



## **CHILD PLAY UNDER TWO AS A BASIS FOR LEARNING SPEECH AND LANGUAGE**

Anamarija Filipič Dolničar, Speech Therapist  
 School for Deaf, Ljubljana, Slovenia  
 anadolnicar@hotmail.com  
 Andreja Trtnik Herlec, Msc Lecturer  
 National Leadership School, Ljubljana, Slovenia  
 andreja.herlec@solazaravnatelj.si

Subtitle: Functional learning in speech and language therapy for young children with developmental delay

### **ABSTRACT**

At about five months when the infant begins to sit up with support, the mouthing of objects extends into a great deal of free exploration. All babies share an innate desire and need for learning. During these early months of pre-verbal play the infant's body activity is characterized by endless repetition, continuity, effort and pleasure meeting perceptual motor and emotional needs, all of which increase the infant's overall competence. Children are naturally motivated to play and this play provides the beginning of Learning Tools, the cognitive growth. Learning Tools include: picking up and placing, pairing, banging, matching, sorting, brick building, sequencing and drawing.

Developmentally delayed children from various reasons do not learn to play or communicate. Therefore Functional Learning activities, based on growth of Learning Tools have been designed to replicate, as near as possible, early play and the development of Learning Tools. To form the foundation for the development of language and communication.

In my video presentation I show the normal stages of child's play and the development of Learning Tools in comparison with the therapeutical approach showing how to facilitate Learning Tools in a delayed child building up basis for emotional and cognitive growth and the consequent development of learning and communication.

KEY WORDS: Functional learning; play; speech and language therapy; developmental delay; Learning Tools.

### **INTRODUCTION**

There is a worldwide demand facing the needs of young developmentally delayed children and their parents. Nowadays many therapists face multi-causal problems in developmentally delayed children such as genetic, neurological and biological, including emotional and social needs with cognitive, motor, perceptual, language and communication disabilities. Therefore, a single therapeutic approach is no longer possible. A strong collaboration between all experts and also parents is the key. It is necessary and vitally important to overcome professional boundaries and share resources to provide essential continuity with professional and emotional support, to the parents and their children.

A common factor with developmentally delayed children is their inability to play. Play is children's work and the foundation for emotional and social growth, understanding and cognition, communication and language development (Stroh 2000).

### **FUNCTIONAL LEARNING**

Functional Learning is a multi disciplinary, educational approach to meet the needs of developmentally delayed children supported by their parents (Stroh 1998).

Functional Learning program facilitates children's early play by helping them develop their Learning Tools. Learning Tools are mental tools common to all children cross-culturally to problem-solve and learn about environment, leading to growth of emotional, cognitive and communication abilities.

These learning tools include *picking up and placing, banging, pairing, matching, sorting, sequencing, brick building and drawing.*

Functional learning activities increase child's general understanding and competence and so prepare him for the acquisition of latter skills. Started by demanding as much effort as possible but no more understanding of these activities than the child can freely give to them. The activities are very physical and demand help with guidance from the adult. Eventually, we believe that the child will provide all the energy. The activities are carefully chosen so they slowly raise the degree of competence, which makes it more likely for the child to engage in some spontaneous activity. The emphasis is on experiencing pleasure during the activity. Children are deliberately given no encouragement to do things in order to gain approval. The aim is to encourage a resourceful use of the Learning Tools acquired through action, which he must have if he is to develop normally (Stroh 1998).

### **PIAGET'S SENSORY-MOTOR THEORY**

A newborn baby is capable of integrating with the world in quite a specific way, which in Piaget's view ensures progressive adaptation to the world. Initially, acting is limited to a set of reflexes, but gradually forms more complex activities. The sensory-motor structures are basis for later cognitive development. There are the universal modes of functioning that operate to modify sensory-motor structure, called schemes. Initially, these schemes are innate reflexes. Through processes of assimilation and accommodation they are modified and later inter-coordinated to provide underlying patterns for action more adapted to the world. The processes of assimilation and accommodation could be explained through developed sensory-motor schemes for reaching out and grasping. The action of reaching out and attempting to grasp an object is called assimilation. The infant is attempting to assimilate the object to the grasping scheme. When successful grasping happens the object will be assimilated into the scheme, and the scheme will be altered to the particular object. This alteration is accommodation. Therefore assimilation and accommodation are complementary processes which progressively become more complex. The scheme is the basis for sensory-motor intelligence. When an object or event is assimilated to a scheme, it acquires meaning in relation to the infant's actions. In addition, the Piaget's view on early perception is that the senses are initially separated and become progressively integrated during infancy. The scheme for looking, grasping and hearing are integrate during development as the infant is learning to understand the world as we do (Bremner 1994).

