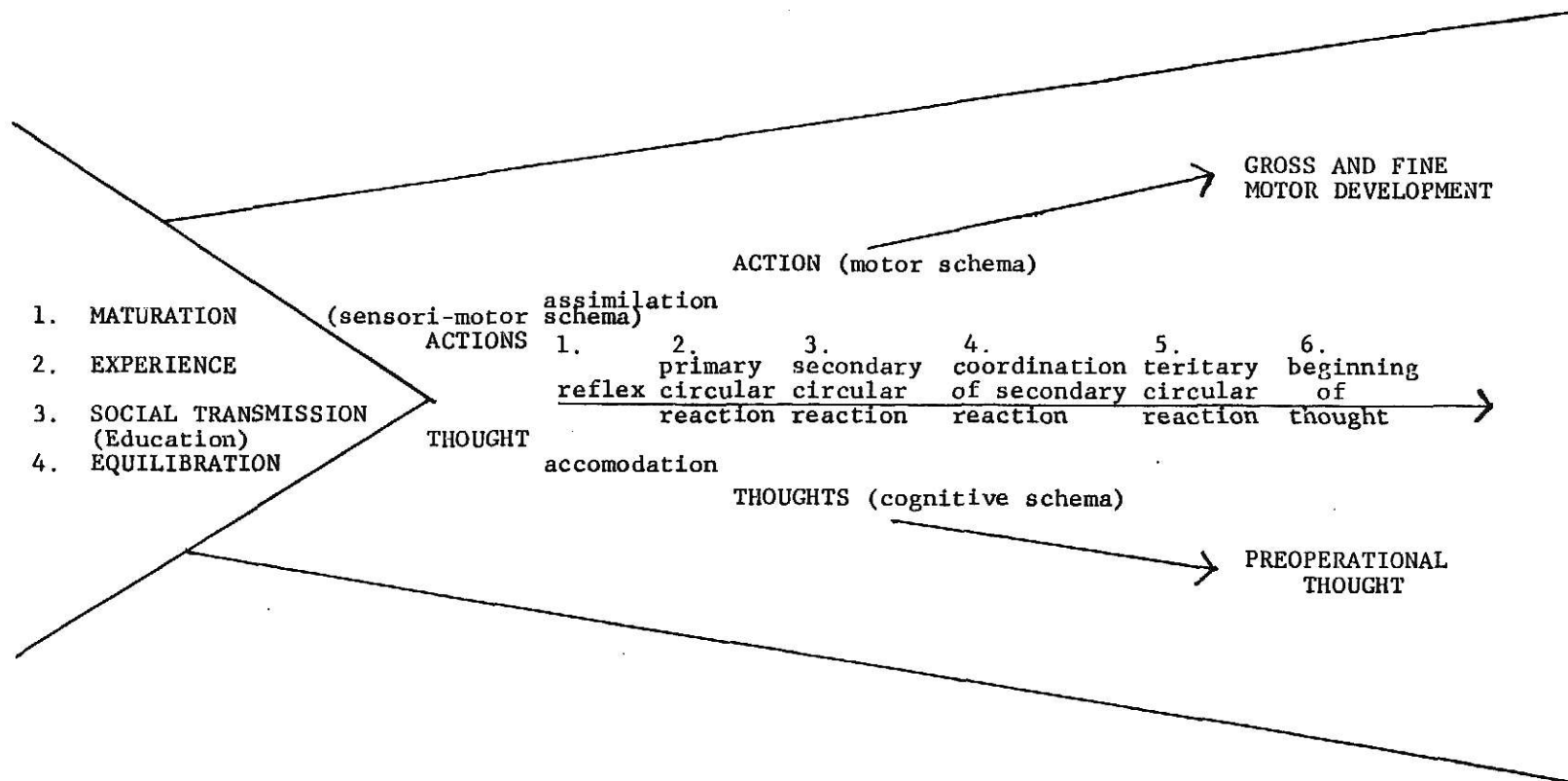
The next factor which Piaget sees as significant in influencing cognitive development is social transmission. Ginsburg and Oppen (1969) discuss this factor as "referring to a parent's explaining of some problem to the child, or to a child's obtaining information by reading a book, or to a teacher giving instruction to a class, or to a child discussing a question with his peers, or to a child's imitation of a model" (p. 171). Social transmission is described in a very general, broad sense. It is important to recognize that the child needs to be at the appropriate developmental level for this outside knowledge to be useful and meaningful. The child has to possess the cognitive structures to assimilate the information.

The fourth factor is equilibration. "Equilibration refers to the concept which involves the child's self-regulatory processes which lead him through progressively more effective states of equilibrium" (Ginsburg and Oppen, 1969, p. 177). Flavell(1977) refers to equilibration as the innate motivational drive which motivates increased cognitive understanding and competence.

The process of sensori-motor development described above is illustrated in Figure 1. The diagram represents the influences on infant cognitive development and six stages of sensori-motor development as described by Piaget.

Figure 1

DIAGRAM OF THE SENSORY-MOTOR DEVELOPMENT PROCESS



CHAPTER II

Infant Competencies

It is important to look at the competencies of the infant to become more aware of all the factors which influence the interaction process between the caregiver and the infant. A knowledge of these infant competencies is also essential to the productive stimulation of the infant's abilities.

State of Arousal

The young infant is an active participant in his world. He looks, cries, and sucks, and responds in many ways which are a function of his own internal functioning.

"State" is a term used in infant research to indicate the level of alertness or arousal. "During the first few months of life, the state of the organism becomes a significant factor in the child's response to objects or events" (Sherrod, et. al. , 1978, p. 141). The reason "state" needs to be considered is that other aspects of infants' behavior are related to this factor. For example, Dunn (1977) mentions that the way a baby responds to noises and movement depends on which of the "states" he is in at the particular moment. Also, if the baby is alert and active, then sounds, voices, and playing would elicit smiling; however, if the baby is already showing mild forms of discomfort, such stimuli would probably elicit crying (Wolff, 1966).

"The most usual way of categorizing the baby's state is based on whether his eyes are open or closed, how regular his breathing is, and whether he is actively moving around or crying" (Dunn, 1977, p. 17).

Wolff (1966) has defined six states: (1) regular sleep, breathing is smooth and even, little movement of face or body; (2) irregular sleep, irregular breathing, movement of body and face, including rapid eye movements; (3) drowsiness, eyes open and close; (4) alert inactivity, eyes open, face relaxes, body inactive; (5) waking activity, eyes open, spurts of diffuse motor activity; (6) crying vocalizing, red face.

Dunn (1977) does not consider drowsiness to be a distinctive state of arousal, but rather a transitional period. In this transition the infant breathes irregularly and opens and closes his eyes. It usually last approximately three minutes. Dunn (1977) says "watching the shifts in babies' states of consciousness has made us aware of an interesting dimension of a baby's abilities at birth; a baby does have some power of self-quieting, of controlling his own exposure to the environment and cutting off too much stimulation, but these abilities are, of course, very limited"(p. 19). Many factors influence the caregiver/infant interaction process, and the states of arousal are probably the most influential factors during the early infancy period.

