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Professional Training within Application of Specific Programs to People with Autism Spectrum Disorders

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Summary

Students with autism spectrum disorder (ASD) require a specific educational process with active and significant components, developed in natural environments, on principles of mediation processes by teachers and families. This process must be facilitated through training about intervening factors as key element for effective implementation. In this sense, study shows an experimental research pre- post-test, which offers the effectiveness of training families and professionals throughout application of a specific program adapted to particular needs of students with ASD, where educators and families perform as mediators of programmatic process. A total of 55 participants involved on this research, which 23 are children with ASD, 22 are family and 10 professionals, who participated in program implementation along four months and, likewise, they´ve received the training to carry out specific program. General results indicate the criteria-variables cognitive-perceptual have improved significantly once the specific intervention has completed and these results are owing the interaction of formative variables regarding the families and professionals together.

Keywords: Autism spectrum disorder; Naturalistic programs; Professional training/education

Introduction

According the perceptual-cognitive characteristics of students with ASD *(American Psychiatric Association (APA), [1])*, educational process adapted to educational needs requires the implementation of psychosocial and educational mediation models, in a double conceptual sense: 1) As highly significant mediation process, that ease creation of neuro-cognitive nodes between incoming information (output) and previous essence (input), and 2) as social mediation, that give intermediate levels of continuous support along teaching-learning process, implemented in regular-natural and functional contexts. In this viewpoint, models that respond best these premises are based on structure of cooperative learning methods, that being complemented on new learning techniques and teaching-learning procedures to facilitate the adaptation to different specific needs of the students, that are highlighted: 1) Problem Resolution Method, 2) Inverted Classroom Program, and 3) Naturalistic Programs.

Problem Resolution Method

Actual fields of development the curricular strategies gather around this method, based on Problems Resolution, as cognitive- perceptive alternative for constructive development of significant, functional and active learning *(Herrera, et al., [2,3])*. This technique is based on the process for facilitating students´ self-regulation along the development their own learning autonomously, allowing them develop their own, throughout using general heuristic strategies previously learned, as well as generalize them at new situations. This way, process leads the student to constant process of reflection about learning situation, the elaboration of possible alternative hypotheses of problem resolution and, finally, allow give decision regarding most appropriate solution in each situation-problem indicated. *(Monroy [4])* affirm this method involves students a complex global cognitive level, which implicate the following sequential steps along their development: -learning the applicable heuristic strategies, -propose a problem, establishing a development plan for problem resolution, throughout applying heuristic strategies learned, -implement an autonomous action plan, -resolve the initial problem, -asses the resolution effectiveness made. Finally, students achieve a retrospective view of whole applied process, which facilitates the developing of semantic memory throughout all executive-sequential-central cognitive process and enhances the codification of heuristic strategies learned.

Inverted Classroom Method

The Inverted Classroom procedure, which was applied in different educational contexts, both in Primary Education *(Nuñezand Gutiérrez et al., [5-6])*, as in Secondary Education *(Palau et al., [7-10])*, it's based mainly it´s based in which teacher let to be a simple issuing of knowledge, grounding the teaching on the class expositive value and, conversely, supports the didactics teaching about mutual interactive relationship with and between students, giving each student to adjust to their own learning rhythm, regarding specific needs of

support and having all necessary material available online, as many times as necessary to implement highly planned process. Thereby, it´s perfectly possible other teachers can participate in regular classroom along class development, among which, active participation of support teachers for mediated attention with students with specific need stand out, thus, development of the class as a whole isn´t interrupted, for aims achievement established globally, allowing, both, a response to needs´ adaptation of students in inclusive context.

