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Improving language disorders in children with Down syndrome by applying a multimodal intervention program structured in accordance with the Theory of Multiple Intelligences

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Abstract
Down syndrome can cause disorders of both cognitive abilities, but also, most often, cause a deficit in language development, and their speech and language develop later and more slowly, hence the importance of finding optimal ways to improve.
The purpose of the research is the development, implementation, and validation of the effectiveness of the speech therapy intervention program structured in accordance with the Theory of Multiple Intelligences (Howard Gardner). Participants with Down syndrome in this study obtained significant improvements in the areas of language and communication assessed after receiving the systematized speech therapy intervention, based on the theory of multiple intelligences.
Keywords: Down syndrome, Theory of Multiple Intelligences, language development, communication, dyslalia, intervention program, language disorders

Introduction:

Down syndrome (also known as trisomy 21) is a chromosomal disorder caused by an error in cell division that results in an extra 21st chromosome. Down syndrome (DS) is the most common neurodevelopmental disorder with known genetic causes and an incidence of 1 in 691 live births (Parker & al, 2010). In a more recent study, De Graaf (2021) estimates that 417,000 people with DS live in Europe, corresponding to a prevalence of 5.7 per 10,000.

Down syndrome can lead to impairments in both cognitive ability and physical development, with characteristic facial features and mild to moderate intellectual disabilities.

General developmental delay and behavioral problems are often reported in children with Down syndrome, but most often cause a deficit in language development, and their speech and language develop later and more slowly than children without Down syndrome (Lima &al, 2017). In addition, speech can be difficult to understand in people with Down syndrome, which is an important problem if we refer to the possibilities of inclusion.

For this reason, it is important to understand the mechanisms involved in the language development of children with DS and to identify the aspects that can be influenced by pedagogical or therapeutic interventions. Various strategies and interventions are available to address the language and communication difficulties associated with Down syndrome (Neil & Jones, 2018). Speech therapy intervention for people with DS should try to improve communication, school achievement, and social interaction. The aim of language disorder therapy is to improve the

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communication skills of people with Down syndrome by improving language, speech, and non-verbal communication to enable them to become independent communicators (Regis &al, 2018).

Howard Gardner's Theory of Multiple Intelligences claims that intelligence is neither a *thing* nor a *determined state* in the brain, but rather a *potential*, whose existence brings the intellectual types appropriate to the specific situation (Gardner, 1993). Gardner identified nine types of intelligence and argued that they are independent of each other and operate in terms of their own rules, just like separate systems: linguistic, musical, logical-mathematical, visual-spatial, bodily-kinesthetic, intrapersonal, interpersonal, naturalistic, and existentialists.

Although the use of the theory of multiple intelligences would have the potential in developing the educational potential of children with Down syndrome, there are few studies that follow these aspects (Gutiérrez, 2017). This theory creates new educational methods that can easily be implemented in classrooms, preschool groups, but also in speech therapy clinics, as we will present in this paper. Any school that follows the curriculum based on this theory can develop a deep understanding and knowledge for students depending on the foundation, rules, and disciplines. By properly using their understanding and knowledge, students educated according to the theory of multiple intelligences will be able to analyze and solve problems, and they will succeed in fulfilling real tasks that they take on in society. The premise of the education of the disabled child is his integration into society.

Method

In this context, our research acquires a new practical and theoretical relevance, and *the development of a speech therapy intervention program* based on the theory of multiple intelligences, for children with mental disabilities, Down syndrome and more, will facilitate their recovery. The degree of research of the proposed problem and the premises of the research highlighted *the scientific problem,* determined by the therapeutic intervention, in accordance with the dominant intelligence and the multimodal intervention program.

In this study we assume that the application of a multimodal intervention program structured in accordance with the Theory of Multiple Intelligences will lead to the improvement of language disorders in children with Down syndrome.

The research objectives for this formative approach are: developing and implementing the multimodal program, evaluating the effectiveness of the multimodal program, determining the impact following the application of the language improvement plan. Variables were established as follows: the independent variable – the multimodal program and the dependent variables – the language disorders.

The sample was made from 2 groups of 12 children each, in order to form the control group C (GC) and the experimental group E (GE). The age of 10 was chosen, because it has a greater weight among the 4 age structures found in the initial group, opting for a pseudo-random sampling, using the available subjects. The subjects were selected from special education, respectively from special schools in Bucharest, being drawn from an experimental batch of 74 subjects with Down's syndrome of the initial ascertainment bias.