Perception

"Perception ordinarily refers to any process by which we gain immediate awareness of what is happening outside ourselves, and the key word here is immediate, for we can only gain immediate information about that part of the world that directly impinges on our senses" (Bower, 1977, p. 1).

In the visual modality, the young infant is particularly attentive to the world around him and particularly to the human face. Research suggests

that the infant can, in fact, register much of the information an adult registers, but only uses the information which he is developmentally ready to use. Through maturation they presumably develop the requisite information processing capacity (Bower, 1966). It would seem that the world of the infant would be overwhelming at times, but it is not as meaningless as it has been thought to be in the past.

Fantz (1961) in his study of newborns, found that they can discriminate among patterns or designs in the environment at a very early age. Faces seem to have a particular appeal even to the very young infant. Fantz developed a procedure by which to measure the amount of time that an infant would look at a visual target. The observer located above the infant recorded the amount of time that an infant directed his gaze at each target. If the infant looked longer at one form than another form it was assumed that the infant preferred that form. The data supported the position that young infants (less than 9 months) do discriminate among visual patterns (Fantz, 1961).

Fantz suggested a maturational process in the development of visual perception (1961). He exposed infants, in a looking chamber, to a series of patterns of black and white stripes, each paired with a gray square of equal brightness. The width of the finest discriminable stripe decreased steadily with increasing age during the first six months, and by six months the infants could see stripes of $1/65$ of an inch wide at a distance of ten inches. This indicated that perception is a developmental process.

Riesen (1950) studied the relationship between visual experience and visual development. He deprived chimps of light by isolating them in a dark room. At sixteen months they showed no visual responses to complex patterns of light.

They were tested by their responses to feeding and they did not respond to the bottle unless it touched their body. The chimps did not show blinking responses and later when they were given light they had to have a limited schedule until they could eventually tolerate light. Riesen showed that visual abilities require experience and that patterned visual perception and normal visual development can be hampered by lack of experience with the environment.

T.G.R. Bower (1966) used a clever social-reward training system to induce infants to reveal their knowledge about their visual world. Bower found that the very young children who had minimal opportunity to learn about their visual world from experience demonstrated visual abilities that were previously thought to be learned only after the child was old enough to compare visual experience with the experiences of touching and moving about objects. Size constancy is defined as the tendency of an object to retain its apparent size regardless of changes in viewing distance, even though the size of the retinal image changes. Bower rewarded a group of six to eight week old babies for a simple head-turning response with a peek-a-boo. He later reinforced the infants for head turning when a 12 inch cube was presented three feet in front of him. The infants turned to the 12 inch cube regardless of distance, while they did not turn their heads when only the retinal image was the same as the original. This showed that the infants had size constancy.

Bower (1977) states that size perception depends on more than image size and that the size of the image produced by an object of a given size changes with distance. Bower (1977) points out that there are two sources of information about distance that the infant could use. The first is motion parallax which depends on nothing more than the ability to move the head side to side.

The second is optical expansion which depends on the object movement or self-movement for knowledge about distance. He states "there are a number of reasons to suspect that newborn babies can perceive distance even if they cannot do it quite as well as adults" (Bower, 1977, p. 16).

Gibson and Walk (1960) designed an experimental set-up called a "visual cliff". The visual cliff consisted of a board laid across a large sheet of heavy glass supported above the floor. On one side of the board is a sheet of patterned material right under the glass and on the other side a sheet of the same material was laid on the floor, thus making the visual cliff. They tested 36 infants ranging from six months to 14 months and they also tested terrestrial animals. Both the six month old infants and the terrestrial animals avoided the side which appeared to have the cliff. The experiment demonstrated that most infants can discriminate depth at about the same age that they learn to crawl. "This experiment does not prove that the human infant's perception and avoidance of the cliff are innate, however, it is true with the non-human subjects" (Gibson and Walk, 1960, p. 20).

Communication

The infant is described by Kessen (1963) as active as well as reactive. This suggests that the infant is an active participant in the process of fulfilling his needs. The infant's most powerful means of meeting his needs is by communicating and the infant's cry is one of his most useful means of communication particularly in the first few months. The infant can express hunger, discomfort, anger, pain, and several other needs. Infant cries are distinguishable and a sensitive caregiver can recognize and appropriately respond to the various needs of the infant.

Crying permits the infant to notify the social environment that he is being threatened. Papousek states, "crying is present at birth and temporarily prevails as the only form of vocal communication"(1974, p. 149).

Peter Wolff (1963) distinguishes the morphology of these early vocalizations. The most basic pattern of crying has been described as the "hunger" cry. This refers to the particular pattern of this type of crying. Its pattern is characterically noted for being rhythmical. The "hunger" cry is a full cry with temporary stopping for moments of sucking followed by long stretches of regular rhythmic crying.

Another type of cry is the "mad" or "angry" cry. This "mad" cry is a variation of the first basic pattern in that the infant's excess air is forced through the vocal cords creating great turbulence and noise. The "mad" cry is more specific in its effect on the caregiver. Caregivers do not seem too alarmed by this type of cry.

The "pain" cry has several features which distinguish it from the other patterns of crying. These include: a sudden onset of loud crying, the initial long cry, and the extended period of breath holding in expiration after the long cry. The "pain" cry produces the most dramatic caregiver response especially if it is one's own child. Crying from pain usually lasts longer, is often very high in pitch, and sounds like shrieking.

"Much early crying can be directly attributed to immediate changes in the infant's physical state" (Dunn, 1977, p. 27). As the infant grows and develops the causes of crying become more complicated. These complications of the crying response show just how fast the infant tries to reach out to his world and communicate.

Often these early changes which cause crying in the first few weeks are because of frustration. Infants, even in the early months, will cry when "teased" by repeatedly removing their bottles. Even as early as eight days after birth, the infant can be upset by frustrations that are "psychological" rather than simply "physiological" changes in arousal (Dunn, 1977).

The infant's increased interest in the world around him during the second to third week of life, and the increased control of its own attention, makes it easier to soothe the infant by showing him something interesting. By the second week the human voice is a most effective way of soothing the crying infant (Dunn, 1977).

This interaction between the caregiver and the infant can be described as an alternating chain of communication and gestures. These gestures may be vocal utterances, signals comprised by hand movements, facial gestures, or merely adjustments of bodily posture. The timing of the gestures and their contextual significance will often be much more important than the precise movements themselves (Newson, 1974). Communication gestures serve a dual purpose in that they operate as answering signals to preceding gestures and also as stimulating communication. "Adult communication should alert us to the fact that the meaning of signals can never be assumed from their physical form alone, and often can only be understood by the partners themselves by virtue of sharing a particular history of previous communication with one another" (Newson, 1974, p. 253).

At three months the sounds are more frequent and of a greater variety. If one smiles, laughs, or touches an infant when he is making these sounds it tends to reinforce the sound making, and the infant will make that particular sound more.

