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New Conceptual Paradigm of Autistic Spectrum Disorder

Manuel Ojea Rúa, PhD.
University of Vigo, Spain
ORCID: https://orcid.org/0000-0002-9787-2520

ABSTRACT: The two dimensions currently included in international classifications should include a third defining dimension, regarding to the analysis of intensity of needs relationship to the main parameters of psychoneural information processing, within the so-called processual dimension: - perception and sensory memory, - encoding and categorical grouping, - access of information to permanent memory, and - recovery of information in semantic terminology. These new criteria constitute basic elements governing the neurocerebral process in a global sense, which will allow the persistence or improvement of observable social and restrictive-stereotyped behaviours related to the two dimensions included in the currently classifications.
An exhaustively analysed Case Study in all its evolution over 32 years, has allowed successive comparative analyses regarding the differential phases with the specific autistic diagnosis, whose final results allowed confirming new paradigmatic findings of new paradigmatic definitions of autistic disorder, its differential diagnostic processing and, therefore, the new specific kinds of psychoeducational intervention.

KEY WORDS: Autistic Spectrum Disorder. New paradigm. Conceptual- propositional. Diagnosis. Intervention pycho- social and educational.

INTRODUCTION

The concept of autism spectrum disorder (ASD) has been defined by the specific particularities regarding neurodevelopmental information processing, which is observable through the presence of a criterial symptom cluster of two behavioural overt dimensions, according to currently international classifications, both from the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR) of the American Psychiatric Association (2013), such as the Center for Disease Control and Prevention (CDC) (2010), as well as the World Health Organisation's International Classification of Diseases 11 (2024). Both dimensional groups are related to the group of deficits in communication and social interaction and deficits in stereotyped and restrictive behaviours in three intensity levels, being 1 the lowest level and 3 the most severe level. Likewise, the classifications themselves note that a percentage of more than 40% of this disorder doesn't develop in its own right, but is associated with other disorders that difficult the process of diagnosis in the strict sense, and above all, the consequent process of intervention. Among these associated comorbidities, the most frequent are mental deterioration or intellectual deficit (Courchesne et al., 2011; Dufour, McBride, Bartley, Juarez & Martínez–Cerdeño, 2023; Falcone et al., 2021; Maenner et al., 2020), and convulsive–epileptic processes (Kohane et al., 2012; Wegiel et al., 2010), as well as depressive, anxiety or severe distress components that may feature in isolation or form a specific multicomorbidity within the ASD nuclear diagnosis (Amina et al., 2021; Ariza et al., 2018; Hashemi et al., 2017; Hollocks et al., 2022).
In general, recent studies have related these specific aspects to cell proliferation derived from alterations of the gamma aminobutyric acid or interneural GABAergic system that configures the connectivity of the whole psycho-brain neuroprocessing of information, from sensory input to the recovery process from permanent memory (semantic memory) (Adorjan et al., 2017; Casanova et al., 2002; Hutsler & Zhang, 2010; Lawrence et al., 2010;), especially, according to the latest studies, owing to an obvious reduction in the interneural abilities enabling the neuropsychological processing of information within the context of psycho-social development.
GABAergic connectivity in people with ASD has reduced interneural connexional cycling. (Brown, Gruber, Boucher, Rippon & Brock, 2005; Schuck & Swanson, 2019; Wilson, Rojas, Reite, Teale & Rogers, 2007), which is an essential process to assure the sensory-perceptual input and, from the established connective relationships, to be able to set up higher order performances, such as deduction, induction or problem-solving processes. If these relations executed during sensory processing don't successfully

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happen, the whole process is highly impaired, and can also be blocked at any cyclic stage of the neuropsychological information processing (Hadjikhani et al., 2015).

This process is generally determined by an instability of GABA action between the excitation-inhibition processes of gamma oscillations, which explains the high correlation of this disorder with the co-occurrence of epileptic convulsions (Nardou et al., 2011; 2011; Pizzarelli & Cherubini, 2011); as well as the presence of reactive short complementary spasms concurrently with the above-mentioned childhood epilepsies during early childhood. (Shields, 2006).