Naturalistic Programs

Naturalistic programs are mainly represented by Pivotal Response Treatment Model (PRT) *(Lyons [11])*, which includes a didactic development based about practice where natural behaviors are develop: "A naturalistic developmental behavior intervention, is described as a child and family centered model aimed at improving core social- communicative and behavioral symptoms of autism". This method is founded, principally, on specific assessment of the specific needs and interests and students´ potential for lead the learning development, behaviors adapting, communication improvement, language development, play and social interaction and academic-curricular development. These aims can be achieved through PRT program, that´s based on focused teaching about different perceptual-cognitive areas, centered on family participation and other social factors involving upon learning processes, throughout education, training and empowerment of all agents related directly with programmatic process *(Koegel et al., [12-14])* define teaching based on naturalistic models as intentional use of strategies integrated into ordinary, functional and daily activities to develop potential learning opportunities within own natural contexts. In this object, authors work multilevel models to analyze data of a single case study, focused on improving the professional training of teachers regarding to facilitation of naturalistic language strategies and the communication of children with ASD and their results show the development of students communication was positively associated with mediators professional development and, likewise, results indicate important improvements to generalization processes of actions learned through functional linguistic expression activities, concluding that importance of relation of practice associated with professional training of teachers and other intervening agents, therefore, this process constitutes a nuclear aspect to facilitate meaningful, functional, naturalistic and active learning. Also, *(Stahmer [15])* analyze programs based on naturalistic models implemented directly through families and conclude that, although data found about adaptation of behaviors implemented by families in natural context, they´ve proved positive results, both in objective- behaviors improvement, as in reducing the central symptoms of disorder, however, there´s a very limited intervention of these studies effectiveness in community environment. For this reason, they get "ImPACT" project application, whose implementation was implemented at social community level. Study, realized 12 sessions, shows the social community participation constitutes a basic social element, both to generalize the adaptive behaviors of people with ASD, as facilitate the training and empowerment of families to continue the intervention strategies in the natural context, throughout evaluation process data- based basis. In fact, there´re more centers that directly perform intervention programs in people with ASD with programs based on naturalistic learning (Carter [16]), as well as, the number of associations and federations of families of people with ASD and specific intervention services and health centers that develop intervention programs based on these principles continuously increases *(Carlson et al., [17,18])*. But, this programmatic engagement involves the systematization of important levels of dare about lifelong learning, which includes the need for formation in concepts regarding this disorder, the basic psychology concepts, the perceptual-cognitive processes, memory functioning, specific behavioral processes and intervention models adjusted to scientific advances in cognitive psychology and academic curriculum learning adapted *(Giangreco et al., [19])*. In summary, teaching-learning methodology of PRT program answer the following general characteristics: - develop of perceptual-cognitive process, supported on previously acquired semantic conceptual unit (previous knowledge), - acquire complex hierarchical semantic levels progressively (new subject- matter), - set the learning practice about needs detected along social- educational interaction process, - develop programmatic process through joint interaction of whole the intervening agents, and - continuously evaluate this process to re-adjust and adapt the necessary psycho- educational changes. Therefore, current scientific research on PRT method show specially satisfactory empirical results in people with ASD, since this methodology is based on essential principle that constitute the information cognitive processing of these people, since this people codifies, often, context stimulus no relevant, owing its tendency the weak cognitive focus of memory particular functioning, then, it´s necessary specify a teaching system to delimit the adjustment of attention level at priority stimulus, carried out on meaningful, functional and natural environment. According to these theoretical positions, structure of programs adapted to people with ASD must respond the following objectives: -ease meaningful, functional and active learning, -develop in natural environments, -have immediate planned response on relation to stimulus-objective reaction, - perform the training or formation of all intervenient agents on programs carried out in natural contexts: families, social services, educative centers, - empowerment or training immediately to particular needs evaluated along programs implementation, - encourage the collaboration between these intervenient sectors, - systematically plan the criteria of program assessment , - develop flexible changes regarding results of pervious evaluation. For this reason, Educational Administration should focus on supporting professional initiatives which imply an intrinsic social and cultural ambit of inclusive processes above these researches hypothesis.

Method

Study Aims

Research study aims are following: 1) Implement a specific

program to facilitate the development the emotional expression of cognitive empathy of students with ASD into social interaction contexts, 2) Develop the formation levels of agents directly involved about programs implementation: families and professionals, 3) Analyze the changes found upon perceptual-cognitive and emotional variables that include the emotional expression development of cognitive empathy variable, 4) Study the changes found into variables related with formation of the intervenient agents along application of program, and 5) Verify whether this intervenient factors during program implementation positively influence the changes found within perceptual-cognitive variables issued.

Research Design

This study is based on experimental research design of data values control pre-test-post-test.

Participants

A total of 55 participants join in study, of which, 23 are children with ASD, 22 family members and 10 professionals. Family and professionals implemented the cognitive- emotional program and, likewise, they´ve received the professional training to carry out application adapted to students particular-special needs.