"During the first two years, the infant takes into himself the acts of love he has experienced, the gestures by which his family have symbolized their love for him, and he gives them back, and the expression of love becomes more of a true communication" (Smart and Smart, 1978, p. 161).

"Receptive language, or what a person understands, is greater than productive language or what a person says" for a young child according to Smart and Smart (1978, p. 161). In other words, the child knows the meaning of many words that he may not be able to say. "Human speech has special significance for a young infant, even though he cannot say a word, and while he is listening, he is getting ready to speak"(p. 161). "The infant perceives human speech more readily than he percieves other kinds of sounds, as though he were especially attuned to the types of sounds upon which languages are built" (Smart and Smart, 1978, p. 161).

The infant, even when very young expresses many complicated patterns of behavior. The infant is definitely an active organism with a wide range of competencies.

CHAPTER III

Caregiver (Father and/or Mother) Influences

A caregiver is anyone with responsibility for the infant's care over a prolonged period of time. Caregiving is a highly complex pattern because it involves the interaction process between two organisms. The smoothness of the relationship would hardly be possible were it not for biologically based regularities. A caregiver has three maternal functions as described by Leon Yarrow (1963):

- A. source of social and sensory stimulation
- B. agent of need gratification (tension reduction)
- C. involved in affectional-emotional interchange

Yarrow says caregivers who provide good stimulation and encouragement to practice developmental skills tend to be successful in producing infants who make developmental progress.

We need to remember that few if any parents have been trained in caregiving skills, and thus any awareness of their abilities and skills adds to greater awareness of their role in this process. With awareness comes a new satisfaction from their responsibilities, and caregivers can appreciate their relationship with their infant more.

There are many interactions between caregivers and infants which are consistent for that particular relationship. Daniel Stern(1977) in his book, The First Relationship, identifies these specific behaviors as "infant-elicited" behaviors. Both partners, infant and caregiver, must regulate the quality, quantity, and timing of stimulus events so that attention, excitement, and affection can rise and fall each within its own optimal range. Stern says that the most crucial tools to regulate the caregivers half of the interaction process are the "Infant-elicited" social behaviors.

The "infant-elicited" adult social behaviors appear to be very different from the normal adult to adult repertoire of social behaviors. These adult social behaviors are unique to this special relationship between caregiver and infant.

Stern (1977) cites three characteristics of parental social behaviors which have been labeled "infant-elicited". These behaviors are:

- 1) exaggerated in space and the fullness of display can be maximal
- 2) exaggerated in time, usually marked by a slow formation and an elongated duration
- 3) usually limited to several selected expressions that are performed very frequently and with much stereotypy

Purposes of parental social behaviors include: (Stern, 1977, p. 11).

to initiate-a mock surprise expression

to maintain and modulate-the smile and the expression of concern

to terminate-frown with head aversion and breaking of gaze

to avoid social interaction-a neutral or expressionless face,
especially with gaze aversion

The caregiver and infant possess the ability for "mutual gaze".

"Mutual gaze" is the ability to remain in eye contact for long periods of time. They can remain locked in mutual gaze for thirty seconds or more.

"Mutual gaze is a potent interpersonal event which greatly increases general arousal and evokes strong feelings and potential actions of some kind, depending on the interactants and the situation" (Stern, 1977, p. 13).

There are a large number of factors affecting maternal behavior, such as the mother's cultural background, their relationships with their husband and family, the planning and course of their pregnancy, their own mothering as an infant, and their experiences in their own families (Klaus and Kennell, 1970).

Klaus and Kennell observed the separation of pre-term and full-term infants from their mothers immediately after birth. They felt this separation would affect a mother's attachment to her infant, resulting in an alteration of behavior towards her baby months and even years after birth. The study consisted of 14 mothers who all were going to bottle-feed their babies. They were assigned to a control or experimental group according to their day of delivery. The control group infants received the normal amount of hospital contact with their mothers which was approximately a glance after birth and 30 minutes of feeding every four hours. The extended contact group mothers were allowed to hold their babies for an hour after birth and received 16 more hours of contact with their babies with the first three days after birth. The mothers were interviewed and observed a year later with their infants. The results showed that the mothers in the extended contact group more often picked up their babies when they cried and tended to stay at home more with their infants. When the infants were one year of age the mothers in the two groups also proved to be significantly different in their answers to the interview questions and in their maternal behaviors. A human mother's interaction with her baby may be greatly influenced by early and extended contact (Klaus and Kennell, 1970).

Burns and Sanders (1972) investigated infant-caregiver adaptation in the first eight weeks of life. They monitored a number of variables involving infants and caregivers and also looked at the regulatory process in their interaction. The sample consisted of three groups of nine normal infants. Two groups were composed of infants given up by their mothers for adoptive placement and cared for by surrogate mothers. First these infants were

in the usual nursery, and then after 10 days they were shifted to single caregivers and then after 18 days were again shifted to a regular agency for foster home. The second group went directly to rooming-in with a single caregiver from day 2-10, and were then placed with a regular agency foster home on day 11. Group C was composed of infants of experienced, multiparous mothers. These infants were taken care of by their own mothers in rooming-in facilities for 5 days and then sent home. They found the effect of replacement of the primary caregiver at 11 days of life had a specific effect on the distress or discomfort during the feeding process. This distress behavior is viewed as a communication link in the interaction process by which the infant and caregiver reach a mutually satisfactory adapted state (Burns, 1972). The evidence indicated that those infants receiving the more individualized and specific care in the first 10 days of life were more sensitive to ensuing change. This may mean that they are more affected by it or that they may be better prepared to express distress in an unfamiliar and presumably asynchronous situation (Burns, 1972).

Dunn (1977) reported that Sander studied the patterns of crying and sleeping in babies brought up by two nurses who acted as foster mothers. After ten days in a nursery, each infant was transferred to a room where he/she was looked after individually, twenty-four hours a day, by one of the two nurses, Nurse A or Nurse B (Nurse B was noted as being more sensitive to the infant's needs). The babies transferred to the care of Nurse B showed an abrupt decrease in crying from the high levels they had shown in the nursery, while those who were transferred to the care of Nurse A showed less change.

"This study shows the way in which an infant's crying behavior is influenced from the earliest days by whoever looks after him" (Dunn, 1977, p. 51).

Gordon Bronson observed the reactions of a group of 32 infants to the approach of a strange person over the age period of three to nine months. He noted a pattern of wariness in the reaction to the stranger. "Typically, after greeting the stranger with a passing smile, the infant would stare intently for some 15-30 seconds, then begin to frown, breathe heavily, and finally start to cry" (in Dunn, 1977, p. 30). By six months, about half of the infants were consistently upset by the stranger, and reacted differently if in the mother's arms or out of reach.

Genvieve Carpenter (1974) studied infants' observations of their mother's face when she was looking at them, intent, unsmiling, and motionless (not the usual self) and found it produced distress. The distress came from the mismatch between what was familiar to the infant and the discrepancies. This showed the evidence of person or object permanence.