In this sense, ASD and epilepsy are configured as neurological disorders of high intersectional comorbidity involving neuronal migration processes, involving the presence of multiple molecules that participate in neuronal development, brain network connectivity and synaptic function, that constitutes the fundamental neuropsychological element that is involved in conforming the pathogenesis of autism (Rubenstein, 2011).

Indeed, as they say Kang & Barnes (2013), both the ASD and the convulsive-epileptic process were very common neurological disorders that are interrelated in a high phenotypic heterogeneity, according to the reports of the above mentioned authors, the neurogenesis processes and the genetic advance of the scientific knowledge about this disorder, have identified multiple molecules that participate in the neuronal development about the disorder, the connectivity of the brain network and the synaptic function, which are highly involved in the pathogenesis of ASD, whose functional process supports the comorbidity of both processes, autism itself, as well as epilepsy, but, always under the consideration of autism as the nuclear disorder of reference, which will determine in a definitive way, the particular consequent process of the psycho-social and educational intervention.

Therefore, the understanding of the neurocognitive mechanisms that execute cognitive and emotional processing constituted an essential element of empirical science in order to advance the field of ASD knowledge. This knowledge requires advancing the understanding of the genetic, molecular and cellular mechanisms that control cortical action, as well as the process of formation of areas related to the factorial functions of fibroblast growth and their specific transcription factors, which shape the cortical plasticity of the brain and its critical evolutionary stages (Mizuno et al., 2011), as well as the processes of cognitive structural rigidity and neurological inflexibility characteristic of ASD, which are observable through behavioural and social inflexibility, and which have increased throughout adulthood.

In this sense, the two dimensions currently included in the existing classifications should include a third dimension formed by the analysis according to the strength of needs with respect to the main parameters of neural information processing, within the so-called processual dimension: - perception and sensory memory, -coding and categorical grouping, -access of information to permanent memory, and -recovery of semantic information. These new criteria constitute basic elements guiding the neurocerebral process in a global sense, which will allow the improvement or persistence of the social and restrictive-stereotyped behaviours of the two previous dimensions.

METHOD

Research design

This research is a triangulated qualitative-quantitative analysis, developed longitudinally throughout 32 years. For a greater specificity of the data, the longitudinal period has been distributed into five clearly differentiated evolutive phase: 1st phase: 0- 4.5 years; 2nd: 4.6- 6.9 yo; 3rd: 9.1- 12 yo; 4th: 12.1- 16.5 yo, and 5th: 16.6- 32 yo.

The qualitative structure has been constituted by the elaboration of interviews, observation processes and analysis of behaviours and tasks throughout the 32 years. The quantitative structure has been operationalised by transforming the qualitative section into direct scores (DSs) on the study variables, being 0 (no deficit), 1 (mild need), 2 (medium deficit), 3 (high need), and 4 (severe deficit), that will then be transformed into their corresponding typical scores, according to the statistical analysis performed.

Participants

This longitudinal study developed over 32 years involved a person with a very high probability of being diagnosed with ASD, called Christian (figurative name), whose data were progressively compared with a diagnosed person with a formal diagnosis of ASD, corresponding to each of the developmental stages indicated, giving a total of 6 participants.

Variables and dimensions:

The study is structured in two dimensions, the first dimension making explicit reference to the manifest behaviours of the currently used international classifications defining autism (BEHAVIOUR), while the second dimension adds the human

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processual neuropsychological variables (PROCESSING), whereby the indicators were as follows:

1) BEH (BEHAVIOUR), comprising five variables:
   1.1. lang (language oral or non-oral).
   1.2. sc (social communication).
   1.3. si (social interaction).
   1.4. restr (restrictive behaviour).
   1.5. stereo (seterotyped behaviour).

