

Advance in Psichology and Education

The role of interaction and communication in early language acquisition among children with DS

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Abstract

Children with Down Syndrome (DS) are children who grow and have interests, desires and needs just like any other child in their age group. Although mental retardation (MR) does give rise to certain syndrome-specific characteristics in their language development, these must not be treated in isolation because they have a bearing on other global development acquisitions.

This paper advocates that we consider the importance of interaction and communication in early language acquisition from a functional perspective, bearing in mind the complexity of the language system and the interconnections between cognitive, emotional and social aspects in the acquisition process, in addition to the specificities of children with DS in their overall development. As the focus in this case is early childhood, rather than working directly with the child the proposed intervention seeks to help parents find communicative strategies that enhance the interactions they have with their children.

Keywords. Down Syndrome (DS), mental retardation (MR), early childhood, language development, interaction and communication, communicative strategies.

Introduction

Parents of a child with Down Syndrome (DS) are often concerned about late verbal language acquisition and from a very early stage seek speech therapy in order to speed this up.

When a child has overall developmental difficulties all acquisition processes take longer and it stands to reason that once she has learnt to walk the parents start looking towards the next milestone: speech.

Many believe that language underpins the development of all other skills and that speech therapy will resolve the child's difficulties in other areas. While language certainly plays a part in cognitive development, it is also a fact that cognitive deficiencies determine language development.

Understanding how communication and language skills are acquired and developed can help to gain a broader perspective on language, not merely as word production based on articulatory movement, but as a complex and functional human activity. Knowing what the stages of language development and acquisition times are does not entail striving to meet targets set by the adult, regardless of the child's actual developmental stage. Every child is different, as are their needs and learning paces.

1. The Relationship between language and mental retardation

Some general developmental disorders have a bearing on language, as is the case in children with mental retardation. For Del Rio, MJ. and Torrens, V. (2006)(1), "mental deficiency always leads to a language delay or disorder, or both," and people with DS have mental retardation (MR). This conditions their overall development and causes "significant limitations in functioning with regard to conceptual, emotional and social intelligence and as expressed in adaptive skills". The American Association on Mental Retardation (AAMR) defines MR as "the outcome of the interaction between the individual's capacities and the expectations of the environment" (2). I shall return to the issue of environmental expectations later as these are crucial in the child's various acquisition processes. Thus, limitations to cognitive development and alterations in their pace of development will also have an impact on language acquisition.

Garayzábal, E. (2006) (3) argues that linguistic

activity necessarily entails the action of cognitive prerequisites (attention, perception, short- and long-term memory, visual mental representation, auditory verbal comprehension, and so forth). People with MR have difficulty paying attention and inhibiting impulsive responses, and struggle to glean necessary information and discover the words and rules of the language. It is important to bear in mind that in addition to the communicative function of language which develops through social interaction, there is also a representative function, when language becomes a tool for verbal thought, vital to comprehend concepts and abstract notions and underpinned by cognitive development.

For Delval, J. (1994) (4), language affords the possibility of conveying a “meaning” through a “signifier”, which is why it is linked to other expressions of symbolic capacity or forms of representation such as mental images, symbolic play, deferred imitation and drawing. According to Piaget’s theory of constructivism (1961) (5), language is just one more manifestation of thought, and language structures are constructed by children on the basis of their activity. In a similar vein, Vigotsky, L.S (1977)(7) argues that language and thought are interrelated and develop alongside each other. He also maintains that linguistic activity takes place when a child who has not yet learnt to talk interacts with people who have more advanced language competence.

Knowing and understanding how language acquisition and development occur allows us to go beyond the simplistic notion of language as mere sign production and brings to light the multifarious factors at play. Language is not just oral production but a human activity that enables us to communicate; to express ideas, sensations and feelings; to make statements on events in the world, and to share meanings in a context of social interaction (Domenèch, A. and Valls, T., 1999) (4).

2. Communication and language acquisition

Language use begins well before a child starts to talk. A series of communication-based pre-linguistic mechanisms contribute to its acquisition. Communication and interaction are vital to acquire a language. For as long as language has been thought of as a human activity, academics have focused on the functional aspects by which language is studied as a living, changing entity and in its relations with other dimensions of life. Taking a functional and interactive perspective, authors such as Kaye, K. (1986) (8), Bruner, J. (1983) (9), and Rondal, J.A. (1993)(10) have concentrated on the talking subject and attached importance to social interaction and the role of the adult as a competent individual in the development of communication and language. They have all stressed that communicative processes are at work before the first meaningful words are spoken – in other words, that children can express communicative intentions before mastering grammatical structures. The child as

an active subject, the social environment and the nature of the exchanges – referring to the quantity and quality of experiences on offer, are all regarded as significant in these communicative processes. For Miller, J. F. (11), “language skill requires a social context with listeners and speakers actively exchanging messages in order to achieve specific communication goals such as informing, discussing, asking, answering and persuading, and social relationships are vital for children’s communicative skills”.