There is a central reciprocity in early social relations between infants and caregivers which is mediated by mutual enhancements of feelings of efficacy (Goldberg, 1977). There are specific conditions which contribute to feelings of efficacy generated by caregivers and infants by their interactions, namely the extent to which each member of the dyad provides the other with contingency experience. This notion plays an important role in the development of infants. White (1959) argued that many behaviors (e.g., exploration, curiosity) which could not be understood within the traditional drive-reduction model of motivation could be subsumed under a general need to interact effectively with the environment. White notes that this motive was an intrinsic one,

though it was influenced by experience. "Effective behavior would give rise to feelings of efficacy which, in turn, would strengthen the motive" (Goldber, 1977, p. 164). White seriously considered the work of Piaget because Piaget was one of the first to see the infant as an active organism interacting with the environment. "The term contingency experience is generally used to mean experiences which are controlled by or dependent upon the infant's behavior" (Goldberg, 1977, p. 164).

Watson (1967) suggested that infants are programmed to search for contingencies, and he thinks that the social behaviors indicative of pleasure (smiling, cooing) first occur to objects which provide a high level of contingency experience. Adult behavior towards infants is adapted to the contingency-seeking characteristics of the baby. Watson states that adults naturally play games with infants, and this is important because they provide contingency experiences.

Ainsworth and Bell (1974) noted that an important aspect of maternal responsiveness to infants are the contingencies which allow the infant to learn to be effective or attain control over their environment.

Stimulation

The infant is viewed as an active organism which includes his being an active seeker of stimulation. The infant is born with the tendencies to adapt to and organize his world. To reach full potential the infant must be stimulated to grow and develop. Stern (1977) distinguishes two types of stimulation;

- 1) sensory stimulation-perceptual stimulation
- 2) intellectual-cognitive stimulation

He refers to sensory stimulation as consisting of the loudness or pitch of a sound or the intensity or complexity of a visual image. Cognitive stimulation refers to the contents bearing some relationship to a referent

stimulus, such as an image of the expected stimulus. "The relationship of the stimulus to a referent, rather than the properties of the stimulus itself, would constitute the cognitive stimulation, the engagement and working of the mental facilities" (Stern, 1977, p. 12).

The intensity of the stimulus affects the attention of an infant. If the intensity of the stimulus is too low even though he is aware of its presence, the infant will attend to it for a short amount of time and he will quickly lose interest. If the level of stimulation is too high, the infant will avoid it by turning away and even crying (Stern, 1977). As the infant matures the level of stimulation can also be increased. "This general tendency applies to the strength or quantity of all of the various parameters that make up a stimulus; its intensity, or complexity, or amount of contrast, or rate of change, or degree of novelty" (Stern, 1977, p. 12). Secondly, the repetition of a stimulus affects the effect of the stimulation. If the infant is presented with the same stimulus over and over, he will attend to it less and less, this process is called habituation. "Habituation is the progressive response decrement to a repeated unchanging stimulus" (Stern, 1977, p. 14). Habituation may be present at birth and has been demonstrated by three month old infants.

Infants and caregivers mutually regulate the course of their interaction. Stern discusses two dimensions of this relationship. "First, what would be considered misregulations within the dyad or failures to goal-correct the levels of attention, excitement, and affect so that the optimal range is seldom maintained? Second, any goal-correcting act the infant makes can be considered a coping maneuver to adapt to or adjust the internal and external stimulation presented by the ongoing situation" (Stern, 1977, p. 97)

Overstimulation may be caused by controlling and intrusive behaviors of the caregiver. The infant is equipped with the ability to regulate his stimulation and if there is overstimulation he will avoid it or begin to cry. The infant will utilize different techniques of adapting to the misregulated system. Overstimulation and under-stimulation are basically due to a caregiver who is not "tuned in" to the infant's needs. The caregiver would have to readjust her own behavioral repertoire and stimulus level in order to match the infant's range.

Caregivers contribute so much to the relationship, however, the infant is also an essential contributor to the interaction process. The infant seems to draw out or spark social behaviors in adults, which in turn stimulate the infant. So as one can plainly see, this relationship is a mutually enhancing affair, which grows and develops over time.

Chapter IV

Educational Assessment Instruments For Infant Programs

This section of the report is intended to give the reader an overview of some of the assessment instruments used in infant programs. I feel these tests are some of the more comprehensive and realistic as far as their ability to tap the infant's capabilities. These first three tests are non-standardized and are used to provide the professional with a profile with which to work to establish an appropriate program. The following two tests are normative, standardized tests which are more complex and require training to administer.

Portage Guide to Early Education

This assessment guide was developed with four goals in mind:

- 1) to enhance a developmental approach to teaching
- 2) to concern itself with several areas of development including cognitive, language, motor, social and self help skills
- 3) to provide a method of recording existing skills and recording skills learned in the intervention period
- 4) to provide suggestions on how skills could be taught

In 1974 the Portage staff conducted a survey of over 500 purchasers of the Portage Guide and the results showed that 60% of the purchasers were using the Guide in classrooms. Also they found the Guide was being used with a variety of handicapping conditions, and in a variety of settings (home, classroom, institution). The Guide was being used for curriculum planning by a diverse group of paraprofessionals and professionals with various teacher-child ratios in programs of differing theoretical bases. This survey seemed quite encouraging and many of their purchasers gave suggestions for improving the Guide.

The Portage Guide consists of three parts: a) a checklist of behaviors on which to record an individual child's developmental progress, b) a card file listing possible methods of teaching these behaviors, and c) manual of directions for use of the checklist and card file as well as methods for implementing activities.

The Portage is comprised of five developmental areas plus a section on infant stimulation. The curriculum includes developmental areas which they feel serve as readiness or prerequisite skills for acquiring new abilities in other areas of development.

The infant stimulation section of the Portage is based on their philosophy that "much of any child's future course of development and learning depends upon the stimulation and reinforcement he receives in infancy" (1974, p. 4). They stress that "the infant requires significant environment input before a response can be expected". Thus a majority of the items of the section are activities which the caregiver can do with their infant. The manual states that "the environment for learning is enriched by these adult-initiated activities".

The Portage is a non-standardized test in that it does not have specific criteria and it does not require formal training in order to administer it. It is very useful in pretesting and posttesting and dates of achievement can also be recorded. Basically, it is used for curriculum planning.

Progressive Assessment Chart (P.A.C)

The P.A.C. is another type of non-standardized test, which was developed by H. C. Gunzburg, a consultant psychologist. Gunzberg prefers to regard the P.A.C. as a systematic observation technique. This test

enables the caregiver to chart the unevenness of social functioning. The P.A.C. is not primarily a testing instrument, in fact, the total score is avoided as much as possible. This test does not require specific training to administer, but the user must follow the guidelines as closely as possible to get reliable and valid results.

The philosophy of the P.A.C. is "the consideration that a certain minimum amount of social knowledge has always been regarded as important and relevant for adequate social functioning, and considerable efforts have been made to give the mentally handicapped child some reasonable social competence"(Gunzberg, 1974, p. 6).