2) PROC (PROCESSING), also included five other variables:
   2.1. percep (sensory memory).
   2.2. coding (conceptual understanding).
   2.3. categ (conceptual categorical).
   2.4. nodes (nodal relationships of interneuronal connectivity).
   2.5. sem (semantic information processing).

RESULS

Data concerning the PROC dimension are presented first, followed by the BEH dimension. Christian's first approximations of measurement occur between the ages of 2-3 years, in which two essential particularities are observed in terms of the direct scores (SD) given to qualitative assessment processing. Thus, the BEH dimension reported very high scores on all the BEH dimension variables, whereas the *lang* variable (*p*: 0) did not (*p*: 0), exhibiting the emission of isolated words and is able to link two or three words together throughout the speech; However, all the other behavioural variables: *sc*, *si*, *restr* and *stereo* presented values that form a specific group compatible with the diagnosis of ASD, as determined by the currently valid international classification DSM-5. However, on the contrary, the PROC dimension shows a high level in the *perceptive* variable (*p*: 83.3), but all other variables given very low levels, being the value of the variable *nodes*: 0. This situation, although the level of intensity decreases slightly, is maintaining with relatively high data until the third evolutive phase of development (9-10 years of age) (see Table 1).

Table 1: Grouping of Christian's data belonging to the first three phases of development.

DIMENSIONS	VARIABLES	DS (first 3 phases)	μ	*p*
PROC	percep	10	.83	83.33
	coding	0	0	0
	categ	2	.17	16.6
	nodes	0	0	0
	sem	0	0	0
	Total	13	.2	19.98
BEH	lang	0	0	0
	sc	9	.75	75
	si	11	.92	91.6
	restr	12	1	100
	stereo	5	.41	41.66
	Total	37	.61	61.6
TOTAL		50	.40	40.8

Indeed, the BEH dimension still showed a high score (μ: .61, *p*: 61.6), the total for the two dimensions remaining high (μ: .40, *p*: 40.8), which is slightly higher compared to the symptomatic group of the disorder, although it was significantly lower in the PROC dimension (μ: .2, *p*: 19.98).

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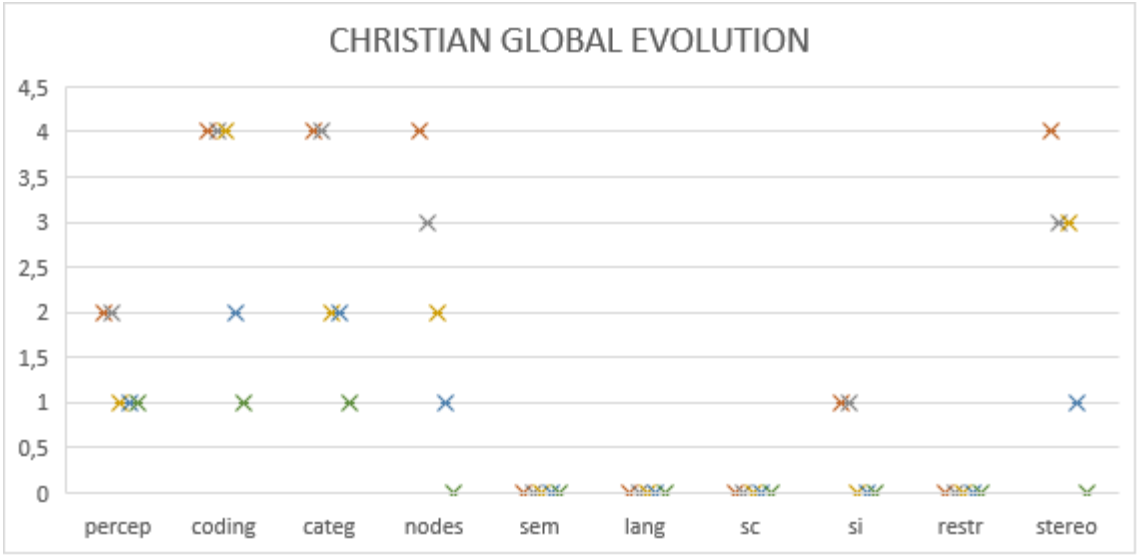
However, the evolution itself, from the 4th and 5th phases, the positive capacity of elaboration of neurological nodes, which facilitate the right GABAergic brain functioning of Christian, allowed not only the improvement of the procedural variable of *percep* (*p*: 12.5), but, most importantly, in the autonomous improvement of all the averages of the specific behaviours compatible with the ASD disorder regarding the DSM-5 classification (*sc*: .12, si: .37, restr: .5, stereo: .25), giving an overall average total: .25 (p: 25), which, weighted with the PROC dimension, implies a total average of .13 (p: .37, restr: .5, stereo: .25). 12, *si*: .37, *restr*: .5, *stereo*: .25), leading to a total mean: .25 (*p*: 25), which weighted with the PROC dimension implies a total mean: .13 (*p*: 13.17), which leads Christian away from the possibility of belonging to the symptomatic group of this disorder altogether (see Table 2).