The subjects participated in a speech therapy intervention program by applying a multimodal plan structured in accordance with the Theory of Multiple Intelligences

Methodical aspects: In order to make the speech therapy intervention more efficient, the following principles and methods (depending on the disability, age, language disorder) will be taken into account in the therapeutic practice:

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The following are some principles that we will work with:

1. Intuition. The material is created intuitively, thus creating an environment favorable for recovery with as little stress as possible on the child.

2. Conscious and active learning. The material is chosen from the child's daily life, ensuring an active participation in their own correction process, emphasizing the fact that the effectiveness of the presented material also boils down to the presentation in the smallest possible doses, to avoid fatigue.

3. Systematization and continuity. Through a correct connection between sounds, an appropriate correction can be made, considering the influence of similar speech sounds. As the recuperative act is carried out, the position of the corrected sound in the syllable/word/sentence also varies. The presentation of the material on sound in a condensed manner, in worksheets, ensures the systematization at a glance of the entire correction.

4. Accessibility. Difficulty grading is tracked in each module, with both sound-only and sound-phoneme, sound-phoneme-grapheme reporting. The condensed material starts from the vowel combination because the vowels represent the necessary support in co-articulation, and continues with consonants in the following order: bilabial, dental, velar, labio-dental, hissing, hushing, affricate. We mention here the importance of the communication background, with which the child comes to therapy, so the speech therapy intervention can be started with the hissing consonants, if these are the affected ones.

5. The child's interest. Carrying out the entire speech therapy intervention activity, in the form of attractive games (also specified in the presented modules), increases the child's interest for the emission and at the same time for a correct emission. The playful component, combined with activities of cutting, gluing, association, painting, etc. stabilizes emotionally, bringing the degree of presence and stability in the task to an increased level.

6. Paying attention to individual characteristic and age characteristics. We mention here that, in addition to respecting the age particularities, it is also necessary to respect the particularities regarding the disability, which are detailed both in the meetings of the multidisciplinary team and of the parent, who is required to be included in this team.

These were used as teaching methods in the speech therapy intervention, both in the activities carried out in the Therapies and Intervention Programs Office of the "Constantin Păunescu" Special Secondary School and in the Telis Ro Special speech therapy office (Romania).

1. Imitation. It represents the basic method in the speech therapy intervention. According to the Elements of Speech Therapy and Medical Psychology Dictionary, the term *imitation* is defined as the act by which a model is reproduced, which does not involve absolutely the representation of this model, which can only be perceived, according to J. Piaget. Further it is mentioned that the imitation is a learning mechanism, that the imitation mechanisms are not unconditional, but acquired and require oculo-motor, acoustic-phonatory, locomotor coordination (Bâlbâie &al, 2004).

2. Exercising. It represents a way to perform some constantly repeated operations and mental or motor actions in order to acquire, consolidate some knowledge and skills.

3. Demonstration. It consists in the presentation of objects, phenomena, and actions with the aim of providing a concrete sensorial support, which will facilitate the knowledge of some aspects of reality or the reproduction of actions that are the basis of practical behaviors. (Cucoș C., 1996)

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4. Creating a new sound. It is the method by which the sound is corrected, starting from the lack of emission of the respective sound (para-), thus masking the incorrect emission, it starts with the correction by replacing the sound, elaborating the "new" sound from the beginning.

5. Isolated sound method. It is a recommended method in establishing the poor emitted sound. Since this sound does not have a communication function, there is less emphasis on specific establishing activities. The isolated sound is then included in phonetic groupings, with meaning to ensure the desire to communicate. Thus, the global method is reached.

6. The global method. This has several advantages over the method described above. Correcting sounds in words is done faster, because using words stimulates and develops auditory perception. It is necessary to consider the individualization of the two methods according to: disability, age, speech disorder.

7. The synthetic phonetic–analytical method. It is the method by which omissions, substitutions, inversions, additions, distortions, or devoicing can be prevented. It consists in separating and isolating the phonemes from the combinations in which they are found, but also in the analysis of the position occupied by the sounds and their synthesis.