The unique feature of the P.A.C. is that it includes a circular diagram which permits a qualitative assessment of social behaviors. In using the diagram, the tester heavily shades in all the areas or skills that the child definitely has acquired and lightly shades in the skills which have not yet been properly accomplished. As a result the diagram comes out looking rather patchy because of the light and dark shading. The purpose of this shading is to give the viewer a one glance look at a child's total development rather than the time consuming process of summing up scores or looking through the checklist pages.

The tester will then focus on the developmental area(s) in which the child lacks skills; implement a program covering these area(s), and finally assess the child again to find that progress has been made. The goal is to have all four sections of the development (self-help, communication, socialization, and occupation) to be in compliance with the child's age.

The Primary P.A.C. covers the first stages of development through approximately age three. The items are also found in many other well know infant development scales, such as Gesell (1954), and Illingworth (1960). The P.A.C. is primarily an assessment scale. The chart records the facts, not the reasons why skills are not performed, however, the facts are necessary before deciding on an appropriate curriculum plan.

Learning Accomplishment Profile (LAP)

The LAP was composed by the Chapel Hill Training-Outreach Project at Chapel Hill, North Carolina. Anne R. Sanford and associates developed this test in 1974 through funding by the Bureau of Education for the Handicapped and the Office of Child Development, H.E.W. LAP was designed to provide teachers of young handicapped children a simple criterion-referenced record of the child's existing skills. This enables a teacher to identify developmentally appropriate learning objectives for each child, measure progress through changes in rate of development, and provide specific information relevant to pupil learning. The LAP consists of three sections:

- Section 1 - Developmental data - a hierarchy of developmentally appropriate behaviors, drawn from recent normative data so evaluation can be made on existing skills in six areas (gross and fine motor, social, self-help, cognition, and language)
- Section 2 - the task-level hierarchy provides a guide for sequencing skills and provides an efficient system for recording responses
- Section 3 - provides forty-four weeks of curriculum units with isolated concepts presented in a hierarchy of responses

The LAP's objectives are to provide the user with a comprehensive profile of the child's accomplishments, so she can determine the child's capabilities, identify specific behavioral objectives, utilize effective materials and methods, and evaluate progress.

LAP is a criterion-referenced test in which items are drawn from a number of well-known normative scales.

Denver Developmental Screening Test

The Denver Developmental Screening Test was devised by William K. Frankenburg, M.D., Alma W. Fandal, and Josia B. Dodds, Ph.D., from the University of Colorado in 1967 and revised in 1970.

The DDST consists of 105 tasks in the range of accomplishments of children from birth to six years. There are four sectors:

- 1) personal-social (tasks indicating how the child gets along with others and cares for himself)
- 2) fine motor adaptive (the child's ability to see and use his hands)
- 3) language (child's ability to hear, carry out instructions, and to speak)
- 4) gross motor (child's ability to sit, walk, and jump)

The manual gives specific instructions to follow when administering this test which are vital to get an accurate and reliable test interpretation. There is also a two-part film available on how to administer the test. It recommends that the tester become very familiar with the method and materials and have a practice run with another tester before attempting to give the test.

In selecting the standardized test items for the DDST, over a dozen infant tests and preschool intelligence tests were surveyed. Selections were based on whether the item required elaborate equipment, could be quickly and easily administered, and if the response could be clearly scored. The 240 items were used to test 200 infants and preschoolers, and then were cut down to 105 prime items for standardization. The DDST was standardized on 1,036 normal Denver children between the ages of 2 weeks to 6.4 years. The children were from a variety of socio-economic groups.

For test-retest reliability, they tested twenty children from 2 months to 5½ years on a one week interval. The agreement over the one week interval was 95.8%, and the percent of agreement on items by examiners ranged from 80 to 95, with the average agreement being 90%.

Frankenburg, et. al. (1971) tested the correspondence between the DDST ratings of normal, questionable, and abnormal, and compared the results to the other diagnostic tests. The second study conducted was to measure the stability with the DDST interpretations of 186 children over a one week interval. Finally, a third study was performed by taking a cross-validation to check the revised method of interpretation. "The use of a revised method of interpretation for the DDST results and those obtained by more definitive tests, such as the Standford-Binet, and Infant Scales of Bayley" (Frankenburg, et. al, 1971, p. 994).

In the validity study, the agreement rate for the two tests utilizing the revised method of interpretation was 97%, as compared to the 76% of the original interpretation method. Since the validity and stability was greater for the revised method, they also reported a cross-validation study. This study also yielded a greater amount of agreement between the revised DDST and other criterion tests. The results of these studies indicated that the revised interpretation of the DDST increased its validity and stability.

Bayley Scales of Infant Development

The Bayley Scales of Infant Development were developed in 1969 by Nancy Bayley to provide measurement of the developmental progress of infants in the first two and one half years of life. It has three

parts:

- 1) the mental scales - to assess sensory-perceptual acquties
- 2) the motor scales - to measure the degree of control of the body
- 3) the infant behavior record - to assess the child's social
orientation towards his environment

The Bayley is a standardized test which requires training of the examiners. The norms were collected from 1,262 children from two to thirty months, from a variety of backgrounds, and they were divided into 14 age groupings. The age placement of items was arranged at the age when 50% of the children tested passed a given item. "The Bayley Mental Scale was not designed to be a Piagetian developmental measure, although certain test items are obviously related to Piagetian stages" (Lambie, Bond, Weikart, 1974, p. 72).

In summary, the normative or standardized tests require a uniform administration and are based on established norms. All of these assessment instruments provide us with a good screening devices and a way to developmentally compare the child to others in approximately the same age range. Assessment instruments need to be used with caution, so as not to peg a child into a certain spot, but rather as a guide to keep the child moving along developmentally at a realistic rate. A combination of assessment instruments seems to give the most dependable overview of the child being assessed.

CHAPTER V

Infant Stimulation Programs

In this chapter, we will briefly review seven models of infant stimulation programs. All of these models encourage parent involvement. In the review it is important to note several key factors; the amount of parent involvement, the home vs. center or both approach, the age of entry in to the program, and the number years in the program, and if the program utilizes professionals, paraprofessionals or both.

"Ur-Education" Model

Earl S. Schaefer (1971), in his article, "Learning from each other", suggests a model of basic education labeled "Ur-education" with the "ur" meaning basic, primitive early. In this model the parent develops a positive relationship with the child who will then reciprocate. In the context of this relationship, they share activities and develop interests together. In the "Ur-education" model the parent and child engage in activities and explore materials to form the basis of subsequent learning.

Schaefer(1970) gives suggestions to strengthen family and community centered education. He says that educators should develop techniques for enrolling children in school at birth, by providing parent education through home visits and mass media. Educators have to be prepared to be leaders and team members in conjunction with parents and other professionals. He also suggests establishing toy lending libraries and providing simple teaching materials so older siblings can also participate in the educating. "Our ultimate goal will be a comprehensive, integrated system of education in which everyone is a student, and everyone is a teacher throughout his life-span and throughout his life-space"(Schaefer, 1970, p. 81).