Variables

Variables-control criteria of program evaluation applied to students were issued inside seven competencies, which include the general level of cognitive- emotional empathy, with measures realized before (1) And after the program application (2): “Opinion 1-2” (express an opinion in group interaction), “emotion 1-2” (show emotional feelings in groups), “interaction 1-2”(have initiative for group interaction), “participation 1-2” ”(participate spontaneously in group relationship), “adjust 1-2” (adapt the conversation in group interaction), “empathy 1-2” (worry for other) and “coherence 1-2" (keep the interaction coherence). Likewise, formation levels variables of the agents directly involved about program application: families and professionals, were measured before (1) and after the intervention (2): “forfamily1-2” (training of families in relation the psycho- educational- social intervention) and “for prof 1-2” (training of professionals regarding the psycho-educational and social intervention). Research group evaluated the variables of students and agents about quantitative scale (1-5).

Procedure

Study is based on interactive program implementation, applied along four months to develop: 1) Emotional- cognitive-empathy in students with ASD and 2) Formation of families and professionals about psycho educational and social intervention, regarding following process:

a) Perceptual-cognitive criteria variables regarding emotional- cognitive program of students are assessed throughout Activity Monitoring Scale (pre-test- post-test) *(see Annex 1).*
b) Formation variables are measured throughout Monitoring Scale *(see Annex 2).*
c) Specific training of families and professionals was developed by research group, following references indicated in activity example *(see Annex 3).*

Specific Program

Whole program includes 10 activities developed based over following structure:

Structure:

a. Initiation.
b. Reconstruction of objective- situation.
c. Behavioral process.
d. Cognitive integration.
e. Interchange of situational roles.
f. Socio-emotional empathy.
g. Emotional expression.
h. Cognitive analysis.
i. Situational modification.
j. Task understand check (students Scale).

Specific Step of Each Activity is Follows:

a. Previous needs assessment.
b. Formation/ capacitation of professionals and families regarding planned aims (Scale).
c. Application of actions with throughout presence of professionals and families.
d. Program implementation in natural contexts.
e. Interaction between all agents throughout the student personal agenda.
f. Implementation program evaluation.
g. Program changes according to previous evaluation assessed.

In Annex 3 can see an activity example: “cognitive empathy”, which it´ll must adjusted to the particular needs of students.

Results

Sample: General Characteristics

A data global analysis found regarding variables agreed the evaluation scales, being 1: very low level and 5: very high level, for N= 55 (students: n = 23, families: n = 22, professionals: n = 10), allows an initial observation of following data (see Table 1).

Variables	N	Min	Max	Means		Typ.	Variance
				Statistic	Error	Desv.	
Opinion 1	23	0,00	1,00	0,73	0,09	0,44	0,20
Opinion 2	23	1,00	2,00	1,73	0,09	0,44	0,20
Emotion 1	23	0,00	1,00	0,39	0,10	0,49	0,24
Emotion 2	23	1,00	2,00	1,56	0,10	0,50	0,25
Interaction 1	23	0,00	1,00	0,78	0,08	0,42	0,17
Interaction 2	23	1,00	2,00	1,69	0,09	0,47	0,22
Participation 1	23	0,00	1,00	0,56	0,10	0,50	0,25
Participation 2	23	1,00	2,00	1,65	0,10	0,48	0,23
Adjust 1	23	0,00	1,00	0,13	0,07	0,34	0,11
Adjust 2	23	1,00	2,00	1,17	0,08	0,38	0,15
Empathy 1	23	0,00	1,00	0,73	0,09	0,44	0,20
Empathy 2	23	1,00	2,00	1,86	0,07	0,34	0,11
Coherence 1	23	0,00	1,00	0,65	0,10	0,48	0,23
Coherence 2	23	1,00	2,00	1,65	0,10	0,48	0,23
For family 1	22	0,00	1,00	0,27	0,09	0,45	0,20
For family 2	22	1,00	2,00	1,86	0,07	0,35	0,12
For prof 1	10	1,00	2,00	1,50	0,16	0,52	0,27
For prof 2	10	2,00	3,00	2,70	0,15	0,48	0,23

Table 1: Descriptive statistics

It can be seen the evolution of statistic means enhance positively at all variables, eg., the mean found for pre-test variable "opinion 1": $\bar{X}$= 0.73, improvement in scale index upon post-test variable: "opinion 2" ($\bar{X}$= 1.73). It´s observed a similar evolution in means statistic found for other variables pairs, which allows to expect progressive changes in data analysis pre- post- tests, both over perceptual-cognitive- criteria variables of students (n=23), as in variable regarding training of families (n=22): “for family 1-2”: $\bar{X}$=0.27-1.86; and the professional variable (n=10): “for prof 1-2”: $\bar{X}$= 1.50-2.70.