8. The global method. Through imitation in front of the mirror, the correct positioning of the phono articulatory apparatus and through exercises demonstrated by the therapist, the new sound can be emitted. This isolated sound is meaningless; therefore, it is linked to other phonetic groupings, starting from *simple* to *complex*, in order to be introduced into the word, according to the global method. We finish with the phonetic method of locating and positioning the sound in words, combining it, and at the end of the speech therapy intervention, phonetic synthesis takes place, which gives meaning to speech. Thus, speech therapy intervention can be correctly implemented (Jurcău & Jurcău, 1999).

9. The activity of speech therapy intervention involves both the correction of speech disorders and the reading of written language. The therapeutic objectives proposed in the therapy of dysgraphia and dyslexia do not differ essentially (Ungureanu, 1998).

The evaluation and diagnosis tools selected and used in the experiment were applied individually to each child and reside in the following:

For evaluating language disorders:

- Individual recording protocol - carried out within the Methodical Commission of the "Constantin Păunescu" Special Secondary School;
- Rey vocabulary test (adapted)
- Progress sheets - made within the didactic activities of the "Constantin Păunescu" Special Secondary School

The multimodal program based on the theory of multiple intelligences

The multimodal program based on the theory of multiple intelligences is both a theoretical and practical structure, a tool for specialists in the field of special psychopedagogy.

The objectives pursued within this multimodal program:

- ensuring progress in recovery therapy;
- knowing the particular and special requirements of the child with Down syndrome;
- organizing the speech therapy intervention, structured within the theory of multiple intelligences;

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- pursuing the principle of unity/correlation between the sensory and the rational, between the concrete and the abstract in the teaching-learning-recovery process;
- major requirements in selecting and ordering images;
- accessibility in understanding images;
- accessibility in verbalizing images.

Moving to action plans: from image to phoneme; from phoneme to grapheme, then from grapheme to phoneme and from phoneme to image.

Ordering pictures according to the stages of correction: auditory and articulatory imitation for sound production, consolidation, differentiation, and automation of the sound produced with the help of pictures. Respecting the moments of effective communication: of simultaneous directing, reflected and independent communication.

The multimodal program structured according to the Theory of Multiple Intelligences has a general characteristic, it can be applied in the recuperative therapy of any language disorder, and also in the stimulation and development of language, being necessary to restructure and adapt according to the disability and/or language disorder of the individual. Based on an illustrated form, it can be used at the most varied ages, ranging from 3 years to adulthood (here we can talk about aphasia installed at adult age). The color presentation and structuring of the images ensure the understanding of the work task, without a detailed explanation beforehand.

The shortcomings of the materials within the multimodal program:

We encountered difficulties in finding relevant images for all the sounds of our language, especially monosyllabic and disyllabic words, lack of consonant clusters, of vowel clusters that correspond to the sound in all three positions at the same time. The quality of the images found was not always relevant for the named object or action.

Recommendations:

The therapist can choose the words, the games, the activities presented, which best suit the child, the meaning of which is known to him, without detailed explanations, thus fulfilling the condition of simplicity and familiarity. The content of the material is made in accordance with the school curriculum for the Therapies and Intervention Programs discipline, special education, preparatory grades throughout 4th grade, serious, severe and/or associated intellectual disabilities (Monitorul Oficial al României, part I, no. 520bis/ 19.05.2021), modularly structured, in accordance with the Theory of Multiple Intelligences: The emotional intelligence module that includes interpersonal intelligence and intrapersonal intelligence; The adaptive intelligence module that includes bodily-kinesthetic intelligence and naturalistic intelligence; Creative intelligence module that includes visual-spatial intelligence and musical-rhythmic intelligence; The intellectual intelligence module that includes linguistic intelligence and logical-mathematical intelligence.

Starting from the uniqueness of each individual, both from the point of view of disability and the structure of intelligences, the material presented is structured in accordance with the Theory of Multiple Intelligences, following the principles of special education, leaving the correct phasing of language correction up to the discretion of the therapist. We mention below the stages of language correction and stimulation: 1. The stage of emitting the new sound; 2. Sound consolidation stage; 3. Differentiation stage (in different syllables, in the same syllable, in different words, in the same word, in sentences and in phrases); 4 Automation stage.