Schaefer gives a list of suggested criteria to guide research in evaluating programs for children under three:

- 1) adequate nutrition
- 2) ability to deal with the baby's distress
- 3) stimulation designed to meet the infant's needs, tolerance level, and capacity for enjoyment at different stages of sensory-motor development
- 4) talking to the infant
- 5) opportunities for exercise of emerging sensory-motor functions
- 6) encouragement of the infant's efforts
- 7) continuity in a few basic, warm relationships

(1970, p. 85)

In conclusion, Schaefer does seem to support family and community involvement in the educational process.

Ypsilanti Carnegie Infant Project

In home-teaching projects such as the Ypsilanti Carnegie Infant Project, the parents are an integral part of the program. They summarize three assumptions about parental involvement:

- 1) parents need the benefit of expert knowledge and special training to raise their children effectively. In order to learn these essential skills, they must be involved and trained in infant education programs derived from labs, and field research
- 2) parents know what they need as parents
- 3) parents and educators can be resources for each other

(Lambie, et. al. 1974,p. 24)

One must question how reasonable the first assumption is because as White (1971) reports the knowledge base for such expert recommendation is still quite thin. The third assumption is one that the Ypsilanti Carnegie

Project adheres to. Their objective is not to retrain parents, thus giving them feelings of inadequacy and low self-esteem, but rather to facilitate their self-determined natural behaviors. This position assumes that parents have the capacity to adequately rear their children, but may want support systems to overcome specific problems. The primary role of the professional is to provide assistance and opportunities for parents to achieve their goals. With developmental knowledge about children the professional can clarify and help parents to set realistic goals.

The primary objective of the mother in his project is to be the primary educator and to be effective at that position. They define a teacher as "someone who responds to the abilities, needs, and interests of the learner by providing real opportunities for learner-initiated activities which contribute to development" (Lambie, et. al. 1974, p. 26).

The role of the professional is to facilitate the growth of mother as a teacher, based on the belief that this is the most effective way to support cognitive development in infants.

This project's curriculum is based on a Piagetian model, with a set of educational objectives and a body of descriptive observational data to guide the teachers in interpreting the infant's behavior.

Again, the theme that keeps reappearing throughout the review of this model is the stress on parental involvement and the team approach to the educational process.

Francis H. Palmer

Francis H. Palmer, et. al (1969) from State University of New York at Stony Brook, report some positive results from their longitudinal study.

His research involved some 310 black males born in Manhattan, New York, with the experimental group consisting of 120 males who began training at age two and 120 who began training at age three. The other 70 boys served as the control group and they had attended the center for assessment purposes only. The 240 who attended the center, did so for two, one hour sessions each week over an eight month period where they received teaching on a one-to-one basis. The results for those who began training at two were very positive. The experimental groups, after eight months of training performed better than those in the control group on 14 of 16 measures with nine of these being statistically significant. They rated higher on the Stanford-Binet, language comprehension and use, perceptual discrimination, motor behavior, delayed reaction, and persistence at a boring task. Even at a year later, they still were superior on all, but four of the measures (Palmer, 1969). Palmer believes that the young child needs stimulation to develop intellectually and his longitudinal research seems to be showing positive results supporting this hypothesis.

Their interpretation of their findings are as follows:

- a) the two year old is highly capable of learning a great deal with only two hours/week of instruction
- b) what is taught is not so important as the conditions under which the child is taught, specifically the nature of the adult-child relationship

(Palmer, 1969, p. 56).

Palmer and his associates believe that the superior performance of their experimental groups was due to the "regularity of their exposure to a structured learning condition, to the affective relationship between educator and child, to the uninterrupted nature of this relationship, and also to the

increasing realization by the child that he could respond to stimulation and be rewarded for his response" (Palmer, 1969, p. 57). The affective bond seems to be the motivating factor and this factor was given a chance to develop from the one-to-one relationship and the uninterrupted 45-minute sessions they shared.

It seems that his one-to-one relationship models after the natural relationship between caregiver and child, thus making for a very workable, positive relationship.

Frank Porter Graham Child Development Center

Halbert Robinson (1969) from the University of North Carolina and the Frank Porter Graham Child Development Center worked on a complex long-range research project. The project hoped to :

- 1) discover a recipe for optimum environment for a group of infants and children from various socio-economic groups
- 2) learn how to support parent's efforts by developing a comprehensive and easily available package of services for children, including full day care complete health care, and education
- 3) discover what difference such a program will make in the long-range functioning and stability of the families and the development of children

(Robinson, 1969, p. 96)

This program worked towards a day care facility for more than 200 infants and young children and an elementary school for these children. Cottages are specifically designed units in which the children can eat, nap, play, and engage in activities. The program rationale consists of several ideas:

- 1) that the best time to intervene into the cycle of deprivation and inadequacy is the period of infancy and early childhood

- 2) that if early experiences are continuous with later ones through the school's encouragement of the same skills and abilities cultivated earlier, the gains made through the preschool program will not be lost
- 3) that only by a full-scale and energetic program can the potential effects on children of favorable early experiences be assessed, whether children of the poor or middle class

(Robinson, 1969, p. 97)

Again, the focus is on the family and the supporting of the caregiver as the primary educator of their young child.

Merle Karnes

Merle Karnes and his associates (1970) described a program of early educational intervention implemented by mothers over a 15 month period to prevent the developmental deficiencies characteristic of disadvantaged children by the age of three or four. The chronological age of the 15 infants was 20 months with a range of 13 to 27 months and included five females and ten males. The intervention consisted of two groups of mothers who met together throughout the seven months of intervention in the first year. The weekly meetings were divided between child and mother centered activities. The staff made monthly home visits to reinforce the teaching principles introduced at the meetings and to help each mother establish a positive working relationship with her infant.

Post-intervention scores on the Stanford-Binet Intelligence Scale and the Illinois Test of Psycholinguistic Abilities were obtained for the 15 children of the experimental group and compared with the scores of the 15 of the control group who were from similar family backgrounds with no intervention. The performances of the experimental children were significantly superior to those of the control group. "The results of this study

endorsed the effectiveness of the mother training program in altering in positive ways the development of disadvantaged children before the age of three" (Karnes, et. al., 1970, p. 925). Once again, we see positive effects from parental involvement.

Ira Gordon

Ira Gordon while Director of the Institute for Development of Human Resources, College of Education, University of Florida, Gainesville, developed a program utilizing paraprofessionals in parent education. This program was a home-oriented intervention approach for poverty children in hopes of breaking the poverty cycle. "The overall aim was to investigate the effectiveness and practicability of a home centered technique for cognitive, language, and personality development of mother and child, based upon the use of parent and child educators who are themselves members of the population to be served(in Frost, 1973, p. 99).