Many developmentally delayed children with whom I work could not possibly look at, listen and handle given material at the same time. Also, any attempt to integrate language in child's activity is disrupting or children could not receive verbal instruction, not even than the speech was limited to one word. In normal development at the age of about six months when a child sits up with support, mouthing extends and hand-to-mouth movements develop into reaching out, grasping, exploring and placing objects, the process of sensory integration is about to be concluded. With developmentally delayed children sensory integration takes longer and differs from child to child. When most of learning tools are developed and cognition and understanding improve a child can be helped by verbal guidance or sign language. When understanding is even better the child take over the role of verbal guidance by himself, using verbal language or sign language spontaneously for naming an object or card.

### **PLAY AND DEVELOPMENT**

According to Piaget's theory, infant development and cognition in first two years are different from later childhood (Bremner) as infant cognitive development underlies sensory- motor intelligence, but is very much related to the later cognitive and general development.

A newborn baby is characterised as a social being who starts to perceive stimuli from his environment as soon as he is born. The process of perceiving stimuli gradually starts and during infancy improves as child development capability rises. Through bodily movements and manipulation with objects the infant gathers knowledge about the world and his environment.

All babies share an innate desire and need for learning and play. Play and work are synonymous, for an infant. By play/work we denote physical body activities that occur when the infant is responding to the immediate environment. Play is a child's serious and pleasurable way of exploring environment. In a loving, supportive family the baby's needs are satisfied by great deal of free exploration, meeting perceptual, emotional, motor, social and intellectual needs. Child's physical activities are characterized by continuity, effort, pleasure and endless repetition (Stroh 1998). The baby learns and understands the relationship in the environment, learns about his body in it and experiences the environment with his own acting. Through his own activities the child gains most of the experience that he converts into understanding. By using more physical effort and developing motor skills the baby extends exploration of the environment. Reaching out is intensified using many different strategies and objects chosen by the child.

In pre-lingual stage Piaget specified play as a developmental continuum with no social interaction which is indicated by three types of handling and using objects. The first stage called explorative play includes mouthing, placing and banging. The beginning of conceptualization occurs when a child functionally compares and relates two objects, e.g. puts a man in a car or brick building. The third type is symbolic play starting in the second year of life when a child uses objects symbolically, e. g. a shell as a plate.

The characteristic of normal child's play are:

- Self motivation
- Quietness - Silence

- Concentration and attention, focusing on activity
- Effort and repetition
- Abundance of energy
- Coordinated movements working with both hands
- Movements of whole body
- Hand-eye coordination
- Active searching and variation of material and position in a space
- Free choice
- Pleasure and satisfaction
- No failure

### **DEVELOPMENTALLY DELAYED CHILDREN AND CHARACTERISTICS OF THEIR PLAY**

Developmentally delayed children have few experiences of their own which are often rather negative due to their failure because of limited understanding. Usually children develop frustration and fear of different situations because of inexperience. Many children often cry and have feeding problems (either eat too much or too little). The children's usual response to change is resistance revealed by aggressive, passive or over-pleasing behavior etc. And they are not easily calmed down. Their communication is limited. They don't play or work, but if they do, they do just a little. Play is monotonous with no variation, often obsessive. They are not self-motivated, and usually not satisfied. They don't put a lot of effort in their work/play. They lack energy or have too much energy that may be destructive. Owing to limited understanding the children are not able to organise their play. They don't know what to do with the objects. They choose only one object or none. Often the children use only one hand.

These characteristics are manifested in different ways in different developmentally delayed children but they are present in all of them in one or another form.

### **FUNCTIONAL LEARNING RELATED TO NORMAL CHILD'S PLAY**

Child plays under the age of two takes place at home with a warm, loving parental support, bringing children emotional and cognitive growth and is pleasurable for both, child and parents.