The activities included in the multimodal plan is applied for 9 months (September 2021 - May 2022), i.e. 33 weeks, to the 12 subjects with Down syndrome in the experimental group. The

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speech therapy sessions were held in the Therapies and Intervention Programs school office of the "Constantin Păunescu" Special Secondary School, and also in the Telis Ro Special speech therapy office. The evaluation of the plan presented below was carried out during the 4 weeks of May, totaling a number of 192 evaluation hours.

Table 1 – multimodal intervention activity planning

Nº crt	month	Nº weeks	hours / week	Nº children	Nº of hours/ month	Total number of hours
1	September 2021	5 weeks	3	12	5 days x 3 hours = 15 hours x 12 children = 180 hours	180
2	October 2021	2 weeks	3	12	2x 3=6x12=72 hours	72
3	November 2021	4 weeks	3	12	4x3=12x12=144	144
4	December 2021	3 weeks	3	12	3x3=9x12=108	108
5	January 2022	3 weeks	3	12	3x3=9x12=108	108
6	February 2022	4 weeks	3	12	4x3=12x12=144	144
7	March 2022	5 weeks	3	12	5x3=15x12=180	180
8	April 2022	3 weeks	3	12	3x3=9x12=108	108
9	May 2022-evaluation	4 weeks	4	12	4x4=16x12=144	192

Research results

Assessing progress in improving language disorders

Progress sheets and recording protocols

Purpose: to evaluate the impact of speech therapy intervention on language

Working hypothesis: following the application of a multimodal program based on the theory of multiple intelligences, there will be statistically significant differences between GE and GC, resulting in improvement of language disorders.

Table 2 – diagnostic record – progress sheets, GE recording protocols

GE assessment	ÎDL=Language development delay DD=dyslexo-dysgraphia RV= verbal delay DP= polymorphic dyslalia		Initial diagnose framing		Final diagnose framing	
Subjects	age	IQ	oral	written	oral	written
C.A.C.	10	30	RV	DD	RV	DD
C.A.G.	10	40	RV	DD	ÎDL	DD
V.A.S.Z	10	55	DP	DD	DP	DD
M.A.N.	10	54	DP	DD	DP	DD
A.I.I.	10	25	RV	DD	RV	DD
B.A.	10	33	RV	DD	ÎDL	DD
R.B.I.	10	50	DP	DD	DP	DD
V.Z	10	55	DP	DD	DP	DD
V.N.	10	42	RV	DD	ÎDL	DD
C.M.	10	35	RV	DD	ÎDL	DD
G.P.	10	40	ÎDL	DD	DP	DD
C.C.	10	30	RV	DD	RV	DD

It is observed that all the subjects in the experimental group have the diagnosis of dyslexo-dysgraphia, regarding the written language, as for the oral language, the situation is as follows: 7 subjects are diagnosed with *verbal delay*, 4 subjects are diagnosed with *polymorphic dyslalia* and 1 subject is diagnosed with *language development delay*. The results presented were extracted from the values obtained by the 2 groups in the progress sheets and recording protocols.

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Following the application of the multimodal plan, at the retest stage for the subjects in the experimental group, the situation is as follows: of the 7 subjects diagnosed with *verbal delay*, we now record only 4 subjects with *verbal delay*, we also record 4 subjects with *language development delay* and 4 subjects with *polymorphic dyslalia*. The transfer of the subjects from verbal retardation to delay in language development shows us the transition from negative to positive of the language disorder, by making improvements at the articulation capacities level, at the phoneme level, the possibility of emitting at word level or a sentence consisting of one word, mono member.

Regarding the GC, we present the recorded data below.

Table 3 - diagnostic record - progress sheets, GC recording protocols

GC assessment			**Initial diagnose framing**		**Final diagnose framing**	
Subjects	age	IQ	oral	written	oral	written
R.D.Ș.	10	45	ÎDL	DD	ÎDL	DD
V.N.C.	10	42	ÎDL	DD	DP	DD
T.P.S.	10	42	ÎDL	DD	ÎDL	DD
D.A.	10	40	ÎDL	DD	ÎDL	DD
G.N.	10	40	ÎDL	DD	ÎDL	DD
O.M.	10	40	ÎDL	DD	ÎDL	DD
U.A	10	60	DP	DD	DP	DD
C.A.	10	40	ÎDL	DD	ÎDL	DD
C.G.	10	40	RV	DD	RV	DD
H.C.	10	30	RV	DD	RV	DD
B.S.	10	33	RV	DD	RV	DD
R.D.	10	45	RV	DD	RV	DD

At the test stage, with regard to the control group, on the written language assessment, all subjects have the diagnosis of *dyslexo dysgraphia*, and in the oral language, 7 subjects have the diagnosis of *language development delay*, 4 subjects have the diagnosis of *verbal delay*, and 1 subject is diagnosed *with polymorphic dyslalia*.