Three purposes were established at the beginning of this program in 1966:

- 1) to have a home visit program using paraprofessionals as the key educators for children three months to three years and their mothers
- 2) to have materials to be developed which can be easily used by mother and child after a simple demonstration
- 3) to see if this program could make a difference several years later

(in Frost, 1973, p. 99)

The results of the research on Ira Gordon's project indicated that effects are a function of the length of time a child is in the program. Gordon's project used paraprofessionals as home visitors to work on a one-to-one basis with parents at home, which was approximately once a week. The

activities were kept simple and they made use of objects from the home. The visits usually lasted less than an hour. The emphasis was on demonstrating the activities and not on specific teaching behaviors. The activities were based on Piagetian orientation, stressing cognitive problem solving types of activities. Also, emphasis was placed on increasing the amount of language interaction between parent and child.

Their research findings showed that for the two cognitive factors (language and memory) the performance was positively related to the length of time in the program. The data rejected the hypothesis that earlier experience (0-1) is superior to later in the first three years, and there was no significant sex difference. These results were consistent across all measures: the longer a child was in the program the better their performance with the major differences occurring between two and three years and one year and birth. Time of entry into the program did not significantly affect performance of those who had equivalent time. The data also indicated positive attitudes and behaviors of mothers towards their children.

The purpose of their project was to demonstrate an innovative approach to working with parents of very young children and with the children themselves in a home visit situation. This type of program is viable and seems to have some very positive results.

Earl Schaefer - Home Tutoring

Earl Schaefer's home tutoring program began in 1965 to stimulate the intellectual development of lower socio economic status young children. The experimental group consisted of 31 and the control of 33 children. All the children were Negro males under the age of two from poor homes. The tutors

were college students with experience with young children and the inner city. Two tutors alternated weekly in their visiting of each of the experimental group children. Their visits were five days a week, for an hour visit. The children began at 15 months and continued until they were 36 months old.

The goals were to develop a positive relationship with the children and their families, and to provide a variety of verbal stimulation that continued to increase in complexity as the visits increased.

The groups were given intelligence tests, Bayley Infant Mental Development Index and the Stanford-Binet. Tests were given at 14, 21, 27, and 36 months. At 21 months, tests of both groups were below national norms on cognition and language, however, at 27 and 36 months the experimental group increased their scores. Unfortunately a year after the study, the scores dropped significantly, indicating that the young children need not only early intervention, but also continuing stimulation for optimal intellectual growth (Schaefer, 1969).

Most of the research done in the area of infant stimulation is with those from lower socio-economic levels. Researchers select children for who there is a presumption of need and families who agreed to cooperate with the study, thus omitting many other types of families. Therefore, such experiments with the low socio-economic children should be considered only as a first step in the research of the effects of infant stimulation.

However, the re-occurring theme throughout the review, in my opinion, was the parental involvement. Parents need to be supported in their efforts to be good educators of their children.

CHAPTER VI

Application

Practicum - Big Lakes Developmental Center-Junction City, Kansas

My practicum experience began June 4, 1979, at Big Lakes Developmental Center under the supervision of Dr. Robert Poresky. The developmental specialist I worked with most closely was Ms. Mary Lou Cavin, and I might add she is an outstanding teacher and a joy to work with.

First, I think it is appropriate to give a little background information about the infant stimulation program at Big Lakes. This agency developed their program in 1975 in an effort to meet several needs of their agency. The homebound program's main goal is to assist the caregiver in the teaching of her infant. The caregiver and the homebound developmental specialist work to stimulate an overall developmental improvement in the child. The homebound training takes place in the infant's home so that the developmental specialist can incorporate the child's natural environment in the learning techniques and establish a comfortable relationship with the caregiver.

Big Lakes has a strong infant stimulation program and I was very proud to get the opportunity to work with their staff and program. Our work varied from two to three home visits per morning lasting approximately one hour. We visited the family twice a week. At the time I was working with the program, we were visiting approximately five families. This meant ten to twelve hours of home visits and several hours of planning time each week. The afternoons were spent working with the

preschool children enrolled at Big Lakes Developmental Center. Thus the time I spent working with the program came to approximately eight hours per day, four days a week, for four weeks or 96 concentrated work hours.

The home visits consisted of activities which were planned on the child's Individual Program Plan Home Activity Worksheets (sample included). With this worksheet the Developmental specialist and caregiver worked with the infant on all the developmental areas. The Developmental Specialist also assessed the infant and kept an individual file on each family.

My personal objectives which I shared with the Director of Big Lakes as well as with Ms. Cavin, my supervisor, were:

- 1) to become familiarized with the infant stimulation program at Big Lakes
- 2) to become familiarized with handicapped infants
- 3) to work comfortably with the caregivers by making suggestions and giving positive feedback
- 4) to try my own suggested activities with handicapped infants, and develop a good list of successful activities
- 5) to incorporate some testing, possibly with Brazelton's scale
- 6) to compare the developmental levels of Piaget's sensori-motor period to make an accurate evaluation of the set-backs of these handicapped infants
- 7) to become more familiarized with the agency in general and establish a working relationship with the staff
- 8) to gather materials and develop a notebook of infant stimulation program materials (see notebook)
- 9) to learn as much as possible in the shortest amount of time from all of the professionals I worked with
- 10) to enjoy my work with handicapped infants and their families

The result of my practicum experience was one of growth and new awareness. Throughout my experience with Big Lakes, I continually saw the needs of the caregivers of these handicapped infants. The need for them to have a supportive, knowledgeable, professional friend became evident. I saw that working with the infant stimulation program called for a very special kind of professional. A professional who could be a teacher and a teammate. This professional had to be ready to answer all types of questions from medical to mental stress. This professional had to be alert and attentive to the needs of the total family, and be willing to give it her all, even if she didn't feel up to it that particular day.

In conclusion, I have to say that I worked with a professional who I saw as someone special, someone who I could strive to model. I believe in this profession and the needs of the families with problems of a handicapped infant or other problems, and I hope to be the special kind of professional who can be supportive and dependable when the need arises. I believe in the family and will always strive to keep the family unit working together especially when in a family crisis. My experience was one of new awareness and was a big stepping stone for me into my future.

Some of the materials I developed and used in the program are contained in the Appendix. Also, I felt very appreciated in this program, as was shown me in the newsletter at the end of my stay.

Conclusion

In conclusion, I hope I have established a new awareness and appreciation of the infant and the caregiver. I hope the review of Piaget's theory of sensori-motor development was clear and yet challenging. The infant's competencies were discussed to develop an overall picture of the infant's character and his complexity and of how this relates to the interaction process between infant and caregiver. The caregiver does have a great deal of influence over the infant's growth and development, and yet the infant is also equipped with the ability to control his world.

The assessment instruments were reviewed to give the reader an overall view of what is being administered to infants and how this information is being used in understanding infant development.

The infant stimulation programs need to be critically investigated for their strengths and weaknesses so they can become of greatest service. My practicum experience helped me to get a close look at the infant stimulation program in action, and this sparked my new interest in the caregiver's role in the stimulation process and their needs.