Table 2: Christian's evolution in the 4th and 5th phases.

DIMENSIONS	VARIABLES	DS (4-5 phases)	μ	*p*
PROC	percep	1	.12	12.5
	coding	0	0	0
	categ	0	0	0
	nodes	0	0	0
	sem	0	0	0
	Total	1	.02	2.5
BEH	lang	0	0	0
	sc	1	.12	12.5
	si	3	.37	37.5
	restr	4	.5	50
	stereo	2	.25	25
	Total	10	.25	25
TOTAL		11	.13	13.17

Christian's graphical evolution can be seen visually in Figure 1, which represents his development in all variables that conform the two general dimensions.

Figure 1: Graphical evolution of Christian



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In an absolutely sense, Christian presents in the 1st phase a mean percentile in the categorical group of specific behaviours typical of ASD: 47.5, which is slightly reduced in the 2nd phase to 42.5%. This reduction is already very significant in the 3rd phase (*p*: 30), being especially emphasised the reduction in the presence of behavioural groups compatible with the disorder in the 4th and 5th evolutionary phases (*p*: 17.5 and *p*: 7.5 respectively), which excludes him from any possibility of a concurrent diagnosis with the specific behaviours of ASD.

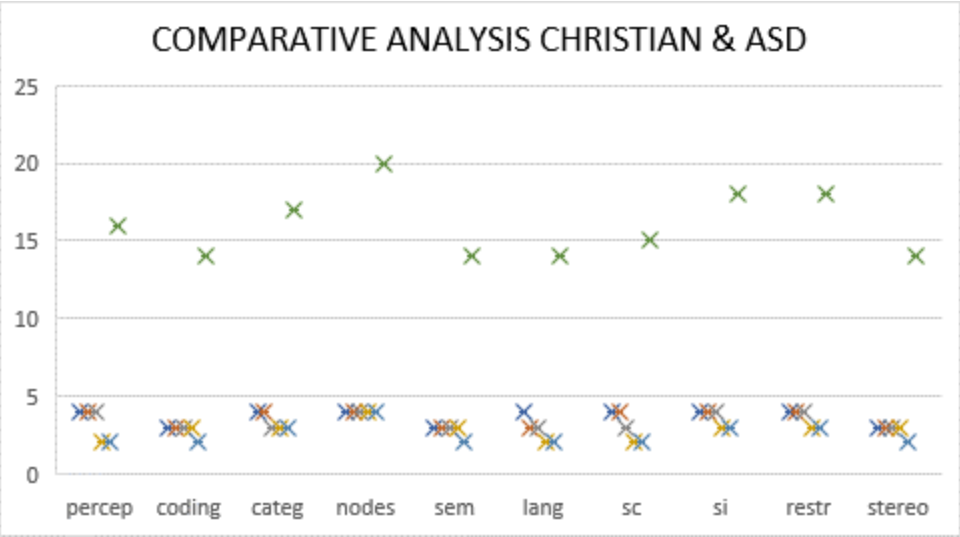
In this regard, a comparison of Christian's DS regarding to the ASD participants for each phase clearly shows the differences between the two groups of participants (see Table 3).