At the retest stage, within the control group, the situation is as follows: 6 subjects have a diagnosis of *language development delay*, 4 subjects have a diagnosis of *verbal delay*, and 2 subjects are diagnosed with *polymorphic dyslalia*. Thus, noting the recorded differences of the 2 GE/GC groups at the initial and final assessment, we can state that progress is being observed in the improvement of language disorders in GE. The results presented were extracted from the values obtained by the 2 groups in the progress sheets and recording protocols.

Table 4 – evidence of GE language disorders

GE	Test	Retest
ÎDL=Language development delay	1	4
DD=dyslexo-dysgraphia	12	12
RV=verbal delay	7	3
DP =polymorphic dyslalia	4	5

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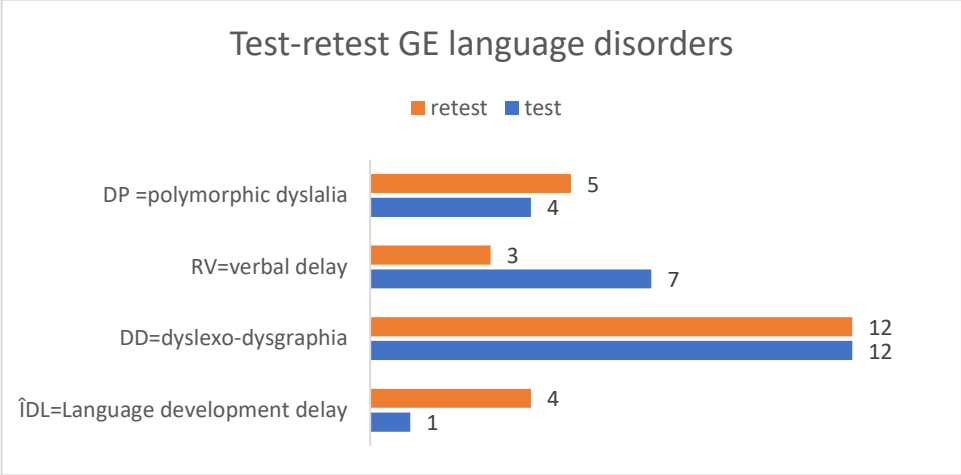

Fig. 1. Initial-final assessment, language disorders, experimental group

As mentioned in the previous lines, the progress sheet, as well as the protocols, follow in an evolutionary form the progress of students in several areas, starting from psychomotor development, verbal language, to forms of written expression.

Because, in the ascertaining study, we identified unformed behaviors, such as: understanding simple verbal commands; articulating at word level; articulation at the sentence level; maintaining a dialogue; telling stories from pictures and formulating affirmative and negative sentences; reading at word level, sentence; reading at the sentence level, text; copying letters, monosyllabic words; transcription of words, sentences; writing by dictation; typing words, sentences only on the keyboard; making up sentences with given words; the narration of a short text after support, the multimodal plan aimed at improving language disorders, as can be seen from the graph above. The differences are not major, but there is a line that bends slightly upwards that will become significant in future development. Thus, following the speech therapy intervention, from the formative experiment, improvements were noticed at a comprehensive level, the understanding of simple verbal commands, the articulation at the phoneme and word level becomes intelligible, the communication becomes telegraphic, but with meaning.