I experienced the need of the infant stimulation program, when my cousin contacted me for information about programs like this, and I observed the effectiveness of a good program and how important the caregiver's role is in the developmental process of the infant.

I strongly recommend establishing quality infant stimulation programs, which use a combination of infant assessment instruments to get the most accurate picture of the infant, and programs which respect and support the caregivers in their role to raise children to their full potential.

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APPENDIX

ILLEGIBLE DOCUMENT

**THE FOLLOWING
DOCUMENT(S) IS OF
POOR LEGIBILITY IN
THE ORIGINAL**

**THIS IS THE BEST
COPY AVAILABLE**

I.P.F. Home Activity Worksheet

Child's Name: Jennifer H. Week of _____

My Goals which were used with the Big Lakes Goals

ACTIVITY	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
1. Pound Play dough and drum both hands Walk backwards Kick ball (Gross-Motor)							
2. Nesting Toys Form board Point to Pictures (Cognitive)							
3. Pictures of family Smile in mirror Roll ball to me (Affective)							
4. Shake head "yes" Imitates sounds (Language)							
5. Pick up Cheerios with left hand Spoon with right hand (Self-help)							
6. Put together pop beads Wheels & Reels (Fine-Motor)							
7.							
8.							

Parent's Signature

I.P.P. Home Activity Worksheet

Child's Name: Jennifer H. Week of _____

Big Lake's Established Goals:

ACTIVITY	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun
1. Stacking 3 blocks Attending (Fine-Motor)							
2. Standing Up un- assisted-from floor Wheelbarrel-3 feet (Gross-Motor)							
3. 1" Peg board 5/5-5sessions unassisted (Cognitive)							
4. Imitates sounds (ball, puppy, etc.) (Language)							
5. Pick up cup unassisted and put it down (Self-help)							
6. Attends and Participates with another(2-5min) (Affective)							
7.							
8.							

 Parent's Signature

OBSERVATION

BIG LAKES DEVELOPMENTAL CENTER, INC. Page 50
230-A Poyntz Ave.
Manhattan, Kansas 66502
Phone 913-776-9201

I.P.P. Home Activity Worksheet

Child's Name: Keith Week of _____

My Goals used with Big Lake's Goals

ACTIVITY	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
1. Imitation-clap hands Roll ball (Affective)							
2. Pull string toy Shapes in box Puzzle-3 piece (Cognitive)							
3. Points to pictures make some sounds Imitation (Language)							
4. Walk with a rod in front with assistance Standing-2 sec. (Gross-Motor)							
5. Wet hands-soapy water and dry (Self-help)							
6. Unscrew lids Play dough pound- ing (Fine-Motor)							
7.							
8.							

Parent's Signature

I.P.P. Home Activity Worksheet

Child's Name: Keith Week of _____

Big Lakes Goals

ACTIVITY	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
1. Pats teacher's face (Affective)							
2. Place 1" peg in peg board with out assistance (Cognitive)							
3. Raise to sitting unassisted from the right side (Gross-Motor)							
4. Sounds-o,p,k,ae, (language)							
5. Scoops with hand and takes from bowl-slows eating (Self-help)							
6.							
7.							
8.							

Parent's Signature _____

Junction City Child Development Center
July 1979

Nancy's Corner

This is the last newsletter for this session. Many exciting goals have been reached for children enrolled in Big Lakes, and I congratulate the staff and parents. It takes "team work" to accomplish each child's goals!

I have sent out questionnaires to parents which I would like back as soon as possible to help us make program plans for September. Thank you for taking the time to fill them out.

To those children and families that are moving or graduating into the public school system, we wish you well and we will miss you. If you have questions or concerns about programs and services later on, Big Lakes staff can continue to be a resource to you.

The staff is looking forward to a relaxing, restful, and rejuvenating August. We shall send you notices for the first day of school. See you in September!!

Thank You

Parents for a super turn-out to our parent potluck on June 21. The food was delicious and such a nice variety.

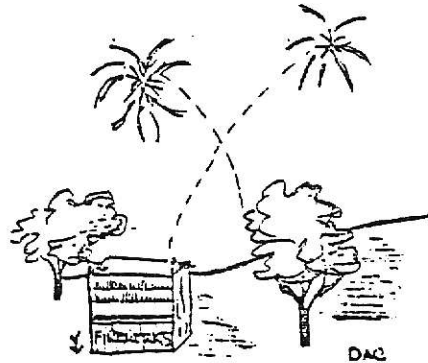
Norma Manz, Carol Hedges, and Susie Brown for sharing their food with us for snack time.

Diane Colbert for substitute teaching during Teresa's absence.

Melissa's mother for birthday cup cakes.

Ann and Stella Rooker for helping with the children while you visiting your cousin LaShell.

(Good-bye to Darcy Petzold, who was with us this month doing a practicum in infant stimulation as a part of her Master's program at KSU. We really enjoyed having you as part of our team, Darcy. Thank you for all your special ideas and help. Best wishes as you return to your home in Texas.)



Visitors

- Mark and Diane Beckwith
- Edna and Philip Larmore
- Nancy Bolsen
- Susie Brown
- Ann and Scella Rooker
- * Dr. Robert H. Poresky, Family & Child Development Department, KSU *
- Jim Shaver, Executive Director of Big Lakes

Welcome - Michael

Farewell

Anthony	Michael D.
Michelle	Calvin
Rusty	Melissa
Michaela	Lorrie
Charles	Shelly
Michael S.	

Happy Birthday

Melissa - June 28	Lesley - July 16
Anthony - July 14	Dylan - July 22
Shelly - July 15	

INFANTS TO FULL POTENTIAL

by

DARCY LYNN FRYE

B.S., Kansas State University, 1978

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Family and Child Development

KANSAS STATE UNIVERSITY

Manhattan, Kansas

1981

ABSTRACT

Infancy is a time of rapid growth and development. Jerome Bruner refers to this period in life as a time of "absorption" or as a time when the infant "soaks" in his environment. The infancy period is a time of great change with many memorable landmarks, as the infant experiences his new world, and interacts with his caregivers.

The significant factors in this interaction process are the naturalness and the mutuality of the new situation. The infant and caregiver spontaneously engage in social exchanges and feelings of warmth, security, and love.

Because the emphasis on the area of infancy is relatively new, many assessment instruments are being used to try and tap this fascinating period of growth, and infant stimulation programs are striving to enhance this period of growth and therefore are being investigated by many. However, with the lack of substantial research in this area, one has to critically investigate these programs and the assessment instruments being administered.

This area of study is rapidly emerging especially with some of the exciting research of T.B. Brazelton and B.White (1975). Both advocate looking at the infant as an active organism, as a competent human being uniquely his or her own. They also see caregivers as persons to be commended and supported in their efforts to raise their children.

This report is intended to give the reader a picture of the applied infancy area. Also, it is intended to inspire the reader to investigate infant stimulation programs and their assessment instruments, but primarily it is to spark the reader to take a critical look at the human infant.