Table 3: DS to ASD participants (phases 1-5).

DIMENSIONS	VARIABLES	ASD -1	ASD -2	ASD -3	ASD -4	ASD -5	TOTAL	μ	*p*
PROC	percep	4	4	4	2	2	16	3.2	32
	coding	3	3	3	3	2	14	2.8	28
	categ	4	4	3	3	3	17	3.4	34
	nodes	4	4	4	4	4	20	4	40
	sem	3	3	3	3	2	14	2.8	28
	Total	18	18	17	15	13	81	16.2	16
BEH	lang	4	3	3	2	2	14	2.8	14
	sc	4	4	3	2	2	15	3	15
	si	4	4	4	3	3	18	3.6	36
	restr	4	4	4	3	3	18	3.6	36
	stereo	3	3	3	3	2	14	2.8	28
	Total	19	18	17	13	12	79	15.8	16

In overall, as can be seen, the scores corresponding to all the behavioural variables persist appreciably and, although some variables reduce their scores, they are significantly lower than in the case of Christian, while the greatest difference is highlighted in the presence of severe deficits in the variables corresponding to the PROC dimension, especially in the nodes variable, which does not allow the development of the other procedural and behavioural variables in the participants with ASD, with the criteria compatible with the autistic group persisting, as can be seen in Figure 2.

Figure 2: Comparative analysis between Christian and ASD participants in the 5 phases.



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Hence, while Christian improves specific behaviours and perceptual processing, as a consequence of the rightly connective nodal executive processing, participants with ASD persist in the initial data, deepening in the autistic group of belonging, according to the assessment of the DS.

So we have worked with DS so far, however, the aim is to determine whether the differences found directly correspond to levels of statistical significant, for which purpose the DS have been converted into typical variables (z), in which each score represents the specific data differential with respect to the mean standard deviation of the whole data set. Firstly, in Table 4, the measures of dispersion and difference between the values with regard to the participants in the study can be observed.

Table 4: Differential ranks of the study.

zvariables	participants	phases	μ
zpercep	CHRISTIAN	5	4.50
	ASD	5	6.50
zcoding	CHRISTIAN	5	3.00
	ASD	5	8.00
zcateg	CHRISTIAN	5	3.00
	ASD	5	8.00
znodes	CHRISTIAN	5	3.00
	ASD	5	8.00
zsem	CHRISTIAN	5	3.00
	ASD	5	8.00
zlang	CHRISTIAN	5	3.00
	ASD	5	8.00
zsc	CHRISTIAN	5	4.50
	ASD	5	6.50
zsi	CHRISTIAN	5	4.40
	ASD	5	6.60
zrestr	CHRISTIAN	5	5.30
	ASD	5	5.70
zstereo	CHRISTIAN	5	3.00
	ASD	5	8.00

The ranks are indeed appreciably different between Christian and the participants with ASD in the 5 successive phases, although with just a slight difference between the two groups of participants in the score corresponding to *restr*, where this type of behaviour seems keeping in Christian as well.

From the differences of ranks it is possible to perform a non-parametric statistical analysis of the critical level for each typical variable of the analysis, however, its study should be very carefully (see Table 5).

