# Language Assessment and Means of Therapeutic Intervention for Children with Autistic Spectrum Disorder

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**Abstract:** The evolution of language and psychomotricity of the preschooler may be monitored and measured by means of indicators or instruments of observation and assessment. Language disorders, especially in the cases of autistic children, require constant and imperative involvement on the part of the family, in cooperation with the interdisciplinary team which carries out the recovery process: speech therapists, psychologists, psycho-educationalists, physiotherapists, teachers, etc. By support and by directing the recovery therapy towards the same educational objectives, the autistic child will enjoy an effective help and will record progress at the intellectual, linguistic, social and psychomotor level.

**Keywords:** autistic children; therapy; communication disorders; alternative therapies

## 1. Introduction

Children's language acquisition is achieved through game and imitation. At school or in the family, by thoroughly analysing the process of oral language acquisition, one notes that almost all small children present dyslalia. The most frequently affected sound are the consonants, especially the ones which occur later in the children's speech: R, S, Ș (ʃ), L, J and Z. Assessing language through specific tests, one notes that dyslalia can be identified in the following situations:

- when articulation and pronunciation disorders occur, manifested through omission, deformation, substitution, replacement or inversion of sounds;
- when the inability to emit certain phonemes is observed, both in spontaneous and imitative speech; and

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- where there is a total or a partial inability to articulate or pronounce which affects the decoding of the oral messages, blocks reception and, implicitly, the whole chain of phonic-auditory interpersonal communication (Vrăşmaş & Stănică, 1997).

It is worth mentioning that, with the passing of time, the children who present dysfunctions in oral communication will also present disorders of the written-read language, especially dyslexia/dysgraphia.

The absence of therapeutic intervention in the cases of speaking disorders, both for typical children, but especially for autistic children, will lead in time, to their impossibility to develop socially and affectively and to the stagnation of the lifelong-learning process. Thus, the nowadays practice supports the recovery and improvement of language through two essential elements: speech therapy and the therapist.

Speech therapy is a complex therapeutic form which includes a number of general and specific methods and procedures selected from various fields, which act towards correcting the identified speech disorders, based on their severity.

The universally accepted procedures and techniques in speech therapy are:

- Gymnastics and miogymnastics of the body and of the organs involved in pronunciation;
- Breathing education and the balance between breathe in and breathe out;
- Re-education of the phonematic hearing;
- Stimulation of communication by personalized means; elimination of negativity and improvement of behavioural disorders.

The specificity of the speech therapy depends on the individual subjected to this recovery procedure, in our case, the child diagnosed with autistic spectrum disorder.

In the case of the autistic children, the therapists' mission is that of systematically eliminating the speech dysfunctions by recurrent re-evaluation of the personalized intervention programme. In the question discussed by the present study, the main objective aims at the improvement of the communicational and relational skills. As a result, the process of observation and evaluation of the skills of the autistic child has a number of stages:

a) setting a diagnostic by specialists in view of producing a design for each individual/ group, which will consider the elaboration of individual intervention programmes use of specific and general evaluation forms (types of intervention: biomedical, psychodynamic, educational – intervention which lay great emphasis on behavioural techniques);

b) identification of the most effective therapeutic methods and their application based on the development level of the child with autistic spectrum disorder;

c) examination of the behaviour during educational activities which involve the child and his or her family.

## 2. Stages of Evaluation of Autistic Children

### 2.1. Medical Evaluation

- Growth parameters and cranial perimeter;
- Skin examination;
- Body examination in view of detecting physical anomalies or dysmorphic disorders;
- Neurological examination (adapted for the child's chronological age;
- Hearing examination;
- Sight examination.

Complementary tests: 1. Routine blood test. 2. Genetic studies: the main objective is to detect a possible Fragile X Syndrome, etc. 3. Metabolic studies - hereditary levels, the presence of some characteristic physical or clinical features in the family.

### 2.2. Psychological Evaluation Based on a Medical Diagnostic

Sensorial – perceptive development; psychomotor development; cognitive development level (age of development, development coefficient); Thinking (including the operational level); Memory; Attentiveness; Imagination; Language and communication; Motivation; Will; Temperament; Attitudes; Skills; Level of psycho-social maturation; social behaviour.

The diagnostic of autistic spectrum disorders is the product of an interdisciplinary team of specialists (paediatrician, clinic psychologist, psychiatrist, speech therapist, special education teacher, social worker) which use validated diagnostic tools: questionnaires, interviews, observation scales, e.g.: Autism Diagnostic

Interview/ADI), Autism Diagnostic Observation Scales/ADOS); Childhood Autism Rating Scale/ CARS); Diagnostic Interview for Social and Communicative Disorders/DISCO); Vineland Adaptive Behavioural Scale/ VABS); Behavioural Summarized Evaluation /BSE).

**2.3. Speech Evaluation:** Vocabulary, Receptive language, Expressive language, Physiological peculiarities of speech, Pronunciation, rhythm and fluency of speech, speaking, writing, arithmetic calculus. Speech diagnostic.