Table 5 - evidence of GE language disorders

GC	Test	Retest
ÎDL=Language development delay	7	6
DD=dyslexo-dysgraphia	12	12
RV=verbal delay	4	4
DP =polymorphic dyslalia	1	2

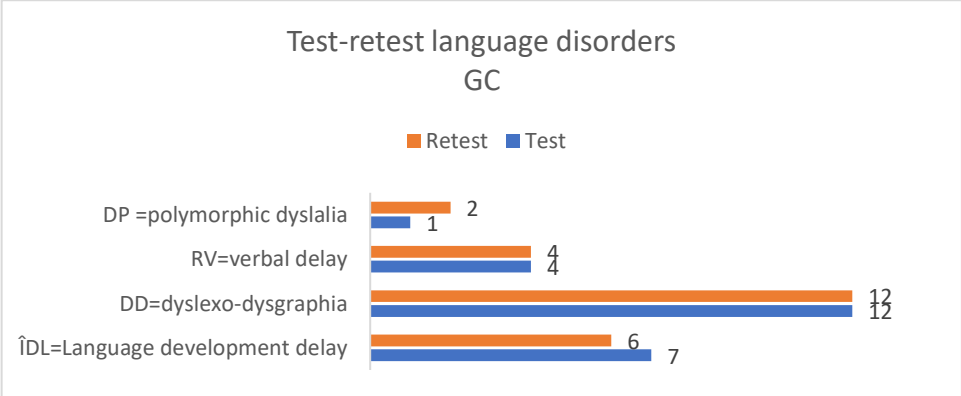

Fig. 2. Initial-final assessment, language disorders, control group

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If there is a slight ascending line in GE that will become significant in future development, out of the 7 subjects diagnosed with *verbal delay*, we now register only 4 children with *verbal delay*, we also register 4 subjects with *language development delay* and 4 subjects with *polymorphic dyslalia*; at GC we find a constant stagnation, a fact that demonstrates the usefulness of the multimodal plan, made in accordance with the theory of multiple intelligences. Language disorders are improved by moving from a severe form of the disorder to a milder one, resulting here in acquisitions in non-verbal language, comprehension, transmission of information with rudimentary language, sometimes emitting onomatopoeia, monosyllabic words, observable in GE, compared to GC, where these capacities remain at a stagnation level or lack of their development by anchoring in the existing disorder.

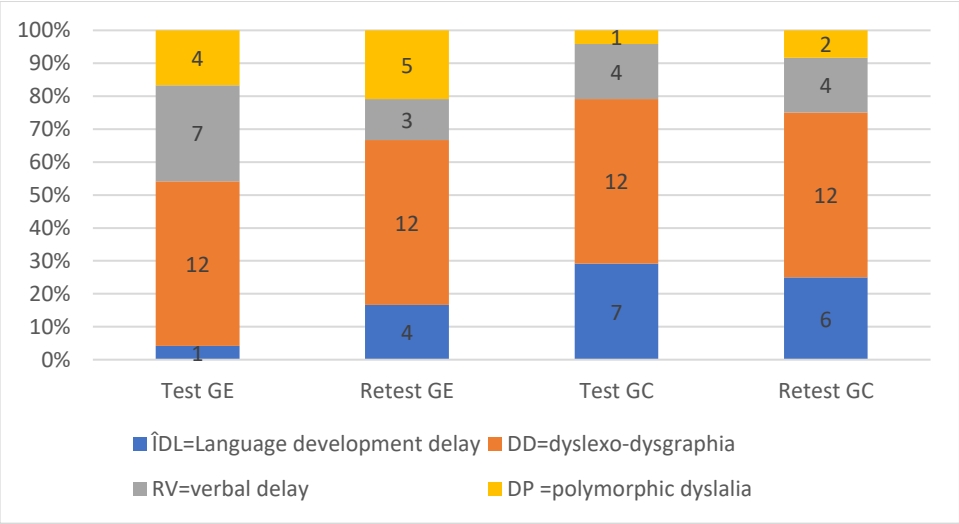

Fig. 2. Initial-final evaluation, language disorders, comparative view

The use of the multimodal work plan, extrapolated in its auxiliary, highlighted an increased activity of the subjects in the areas of awareness of compensatory behaviors necessary in communication, such as formulating sentences involving both verbal and non-verbal or even paraverbal language, the compensatory development of communication systems, which led to results highlighted in the research.

To highlight even more clearly the differences in progress between GE and GC, we used statistical analysis through the SPSS program using the Paired Samples T Test. The purpose of our analysis is to argue statistically whether the performances of children with Down syndrome in GE are significantly higher than those of children in GC, under the conditions of completing a multimodal program based on the theory of multiple intelligences. The null hypothesis is that there will be no significant differences between the two evaluations, hence meaning the performances of children in GE will not increase significantly.