Table 5: Kruskal Wallis Test diferencial analysis.

	zpercep	zcoding	zcateg	znodes	zsem	zlang	zsc	zsi	zrestr	zstereo
Chi^2	1.17	8.33	7.25	9.00	8.33	7.86	1.15	1.52	.05	8.03
df.	1	1	1	1	1	1	1	1	1	1
Sig.	.27	.00	.00	.00	.00	.00	.28	.21	.81	.00

Effectively, in all the variables of the PROC dimension there were significant critical levels between the two groups of participants, save in the *percep* variable (.27), however, if it is observed the difference in perception ranks is significantly high (2 points between Christian and ASD diagnosis). Likewise, the behavioural variables regarding *lang* and *stereo* showed significantly differential levels, while the same did not obtain for *sc*, *si* and *restr*; however, as observed in the ranking differentiation justly the

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variable *restr* showed appreciably slighter differences between the two groups of participants. These preliminary precautions need to be considered as we are working with a relatively small non-parametric group, thus special emphasis needs to be placed on the in-depth analysis of the whole data.

Moreover, if one were to transfer this same significance study to dimensional analysis, the findings are more evident, as the grouped dimensions showed significant differences that are significantly critical for both groups of participants (see Table 6).

Table 6: Comparative dimensional analysis.

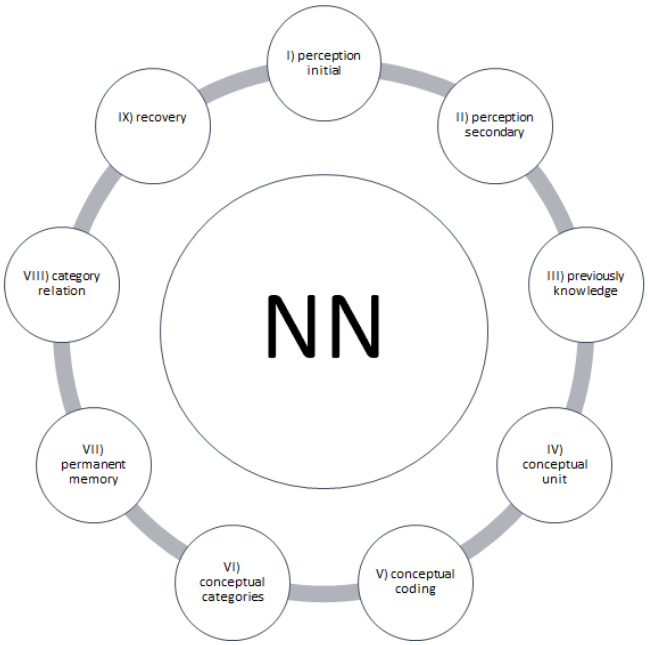
	PROC	BEH
Mann-Whitney U	.00	4.00
Wilcoxon W	15.00	19.00
Z	-2.61	-1.78
Asymp. Sig. (2-tailed)	.00	.07
Exact Sig. [2*(1-tailed Sig.)]	.00	.09
Σμ:	.04	

Thus, the PROC dimension obtained a clearly significant critical value (sig: .00), while the BEHAV dimension shows a non-critical level (sig: .09), but the average weighting of both means clearly differentiates the group of participants by the corresponding statistical weighting (Σμ: .04), indicating that there are clear empirically significant statistically significant differences between Christian's development and the participants with ASD.

DISCUSSION AND CONCLUSIONS

In accordance with the need to include the third dimension (processual), regarding to the main components of the neuropsychological and cerebral processing of human information, which have been synthesised in the Introduction to this study, the meaning of the Global Cyclical Theory that configured the particular specific processing owing to the deficient regulation of the GABA process expressed through the NN (Neural Networks), which connects one phase with another, providing, limiting or inhibiting its subsequent execution has been developed in- depth study (see Figure 3).

Figure 3: Gobal Cyclical Processing Theory.