Functional learning is a program based on normally developed infant. Development is a continuum which is flexible (Stroh 1998). Observation of pre-lingual play is essential for therapists and others who work with developmentally delayed children. Developmentally delayed children from various reasons cannot get these experiences. Therefore, they need a great amount of activities designed to replicate pre-lingual play as nearly as possible. Facilitation of learning tools through functional learning activities, enables developmentally delayed children to make better use of environment and develop a basis for later learning. Observation of normal play gives therapists important clues for planning therapeutic activities for each child.

The emphasis of this therapeutic approach is on working with both parents as co-workers to offer loving, emotionally supportive environment necessary for all children.

### **THE VIDEO**

The video is divided into two parts:

Part one shows different children under two years who are playing with objects seeing them for the first time. This part is contrasted with the play of developmentally delayed child who is developing learning tools with mother's and therapist's help and support. Facilitation of growth and development of Learning Tools leads him to his own self-motivated play.

#### *Picking up and Placing*

At about six months when a child begins to sit up with support, he reaches forward to pick up and use objects, hold them in hands, observe and lets them drop. The child moves his body as far as he can and uses a great deal of effort. He uses both hands with hand-eye coordination persisting. He seems motivated to learn and explore the environment getting experience while he uses all types of objects. The child is self motivated and no adult is telling him what to do. He is working with pleasure and satisfaction. Also with older children we can still observe picking up and placing as a basis for developing other Learning Tools. There is a lot of repetition and active exploration and much more movements. The girl is concentrating and uses both hands with effort while she is working / playing. There are various choices in manner of play and nobody tells her what to do. Her play is self motivated with pleasure and satisfaction.

#### *Facilitated Placing*

We offer a great deal of different material, manners of working and use of space. We facilitate active reaching out, effort, hand-eye coordination, use of both hands, lots of repetition and coordinated movements. We pay attention to the size of the table and chairs with regard to child physical abilities, his size and age. And we always have in mind how to extend the child's active movements orientate towards environment.

### *Banging*

The child takes, holds and shakes objects. He bangs them together as if he was beginning to develop his learning tool for pairing. The hands move together and complement each other. Banging is pleasurable for a child. The pleasure in the movements extends the movements and the child wants to do more. The movements become more energetic and active. The child's body becomes more competent and his ability and activity extend.

### *Banging in functional learning activities*

We help children use both hands by offering a wide variety of utensils to bang. Even for practicing listening skills, banging with objects made of different materials brings lots of new experience.

### *Pairing*

The normal child finds the pairs in the first year. A child searches in his environment for similarities. When he finds a familiar object he tries to find a similar object in his surrounding. We all know the a baby who finds one sock and then holds up the other one: he experiences very early pairing.

When we work with a developmentally delayed child we use familiar objects and help child move these pairs from side to side with both hands. Parents are usually our co-workers, and initially need to guide the child's hands to help him as the child resist because he does not understand what is happening in this unknown activity. As he works the child increases his understanding so the resistance declines. By endless repetition the child becomes self motivated to do more and solve the problems by himself. Parents offer the necessary emotional security and support for all these activities.

When the child is older activities are more demanding and he chooses and uses more material while he plays. This leads to next learning tool *matching*.

### *Matching in therapeutic approach*

Matching is close to pairing and sorting and integrates other Learning Tools. For the developmentally delayed child we use matching boards for matching objects and eventually cards. The use of the pointing finger helps the child develop attention, concentration, memory and sequencing ability.

### The pointing finger

In a normal pre-verbal child we can see the pointing finger developing in the first year at about nine months.

1. It is used for early communication between children and parents.
2. Visual and kinesthetic perception helps attention control and memorising.
3. Beginning of sequencing thought.
4. Number concept one to one.
5. High level of symbolic thought leading to reading.

Pointing by the finger helps child keep the picture of an object in mind for a longer time, which leads to the development of long-term memory.

### *Sorting*

Children begin very early to sort out things in their lives. They use their pairing tool, their pointing finger and their play to solve problem and begin to understand their environment. . As he starts to look for similarities and recognizes differences the child knows what belongs together and what is different. As the child learns to sort and increase his understanding he starts to sort out his life..

### *Facilitated sorting*

For the delayed child we offer variety of materials in a special way and help him to sort out familiar objects until he is able to take over the activities and continue without help.