2.1 Stages of acquisition

Language and communication skills are acquired in a predetermined order, although the speed and progress of acquisition vary from one person to the next. The pre-linguistic stage is from 0 to 12 months. According to Del Rio, M. J. and Torrens, V. (2006) (1), the phonological component begins to develop in the womb. The unborn baby hears the sound of the mother’s voice and soon learns to discern and produce phonemes. The pragmatic dimension – language *use* – starts to develop when the baby is just months old through interaction with others and enables her to influence their behavior, convey information and express feelings. Babbling and meaningful gestures come next. Between 12 and 24-30 months the first words are uttered and the semantic dimension develops – the use of words to convey a certain meaning, linked to cognitive development, – alongside morphology and syntax. For Rondal, J.A. (1995) (12), the language acquisition process in children with DS is broadly in line with the norm, with individual differences resulting from environmental influence, personal experiences and so forth. More specifically, acquisition is slower and each stage more prolonged. The pre-linguistic stage can last until the age of 24 months and words may not appear until between 2 and 6 years, if at all in some cases.

So how is language acquired?

Children acquire language according to their own needs and capacities. They filter the adult model and take from it what they can understand, before emitting whatever is within the realm of their language ability at the time.

Acquiring language entails acquiring *linguistic competence* – the ability to understand and construct sentences in accordance with the grammatical rules of the language – but it also entails *communicative competence* – the ability to comprehend the social rules of one’s culture and use language accordingly. Bruner, J. (1990) (9) argues that “language is acquired by using it, and the core aspect of use is **FORMAT**: in other words, routine, repeated interaction of the adult and the baby doing things together and to each other”. During such interactions the baby must deploy an array of skills – cognitive, auditory, oral, neurological motor, emotional and social, in order to relate to the environment.

2.2 Requirements needed to acquire language

Certain requirements are necessary for a baby to gain access to mental life, thought and language from the moment of birth:

2.2.1. *Organic and neurological requirements*

In order to acquire language the right neurological equipment is needed. Memory is necessary to store words and syntax rules, as are a system of thinking and reasoning to work out new rules based on those already known, a system to formulate concepts and abstractions, appropriate inhibiting and attention systems, and a motor and sociopragmatic system. "Because of the gene abnormality, children with DS have central nervous system dysfunctions that prevent normal development in the antenatal, perinatal and postnatal stages of brain maturity." Wang P., Doherty S., Hesselink J. and Bellugi U. (1992) (13) have described a neuroanatomical profile with a frontal lobe dysfunction that could explain the poor verbal fluency, the tendency for this to persevere and the greater difficulty in tasks that require flexible solutions for problem solving. Flórez, J. and Troncoso, M.V. (1991) (14) believe that there is a correlation between the pathological central nervous system structures in the brain and cognitive behavior (attention, memory, data processing, etc.).

2.2.2 *Emotional and relationship conditions*

During a baby's first months a system of relationship and communication is created between infant and parents that helps to forge the bond between them. Babies must be in an environment that invests them with and allows them thought if they are to perceive themselves as people, and the environment must also transmit the fact that they exist. For Winnicott, D.V. (1971) (15) babies have mental requisites that are normally met by parents such as being held in the mind, recognizing reality and discovering the 'oother', and symbolizing their own experiences so that they can create an inner world with living objects that allow them to be the subject. "The family is the emotional and communicative organization" (Salvador, G. (2005) (16)), where we learn to talk, are listened to and are given the chance to speak. It is where we discover words and where we discover ourselves with words depending on how others look at and speak to us. Communication and language are first and foremost in the mother's (and other primary caregivers') head. The language that parents use with their children has a bearing on their bodily satisfaction and helps them to recognize themselves as individuals. The mother devotes a thought to the baby and conveys it to her through expressions; she thinks, talks and interprets the baby into being. To her delight, the baby returns her acknowledgement. This maternal verbalization is the matrix of language. The baby is recognized as a thinking individual and this creates an intersubjective

space - a gap between the mother and child. This "separation and individualization are needed to access symbolization and language", Kaye, K. (8). However, the baby must be active; she must demand to be looked after, and a certain discomfort is necessary before the demand is satisfied. These are empty spaces that generate thought - an open area between silence/thought and experience; the potential spaces referred to by Winnicott (1971) (15). Constant interaction with the environment is vital during this period.

When a baby with DS is born, the diagnosis can have such an impact on the parents and the surroundings in general as to undermine their ability to communicate and interpret this different baby and to attribute thoughts and desires to her that will enable the infant to become an individual and develop at all levels. The diagnosis may clash with the parents' expectations of their child's development in terms of the fraught, costly process of acceptance and adaptation, resulting in a response that is dominated by their emotional state of mind. Low expectations of a child's overall development and reluctance to attribute them a role as social interlocutors can affect the type of experiences they are offered. This emotional state coupled with the baby's inherent difficulties may prevent the family from bonding and establishing a good channel of interaction and communication.