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The information processing is grounded on the structure of autonomous creation of knowledge through the neural relational nodes (NN), from phase I to phase IX, shaping a specific processing particularity that conforms a more nuclear whole than the observable presence of the manifest behaviours as indicated by the currently used international classifications. In phase I, the perception of the stimulus by the sensory memory begins, its analysis is immediately global from the sensory perspective; however, owing to the limitations to automatically establish neural relationships or neural nodes with the previously learned information, the perceived knowledge gains a very limited significant semantic content. For this reason, in order to provide more comprehensible content in the secondary perceptual process or phase II, people with ASD carry out an exhaustive analysis of all the isolated elements and components observed for the purpose of integrating the previously unrealised semantic content with the significant relationships previously learnt. The main difficulty is that in doing so, the elements may be multiple and differential, which may make it difficult to relate closely to the core content of the prior knowledge, necessary to grant a knowledge adjusted to the new perceived stimulus or phase III. This specific characteristic has tended to the configuration of compressible conceptual units (phase IV), but these can be very unlimited, complicating the neuropsychological processual configuration, as the units or concepts need to be grouped in more or less large categories, in order to guarantee the limited economy of the permanent memory or long-term memory where the information will remain unlimitedly. This categorisation action should be exercised through the coding processing (phase V) carried out by the working memory, This can only be done on the basis of meaningful relationships or nodes with the target learning content, otherwise the new content will simply not be properly categorised or will simply be lost. Again, NN deficits may perform wrong categorisation actions, meaning that when the same information is retrieved in context, the brain system will not find the right way to be able to do it. If a process of neural mediation has been implemented between the new information and the previously meaningfully stored information, it is possible to form conceptual categories (phase VI), which is essential for the working memory to be able to perform the action of sending this information semantic learning to permanent memory (phase VII), in which the contents may be kept for an unlimited period of time. However, categories can also be very numerous, so that learning needs a progressive induction of their contents from simpler or more basic categories to others of a greater superior order. For this cognitive action, again, the NN must act correctly or the mediators of the necessary help for its cognitive execution, which would allow access to phase VIII, which is a phase of special importance, as the relations or nodes used to recategorise or supracategorise will become the fundamental aspect for the recovery of the information, not only for mechanical purposes, but, above all, to carry out contents of a higher order of a cognitive-deductive-inductive way, enabling more efficient processing (phase IX).

Throughout all this psychological neuroprocessing, limitations in the cerebral interconnected GABAergic system can particularise and, on many occasions, impede the progressive neural process of psycho-social development. Thus, although learning may occur, it will present a latent content that is not very interconnected, which is shown through the processes of imitation or transversal reproduction, which will harm the overall growth of the person, as this same process is not only produced for the purposes of academic learning, but also for the whole of human development as a whole about.

In such a way that the observable behaviours indicated by the current classifications are nothing more than symptomatic groups, consequence of the processual system of neuropsychological functioning, which constitutes the basic nuclear explanatory element of autism, so that if this one works correctly, it can be able to correct many of the initially observed behaviours, as it happens in our case study (communication and social interaction, restrictive and stereotyped behaviours), can be able to correct many of the initially observed behaviours, as it happens in our case study (communication and social interaction, restrictive and stereotyped behaviours). But, most often, it is the contrary case, that is to say, it is about symptomatic groups little perceptible or there are not observed in the whole of the dimensions as requested by the traditional specific diagnostic scales, such as ADI-R *"Autism Diagnostic Interview, Revised"* (Rutter, LeCouteur & Lord, 2003) and the ADOS-2 "*Autism Diagnostic Observation Schedule*" (Lord, Rutter, Dilavore, Risi, Gotham & Bishop, 2012), However, owing to the limited functioning of the connective system, the initially unobservable behaviours are considerably increasing longitudinally, which currently results in a diagnostic error percentage for this disorder of between 60 and 70%.

Therefore, the present and future challenge of research is located on two basic dimensions: on the one hand, it is necessary to widen the ambit of new and more global diagnostic scales that integrate the neuropsychological processual dimension and, secondly, design of new psycho-educational interventions that effectively reflect the new concepts that have been developed.

In relation to the new scales, the new Perceptual-Cognitive Scale designed by Ojea (2023) provides an ideal complementary

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alternative to globalise the diagnostic process of the ASD group, which includes, beyond the concrete analysis of the manifest behavioural manifestations, the exhaustive analysis of all the dimensions that make up the information neuropsychological processing, from sensory memory to the process of recovery from the semantic or permanent memory.