For GC the results were as follows:

Table 8. Paired samples test GC batch

Paired Samples Test

Progress sheet		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
GC	test - retest	-,083	,289	,083	-,267	,100	-1,000	11	,339

The statistical analysis performed showed that the average between the test stage and the retest stage for GC is -0.083. The fact that it is a negative value shows that the average score

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obtained at the retest stage is higher, so it implies progress, compared to the one obtained at the initial assessment.

Analyzing the mean differences in the results in terms of the presence of language disorders (progress sheet) for GE, the results were as follows:

Table 11. Paired samples test GC batch

Paired Samples Test									
Progress sheet		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
GE	INI - FIN	-,250	,452	,131	-,537	,037	-1.915	11	,082

We found that the average between the test stage and the retest stage for GE is -0.250, so there is a significant difference between the two tests and the *t-test* for paired samples t=-1.915 for p<0.01 statistically argues this hypothesis. Also, the correlation coefficient of 0.889 between the test stage and the retest stage for GE shows that the multimodal program based on the theory of multiple intelligences equally influenced the children, so that their results follow an upward curve, regardless of the level of intellectual development of each one.

In conclusion, we consider that our hypothesis has been confirmed. The statistical analysis carried out allowed the identification of significant differences between the performances of children with Down syndrome in GE and children in GC. Thus, the average of the difference between the test stage and the retest stage for GC of -0.083 is lower than the average of the difference between the test stage and the retest stage for GE which is -0.250, so we can say that, under the conditions of a multimodal training based on *The theory of multiple intelligences* applied systematically, it is possible to improve language disorders in children with Down syndrome.

Conclusions

In summary, concluded that the participants with DS in this study obtained significant improvements in the areas of language and communication assessed after receiving the systematized speech therapy intervention, based on the theory of multiple intelligences.

The statistical analysis carried out allowed the identification of significant differences between the performances of children with Down syndrome in the experimental group and children in the control group at the language level observed through the progress sheets. Thus, the mean of the difference between the initial assessment and the final assessment for the control group is lower than the mean of the difference between the initial assessment and the final assessment for the experimental group, so we can say that under the conditions of a multimodal training based on the theory of intelligence applied systematically, it is possible to improve language disorders in children with Down syndrome.

There is an improvement in word identification (emergent literacy), and word recognition without using phonological processes, due to the application as a method of learning global reading, the chosen method, motivating the specificity of mechanical and short-term memory, involved in phonological processes, in which children with DS sometimes don't perform. According to the created auxiliary material, there have been used - at writing and reading levels, common words on which the children in the experimental group performed. The increase in skills and performance is represented by the intellectual development indicator, represented by the

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intelligence quotient. Increases are observed at the individual level, observable increases in most of the analyzed subjects, confirming here the impact of speech therapy intervention through the multimodal program on cognitive performance.

Language disorders are improved by moving from a severe form of the disorder to a milder one, resulting here in non-verbal language acquisitions, comprehension, and transmission of information with rudimentary language, sometimes emitting in onomatopoeia, monosyllabic words, observable in GE, compared to GC, where these capacities remain at a stagnation level or lack of their development by anchoring in the existing disorder.

An improvement is observed on the levels of auditory discrimination, temporal organization, and spatial organization, for GE, the subjects who were predisposed to a lexical disorder improved their mentioned performances, with an impact on the development of psychomotricity, thus resulting in the positive impact of speech therapy intervention in the multimodal structure created. is an improvement in phonological awareness as a result of the comprehension process, at the phonological level, with particular importance in reading comprehension, at the same time the activation at this level of memory and attention is observed, the differences being slightly significant between the 2 groups. An increase in phonological awareness is observed in both groups, with a greater emphasis on the experimental group, which started with the use of the entire word method in the application of the intervention according to the multimodal plan. In the psychomotricity situation, the speech therapy intervention highlights the usefulness of the auxiliary material and the multimodal program, especially through the activities specific to the speech therapy intervention, improvements are confirmed at the level of spatial orientation, laterality, and body schema, thus confirming the usefulness of the multimodal plan. The statistical results at the level of the formative experiment attest, as a whole, the effectiveness of the strategies used in the multimodal program and the auxiliary material used in the speech therapy intervention, namely the finding that by respecting the individualized structure and correctly accomplished tasks, the corrective-recovery process improves, significantly improving language disorders by improving cognitive skills, psychomotricity, written and oral language.

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