Comparative Analysis

Comparative study of the variables pairs was analyzed throughout comparative for 2 related samples T-Test (see Table 2). Comparative analysis between variables pairs allows observe if there´ve pre-test-post-test changes and if it´s significant changes.

	Variables pairs	Differences					T	FD	Sig. (2-tailed)
		Means	Typical Desv	Error	95% Reliability				
					Upper	Lower			
1	Opinion 1-Opinion 2	-1,00	30	06	-1,13	-,86	-15,90	22	,00
2	Emotion 1-Emotion 2	-1,17	38	08	-1,34	-1,00	-14,52	22	,00
3	Interaction 1 Interaction 2	-91	66	13	-1,20	-,62	-6,55	22	,00
4	Participation 1-Participation 2	-1,08	28	06	-1,21	-,96	-18,09	22	,00
5	Adjust 1-Adjust 2	-1,04	20	04	-1,13	-,95	-24,00	22	,00
6	Empathy 1-Empathy 2	-1,13	34	07	-1,27	-,98	-15,74	22	,00
7	For family 1 - For family 2	-1,59	50	10	-1,81	-1,36	-14,82	21	,00
8	For prof 1 - For prof 2	-1,20	42	13	-1,50	-,89	-9,00	9	,00

Table 2: Comparative analysis “T- Test”

Data found correspond the general statistical analysis of (Table 1), verifying that, in effect, there´re significant differences in all variable pairs pre-test -post-tests (Sig=00), which show there´ve been significant changes in all variables pairs analyzed as result of program application, including formation variables: families and professionals. Thus, eg. “for family 1-2” variable improves significantly since $\bar{X}$=0.27 (pre-test)-1.86 (post-test);meanwhile, formation variable: “professionals1-2” continue same sequence: $\bar{X}$= 1.50 (pre-test)- 2.70 (post-test).These same data found in all emotional- perceptual-cognitive criteria regarding the students.

Explicative Analysis

Considering the perceptual-cognitive variables post-tests (2) as dependent variables (DV), which imply specific aim related the development of empathy expression process consequent the program implementation; and, likewise, transforming the training variables: families and professionals, as independent variables or factors (VI), it´s possible deduce if improvements found over post-test training processes ("for family 2" and "for prof 2") significantly influence the evolution and improvement of emotional- perceptual-cognitive variables, thought multivariate analysis (see Table 3).

Effects		Values	F	Hypfd	Error fd	Sig.
Intersection	Pillai's Trace	0,98	52,60(a)	4,00	4,00	0,00
	Wilks' Lambda	0,01	52,60(a)	4,00	4,00	0,00
	Hotelling's Trace	52,60	52,60(a)	4,00	4,00	0,00
	Roy's Largest Root	52,60	52,60(a)	4,00	4,00	0,00
For family2	Pillai's Trace	0,53	1,14(a)	4,00	4,00	0,45
	Wilks' Lambda	0,46	1,14(a)	4,00	4,00	0,45
	Hotelling's Trace	1,14	1,14(a)	4,00	4,00	0,45
	Roy's Largest Root	1,14	1,14(a)	4,00	4,00	0,45
For prof 2	Pillai's Trace	0,25	0,33(a)	4,00	4,00	0,84
	Wilks' Lambda	0,75	0,33(a)	4,00	4,00	0,84
	Hotelling's Trace	0,3	0,33(a)	4,00	4,00	0,84
	Roy's Largest Root	0,33	0,33(a)	4,00	4,00	0,84

Table 3: Multivariate analysis.

VD: perceptive- cognitive variables (post-test).
VI: Training variables: families and professionals (post-test).

a) Exact statistic.