Regarding to psycho-social and educational intervention processing, the didactic-methodological process, the didactic-methodological process has to be differentiated for an autistic disorder without specific comorbidities, in which it only involves modifying the didactic action process, to be able to facilitate the neural networks that cannot be produced autonomously, offsetting the connective limitations of gamma aminobutyric acid, without the need for other specific complementary specific measure.

But how are nodal connectional needs to be offsetThe answer is easy, using functional practices that relate a new categorical group of learning to previously established categorical knowledge. This didactic process can be an arduous process to perform by a single teacher, therefore it should be a team work of the participating teachers, aiming, both for theoretical and practical issues.

See a practical example of a theoretical subject: geography and history for 3rd of secondary education:

> "The class is divided into 5 groups of 6 students in each group. In two of these groups there is one student with ASD, both with no existing comorbidities. In each group, there is a student tutor for each student with ASD and in accordance with the school co-ordination plan, we proceed with the development of the didactic action:
>
> Assessment of previously learned content: the geographical organisation of the Member States of the European Union.
>
> Proposal of new subject matter: understanding the political and functional aspect of the European Union.
>
> First functional practice: each class group is responsible for a specific commission: education, health, social welfare, infrastructure and security.
>
> Each group is given relevant content according to the selection of the commission they have chosen.
>
> Within each group they prepare a simple normative process of the functioning of that commission and bring a novelty of their own creation.
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>
> Afterwards, the different commissions in the classroom as a whole contribute their proposals, which are voted on by all the members of the class.
>
> The whole system is continuously mediated by the corresponding teachers.
>
> In this way, this functional practice becomes a significant node of the new conceptual category envisaged that exerts the necessary connectivity so that the working memory can facilitate its access to the semantic memory with ease and, consequently, be able to continue with the progressively development of new conceptual categories in people with ASD.
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Logically, the more practical a subject is, the easier it will be to design functional relational practices.

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But, the question may not be so simple, since autistic disorder, in many situations, presents itself associated with one or more multicomorbidities, which, depending on the severity of the associated symptomatic features, may require more or less special complementary and highly specific measurements, e.g., when autism concurs with a severe cognitive impairment and, at the same time, with convulsive-epileptic processes, whose coercion occurs in up to 21.5% of the cases of multicomorbidities related to the ASD. In additional, the presence of severe schizotypal symptoms, depressive processes or severe anxiety, which sometimes appear together, can be combined with a slight cognitive impairment, which, when combined with a slight cognitive impairment, may require the design of a curricular adaptation performed in an ordinary or special environment. Thus, in addition to the didactic and functional mediating process indicated, highly specific educational responses may be necessary, carried out in a combined form, in ordinary environments and even in special environments, the best solution always depending on the particularity of each specific case and its duly evaluated evolution.

In summary, the main lines of intervention are as follows:Trabajo mediante grupos de 4-6 estudiantes.

- The appointment of a student tutor for students with ASD.
- The appointment of a specific tutor for students with ASD at the school.
- Coordination of this tutor with the other tutors and support teachers in relation to the criteria and assessing measurements of the knowledge or behaviours learnt, as well as the planning of the new contents or expected behaviours.Equipos de funcionamiento entre el profesorado del centro, incluyendo el profesorado de apoyo para la elaboración de las prácticas funcionales relacionadas para aplicar dentro de los grupos de estudiantes.
- Continuous involvement of the family in the design and implementation of functional practices, with the aim of implementing them at the family level.
- Designed participation of the health service for the regulation of gamma aminobutyric acid.
- Collaboration, where necessary, of other social services involved in the social and educational development of the students.
- Consequently, multilevel training processes implementation of the intervention process, throughout the implementation of the process based on evidence-grounded practice (Stahmer, Suhrheinrich, Schetter & Hassrick, 2018).

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