First we teach children how to sort and when they can sort the learning starts. First a child learns to sort and then he sorts to learn. Adults are there to help the child solve the problems and if the child needs guiding and leading we offer help and then move back. We start sorting activities using simple familiar material. Later we introduce various card for sorting and learning, always keeping in mind child's ability. We start with very simple

cards and proceed to the complicated ones. We can see the child uses effort while he is working, he is active and self motivated.

### *Brick building*

In normal play the child tends to build in a line on the floor or builds up a tower and knocks it over.

When we offer bricks to the delayed child, we first help him place bricks in a container. The child may resist because he is worried about this new activity so his hands are guided by a parent until he is able to take on the activity by himself.

We talk a lot about problem solving and how this helps the child understand. The child in the video is using his own strategies. He tries and repeats, he is absolutely concentrating on his work. Everything he does is good and is chosen by him. He is self motivated, active, attentive, he puts a lot of effort in his work and he is absolutely concentrated on his activity. At the beginning of the video we saw the boy when he was six months old and now at the age of two. We can observe the play at home in familiar environment using familiar toys. During the play we see most of the learning tools, important features of pre-verbal stage. The boy uses speech while he plays. He has taken over the role of verbal guidance for himself, and he directs his activities aloud. This is a stage when children talk as they play, not necessarily in conversation with others, but rather to help their own play activities. He comments on his play with very simply language from his environment, speech has immature articulation.

At approximately two years in the loving supportive family environment the foundations for later language, speech, communication and other cognitive abilities and skills are established.

With the child where we facilitated developing learning tools the play is not as varied as it is in normally developed children. He uses available materials and he chooses them by himself. A lot of effort can be observed, continuity, persistence, repetition, hand-eye coordination, coordinated movement, using both hands, own choice, concentration, peace, self-motivation, pleasure and also success.

In the last part the boy with developmental delay plays with material demanding more experience. During his play we observe sorting, matching, paring, solving problems and also simplifying. When he finishes playing with one toy, he reaches out for another. Nobody tells him what to do he is concentrated on the work in front of him.

He matches different cards on a matching board. Later in the video the boy looks for pairs among many similar black and white cards. As we make the task more demanding and effortful we expect more concentration and attention and this is learning. Then he continues by learning words, some are familiar some are new, with the help of listening and lip-reading. We always help the child if he needs it, by pointing to the right card. He starts to repeat words rhythmically and melodically. With this boy the foundation for later development of speech, language, communication and other abilities are also established.

When a developmentally delayed child puts *EFFORT* into his work, he becomes *SUCCESSFUL*. Success gives *PLEASURE* and from pleasure rises *SELF MOTIVATION* self motivated child wants to do more. *MORE WORK* brings more success which leads to *IMPROVEMENT*.

### CONCLUSION

It has been approximately nine years since Functional Learning programmes were introduced in Slovenia by Developmental Therapist, Katrin Stroh, a trained Speech Therapist and Social Worker. We have found that in circumstances when children are offered early learning activities with the emotional support and parents involvement children improve according to their primary abilities. Therefore we have to estimate that development of Learning Tools is the basis for all future learning, communication and language development. Children through their own experience obtain more information about the world, their understanding and language comprehension become appropriate. As understanding gets better, behavior and emotional responses are much more appropriate. Parents are to a certain extent satisfied with any improved response from the child. Communication between parents and children becomes better even though the child has no expressive language. Many experts find functional learning activities offered to severely delayed children a unique contribution in their therapeutic approach.

### References:

- Bremner, J. G. 1994: *Infancy*, Oxford UK Cambridge USA: Blackwell.
- Russell, P. 1997: *The Brain Book*, (Translation) Ljubljana, Dr ž avna zalo ž ba Slovenije
- Cooper, J., Moodley, M., Reynell, J.1987: *Helping Language Development*, USA: Edward Arnold
- Sinason, V. 1993: *Understanding Your Handicapped Child*, London: Rosendale Press
- Ljube š i č , M. 2001: *Early communication and its role in early learning and development*, Zagreb: Dijete

i dru š tvo

- Stroh, K., Robinson, T. 1998 Learning and Communication, U.S.A. Child Development Media
- Stroh, K., 2000: Sharing Therapeutic Resources Cross Culturally, Manchester: ISEC2000
- Stroh, K.: Secondary Handicapping Behaviors Emotional Needs of Children and Parents
- 

[home](#) . [about the conference](#) . [programme](#) . [registration](#) . [accommodation](#) . [contact](#)