Data observation is conclusive. Significant improvements found over seven post-test perceptual cognitive-cognitive variables, regarding the evolution of development of cognitive empathy expression in students with ASD, are positively influenced by intersection of formation variables involved families and professionals together (Pillai´s Trace and other tests: Sig.=0.00). However, these variables separately doesn´t show a significant critical level: "family 2": Sig=.45; "for prof 2": Sig.=0.84. It´s possible, therefore, conclude the specific work implementation interrelated way higher performance found in program aims, than when intervening factors work disjointed, hence, it´s importance of psycho- social and educational functions of co-teaching models.

Conclusion

In effect, study previous hypotheses regarding the research aims were widely confirmed. Thus, students' emotional-perceptual-cognitive variables concerning development the cognitive- empathy throughout interactive process program have improved significantly after program implementation. Program implementation, carried out throughout collaboration between professional and families and complemented around continuous process of specific training related with specific program, left the development of participant agent training and, consequently, important improvements of program aims regarding development of cognitive- perceptual variables. Hence, it´s possible conclude the improvements found about perceptual-cognitive variables are owing by formation variables of participant agents along program application. Professional training based on data, according to specific needs previously assessed, constitute an essential aspect of this intervention. Likewise, mediation strategy of implementation process carried out along training process and planned continuous evaluation, involve essential elements of psychosocial- educational process effectiveness implemented. But, it´s remarkable that influence of IV is observed when analysis is related jointly, through intersection of formation variable regarding professionals and families, however, when formation variable is observed isolated (professionals and families), variance scores haven´t a significant influence about changes found on perceptive- cognitive variables; then, it´s possible affirm the interaction of co- teaching constitutes a fundamental element for adapted program effectiveness applied to students with ASD.

Discussion

Indeed, these hypotheses contrast with other study performed in this research area. (Horn [20]) studies the application of specific programs through e-coaching mediated technique. E-coaching method defines immediate reaction of teachers to response issued by students regarding the stimulus-objective throughout continuous interaction between teachers and students of corrective feedback. Other authors deepened over method application as an interactive methodology for programs implementation to students with ASD (Hughes, et al., [21-24]). Since, facilitating a continuous interrelated interaction, the intervention specific process is carried out along natural context, which considerably improve

development of skills, competencies and abilities of people with ASD and, specially, allow generalization process of learning aims acquired for use in different situations. For this reason, (Tekin, et al., [25] propose the specific way to design processes of formation the intervening agents, which are based about integrated collaboration models. In their studies, suggest it´is also necessary that professional training do through an immediate action toward request asked, as indicated in e-coaching techniques, thus, must realize a reconsideration of psycho-educational model, consisting implementing continuous training process agreed the answers found along objective-competencies-stimuli presentation, regarding the methodology or process of educational programs develop adapted to students with special educational needs, throughout integrated programs in the regular curriculum. In fact, any classroom of any educational center there are observed multivariate personal characteristics, which coexist with different specific needs, which may require specific support or concrete support, therefore, support teachers are essential element the center in responding this diversity, owing their professionally trained to respond to specific needs, but it shouldn´t conclude that main functions are directly related with differential attention to students (separated support classes), but, contrary, main functions must be reorganize around inclusive systematic planning, based about training and support towards teachers, both regarding educational response, as organizational response implemented directly in regular classroom/ regular center. In this sense, actual innovations indicate that when support teachers carry out specialized attention, through the regular teachers training over regular classroom, agreed with educational needs previously evaluated, process implemented influence in whole class and, hence, all students are advantaged, especially, students with special educational needs. But, also, training and education areas must be issued to whole center, then, model effectiveness increase significantly, revising the actual conceptual vision of attention to diversity. Likewise, when strategy implies the educational community, action of an isolated academic activity becomes a continuous action that develops throughout whole naturalistic process, which ease subject-matters codifying, but, mainly, contents generalization the new situations. In summary, different research techniques used for professional training along support processes are, in general, related, with following points:-joint programmatic planning, according the specific educational needs assessed, - training regarding educational answer, as well as, organizational models of classroom/center to respond to previously evaluated needs, - empowerment or professional formation immediately to spontaneous particular needs, - systematic planning of evaluation system criteria for implementation, and - flexibility to do changes necessary regarding continuous evaluation process of program implementation. Hence, it´s possible propose a new perspective over diversity attention area for new incorporations in educational law, based over basic principles of inclusive education processes, that keep to an equity education.