### 2.3.1. Specific Components in the Elaboration of a Speech Evaluation Sheet

EVALUATION SHEET (Stanică & Vrăşmaş, 1997)

I. Language: 1. impressive: a) reception abilities: hearing, lip reading, gestures b) understanding the speech/ message in various social contexts; 2. expressive: a) pronunciation of isolated or omitted sounds b) altered c) reflected d) independent e) possibility of utterance – imitation of a speech pattern f) vocabulary – language development at the level of grammatical categories and identification of the predominant elements; g) grammatical –operational structures.

II. Motricity: 1. general - running, various moves 2. small moves: - precision - handiness - supra-added moves, e.g.: doing up the buttons, tying the shoelaces, stringing beads, cutting with the scissors 3. phonatory system: tongue, lips, maxillary

III. Attitude towards speech: avoiding effort, self-confidence, indifference, unconsciousness, superiority sentiment.

IV. Attentiveness: focus – the mosaic game, "what's missing", stability – attentiveness towards speech – ability to listen to stories, sentences and words.

V. Perceptions and spatial representations: reconstructing the whole from parts (puzzle) – cubes games – the child's orientation towards the surrounding objects

VI. Memory: the number of repetitions necessary for the internalisation of the motor scheme of the word, the number of repetitions required for the internalisation of the meaning of the word; the preservation of the previously acquired information.

VII. General behaviour: alertness, apathy

VIII. Game: - stereotypical, organised, independent – in reference to the child's age.

The clinical and developmental profile of the child suspected of ASD should be built objectively, as close to truth as possible, through psychological and speech tests, using adequate and validated instruments, such as: Psycho-Educational Profile/PEP, standardized and neuropsychological tests, such as: Leiter test, WISC, Reynell, Lowe & Costello Symbolic Play Test, Peabody Picture Vocabulary Test/ PPVT. Making a diagnostic of autistic spectrum disorder is not valuable in itself, but it is important because it entitles the child/ adult to benefit from educational and treatment services in accordance with their needs.

The early intervention in the case of language deficiencies contributes in the attenuation of the reading and writing mistakes, both before and after schooling. In this respect, the educational and therapeutic programmes for the correction of deficient pronunciation should be integrated, following a clearly defined structure.

## 3. Methods and Procedures of Correction, Recovery and Monitoring Language for Autistic Children

### 3.1. Phonatory System Mobility

- Exercises of maxillary mobility; exercises of opening and closing the mouth; exercises of rising and lowering the maxillaries, biting, etc.;
- Exercises of tongue mobility: fast, repeated pronunciation of the syllables: la, le, lo, lu, li;
- Exercises for lips and cheeks: lips pursing, vibration, smile, bulging the cheeks;
- Exercises for the soft palate: imitating yawn, deglutition exercises.

The exercises presented above represent an essential integrated part of the speech recovery programme, ensuring the fundamentals of spoken language with the help of miogymnastics elements.

The speech programme for autistic children may be carried out from a few months to 2-3 years, or it can represent a perpetual process, with consideration to more factors: level of development, parents' involvement in practising the exercises at home, the child's age at the beginning of the recovery process, the type of affected sound (some sounds are more easily corrected, while others require more effort), the severity of the language deficiency, the level of development of the phonematic hearing, the presence of some associated deficiencies or disorders (hearing, sight,

mental development, etc.), various alterations or malformations of the phonatory system.

### 3.2. Monitoring the Autistic Child with Language Delay (V. Oprea)

This evaluation sheet for language delay can be applied to children from 5 to 8-9 years of age and provides a profile of the autistic child's competences and deficiencies in the three sphere of language communication, but also in certain Motricity and psychomotricity elements required for the development of communication. (Vrasmas & Oprea, 2003)

**Table 1. Monitoring children's language development**

| DOMAIN | ITEMS |
|---|---|
| Phonetic | rhymes recognition |
| | counting syllables |
| | syllable removal |
| | phoneme identification |
| | naming the initial phoneme |
| | phonemic removal |
| Semantic | vocabulary |
| | definitions |
| | Integration |
| | antonyms |
| | causal relations |
| | noticing the absurd |
| | understanding abstract concepts |
| | completing lacunae |
| | comparisons |
| | knowing the utility of some objects |
| Grammatical | sentences made up from images |
| | grammatical links |
| | narration after images |
| | logical arrangement of images |
| Other tests | memory tests: numbers, words |
| | spatial- temporal orientation tests |
| | motricity tests (copying postures) |
| | attentiveness tests |
| | colours |

| Total | 2 points for task completion, 1 point for 50% completion, 0 – unsolved item. The points are added up and compared to the estimated total for a child of 6-7 years old (50 points), then the individual percentage is calculated. |
|---|---|

The estimated percentage of speech development is based on the following formula:

$$\frac{\text{Individual score}}{\text{Total score}} = \frac{X*100}{50} = ......\ \%$$

Estimation: 75-100% - normally developed language; 75-50% - medium delay; less than 50% - severe delay

**3.3. Phonological Evaluation Test**

This is a set of tests for the evaluation of phonological skills of the pre-schooler and young pupil. The phonological awareness is a new concept in the speech therapy literature. It refers to the child's ability to explicitly manipulate the discrete units of language and to operate with them (phonemes, syllables). It is believed that the presence or absence of these abilities explain the progress made or, on the contrary, the difficult access to speaking. The tests may also be used in diagnosing speech delay or aphasia. (Vrasmas & Oprea, 2003) Based on these tests, individual intervention programmes can be elaborated, as they clearly detect the deficient segments.