3. Development of communication interaction

Babies come into their linguistic environment equipped with the ability to discover the components and rules of the language. Wailing and crying are their first resources to seek attention, make demands and communicate. These are rapidly followed by auditory and visual perception and perceptive integration, along with the ability to recognize and pick out intonation curves. At only 6 months old a baby can already interact by smiling, paying attention, maintaining eye contact and making guttural noises (babbling). In addition to intonation and perception of speech, babbling is the prerequisite to the form of language (spoken). Intonation is the primary characteristic of the form that can change the meaning of something and is the first means of conveying sensations and feelings.

The mother (or primary caregiver) sees the baby as potential interpreter and attaches meaning to her behavior, conveying this to her through physical contact, gesture and verbal language with affective intonation and a desire to communicate. The baby reacts with smiles, gestures and phonemes. This is the beginning of a dialogue in which the subject starts to take on an active role, forging what Bruner (1990) (9) calls "the dyad". Mother and baby take turns in joint attention and action, giving rise to the development of linguistic reference (labeling and naming things, surrounding objects, experiences and so on).

Babies with DS join the communicative circuit later because their reactivity and initiative as social

interlocutors is slower and takes longer to develop. They are often too placid and unresponsive to the demands of the adult. They do not start maintaining eye contact until later and only when it is held for a long time. This is tied in with their slower rate of building knowledge of the world. Babies with DS take longer to focus on objects and to shift their attention to other objects (which has to do with latency). This delay implies that they do not take in the basic structure of conversation and personal exchange until they are older. Rondal, J. (2001) (17) believes that their delay in verbal and gesture mimicry may contribute to a slower rate of speech and intelligibility acquisition. Nevertheless, the sounds they produce (babbling) are similar to the rest of the population with a delay of around two months, notwithstanding individual differences.

In the interaction process the adult progressively creates interaction routines by virtue of joint action, which are repetitive, structured and at the same time changing, in which the infant can participate and express herself insofar as she is able. Turn-taking emerges from such routines. They have a beginning, an end, a time and a space, and help to label (put names to things) and sequentially organize time and space. The infant learns what will later become the fundamental structure of dialogue. During such dialogue the adult will usually go at the child's pace, giving her time and opportunities to express herself whilst respecting the communicative space of the other interlocutor. Structured waiting gives the child a chance to anticipate or start a turn. The silences signify respect for the child and high expectations of her development. Waiting times are contingent upon the child's capacities, the activity in progress, the level of development, and the higher or lower response time. Where children with DS are concerned, turn-taking is not always as well structured in joint action exchanges. Adults are more prone to invading the silences, filling up the exchange with their own discourse because of the child's slow responses, anxiety in communication, and low expectations of the child.

These interactive processes are two-way and their form depends on factors pertaining to both the child and the family. Sweeping statements cannot be made about them - they are unique styles of relating to one other (though not unique to families with a child with DS) and each one is different. However, it is possible to find a generalized difference in turn-taking and a qualitative and quantitative decrease in experiences in such families. We must therefore boost parents' confidence in their own skills as facilitators of their child's communicative and linguistic development and help them come up with strategies to enhance their interactive style with their child.

4. Intervention strategies for adult-child communicative exchange

Learning to talk means learning to communicate, and communication is interaction to share meanings

through different types of language (gesture, mime, oral, written, etc.). The functional and interactive approach to language acquisition has resulted in interactive and naturalist intervention styles that seek to have a bearing on communicative situations to improve interaction in natural and contextualized contexts. This type of intervention is set up around the child being the lead player, the environment as being more competent and the steps taken to find communicative strategies that facilitate and enhance the child's language development. Parents can hit upon strategies through their day-to-day experiences as they interact with their child and adapt to her capacities. "Parents can boost their children's communicative skills to the maximum if they focus on their capacities," Vilaseca, R. (2002)(18).

Interactive routines such as taking a bath, eating, going for a walk and so forth allow the child to anticipate and learn forms of communication. Creating interactive situations which put the child and her own experiences at the centre is vital: playing peek-a-boo, hiding and appearing, reading stories, nursery rhymes with actions and so on (the television is not interactive).

These exchanges must be adapted to the child's level so that she can understand them by using clear language, a simple structure, affective intonation and an appropriate level of abstraction. Likewise, it is necessary to give the child opportunities to express herself by respecting the turns and silences; to listen and be listened to; to interpret rather than correct what she says; to put words to acts, experiences and feelings; to talk about the future and make plans, all of which allows for experiences to be shared and provides fresh, motivating experiences that broaden the child's social world.

When children learn to talk their goal is to communicate. However, if the adult's goal is for them to say things properly they will tend to make fewer attempts at communication, having concluded that form is more important than content.

Language is a function, but communicating with others is a skill. This skill can be acquired with less than perfect function; the child may express herself differently but she will have become skilled at communicating, and therein lies the goal.

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