Test structure: 1) rhyme recognition (8 items); 2) counting syllables (8 items); 3) syllable removal (12 items); 4) consonant identification (8 items); 5) naming the initial consonant (8 items); 6) phoneme removal (8 items).

Starting from these tests, the French speech therapy school elaborated a training and phonological awareness programme entitled Phonorama, used in the early discovery of dyslexia and in therapeutic intervention. It can be used from age 5 or higher.

## 4. Conceptual Models in Structuring Individualised Programmes

Once the diagnostic is made, the interdisciplinary team will make up a clearly delineated intervention programme which should lead to correction, recovery, adaptation and social and school integration of the autistic child.

**Table 2. Structure of individualised intervention programme**

| Objectives | Contents | Means and methods | Intervention period | Minimal criteria of progress assessment | Evaluation methods and instruments |
|---|---|---|---|---|---|

**Table 3. Structure of an individualised service**

| Types of services | Competences | Difficulties | Priorities | Finalities |
|---|---|---|---|---|
| educational, compensatory, medical, therapeutic, other types | What can the subject do? | What cannot the subject do? | What should the subject acquire? | Aims and objectives |

## 5. Alternative Therapies for Language Improvements for Autistic Children

The evaluation and improvement of the functional pronunciation deficiencies in a timely manner contributes to diminishing the amount of reading and spelling mistakes both during the preschool and school age. In this respect, it is recommended that varied therapeutic programmes be applied for the correction of the defective phonemes.

**Psychotherapy** plays a role in psychic rebalancing, in the harmonization of personality and in unlocking the spoken receptive and expressive language. **Ergotherapy** – recuperative and functional – stimulates psycho-social interrelation and, by and large, supports the adaptation to various social contexts. This type of alternative therapy acts on psychomotricity, potentiating the intellect of the autistic child. **Melotherapy** provides the recovery expert with the possibility to use the language of music for the stimulation of the autistic individual's opening towards the group, having the act of communication with all its dimensions as a principal means.

Furthermore, **Game therapy** contributes in the improvement of pronunciation, in understanding meanings and, what is more, it facilitates the appropriation of the correct grammatical structures. Motor activities represent an important component of the educational programmes. This way, coordinated movement helps in the autistic child's motor recovery, and also in his emotional and social rebalancing. Motor activity, in general, favours the development of all psychic processes: cognitive, affective and volitional. Through the motor game, the child, as an active participant, develops both motor qualities and complex perceptions (spatial, kinaesthetic, temporal, etc.) The well-thought-out selection of the motor games, as well as competent guidance, by abiding by the primary rules (especially by the ones specific to ABA therapy – Sd (discriminative stimulus) – Response – Consequence of the Response) contributes to a great extent in the correction of the deficient pronunciation in the case of autistic children, in the increase of their intellectual abilities and in their balanced physical development.

A complex educational programme, correlated with motor games, applied to autistic children, favours the knowledge of one's own body, contextual expression and adequate integration in the social environment, both through the exercises carried out and through the relationship supported by the physiotherapist and by the expert in adapted physical education. According to Daniela Popa, people have their own positive-laden values, such as freedom, will, honor, respect, loyalty. (Popa, 2011)

## 6. Means for School Integration

School's objectives: to develop to abilities of self-control and self-evaluation of the progress; to support the relationships of mutual trust and socialising; to use techniques of immediate rewarding after noticeable accomplishments; to use feedback based on consolidation and permanent re-involvement with moderate effects in the act of learning (mental subtleties do not pertain to the essence of the message, therefore, they are not recommendable in the cognitive therapy specific to autistic children); to valorise the association of the tactile, kinetic behaviours with the explicit language, including the familiar non-verbal language, in teaching and learning; to produce an individualised learning style, associated with the changes and diversification of the methods used by the teaching stuff, etc.

## 7. Conclusions

Language development in the case of autistic children and acquisition maintenance at the behavioural level entail a global approach to the educational intervention programme, which aims to adopt a common attitude during the recovery therapy. The diversification of the educational programmes, the flexibility in approaching alternative therapies, the adaptation of the working techniques to the particularities of the autistic individual, together with manifestations of empathy from the inter- and multidisciplinary team and the family facilitate **the social and school integration of the autistic child.**

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