Study Limitations

Study is limited by small sample of participants, but it´s habitual in research highly specific groups. However, it would necessary refute these data through other studies adjusted this research study aims.

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Annex 1

Evaluation Scale

Cognitive- Empathy: 1= very low- 5= very high (pre-test-post-test= 4 months).

Perceptual-cognitive criteria (Date)	**Levels (1: very low- 5: very high)**					
	1	**2**	**3**	**4**	**5**	**Observations**
1. Opinions development along interactive conversation.						
2. Feelings development along interactive conversation.						
3. Prevalence level of interaction.						
4. Interaction growth level along interactive participation.						
5. Adjustment level the interactive participation context.						
6. Conversation frequency level along intervention process.						
7. Emotional-expressive behavior consistency level along interactive participation.						

Annex 2

Evaluation Scale

Professional formation level of families and professionals: 1= very low- 5= very high (pre-test-post-test= 4 months).

	Family					
	Professional					
Formation criteria	*Levels* *(1: very low- 5: very high)*					
(Date)	**1**	**2**	**3**	**4**	**5**	**Observations**
Training level perception regarding intervention the people with ASD.						

Annex 3

Activity Example: Expression the Emotional- Cognitive Empathy.

Phases- structure:

1. **Initiation**

Antecedente: Lorena no se muestra expresiva durante la conversación con los demás, de forma que sus compañeros no saben si está incómoda con la situación.

Training

Formation level based on emotional- cognitive process, likewise regarding perceptive- cognitive- memory analysis and the adapted specific intervention models:

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Initial Evaluation

Along activity development, following situation happen:

Group	Loren
- We can go this afternoon the library to look about medieval universal contents information.	--
- Good idea, I find hard understand by class notes.	--
- What time are we, then?	--
- What do you think tomorrow 5 p.m.? Are you doing well?	--
- Agree!	--
- Were´re we?	--
- In library door.	--
- Do you think it's good to go the library? (a student asks Loren).	- Loren affirms with head.
- Oh yes, perfect. Then, tomorrow at 5 p.m.	- Agree!

Family Diary

Loren shows the socio-emotional empathy competence regarding others, but presents important limitations to express it because she doesn´t importance to expression cognitively this relational emotion**.**

2. Reconstruction of Situation-Objective

Context: Over situations of group interaction happen, Loren participates passively, listens, observes, seems show agreement or disagreement, but doesn´t express she feels regarding interactive situation.

Classmates	Loren
University support group, which collaborates along Loren inclusion process, join her to library with their classmates.	
- What do you think if we deal find different information over this theme?	--
- Ok, some can search over reviews and others various book about Carolingian Empire.	--
- Well, I´ll look for a book to understand Roman Empire transition.	--
Support group	Loren
- Are you agreeing make several groups?	- Yes.
- Loren, what do you prefer, search book or journals?	- I would prefer search a book.
- Ok, tell for it your classmates what you prefer.	- I´d like belong group which

Family Diary: In fact, Loren hasn't cognitive awareness having to tell what she thinks or believes as part positive social interaction with their classmates.

3. Behavioral Process

Specific Support: Perform an analysis of one's own thought and feeling and its emotional expression in social interactional context:

Support group	Loren
Look following images:  Sea turtle keep bound between plastics.	
 Seas are fully contaminated by plastic thrown by people.	
Questions:	
- What do you feel look these images?	- I feeling very much pain and sadness to see sea full of plastics.
- Do you think I could know feel if you don't tell me?	- No.
- What do you think I feel about it?	- I don't know, I guess same, what do you feel?
- Much horror that be happening and no action is given about environmental conservation.	

Family Diary: Loren expressed her feeling. It´s observed the feeling produced by this situation, but has limitations to express herself in social interaction context.

4. Cognitive Integration

Classroom: In group, students realize differ observations of pictures. After, each student shows their thoughts, feelings or beliefs.

Classmates	Loren
 Puppy lost or someone abandoned it.	
- I feel very sad.	
- I feel repulsive, it isn´t possible understand someone can abandon a puppy.	
- I feel very angry.	- I also feel very sad.

Classmates	Loren
 **People asking in the street.**	
-I feel very much sad.	
-Every day, I know people asking in street, it´s horrible.	- I feel very sorry.

Classmates	Loren
 **People throws plastic bottle at Street.**	
-I feel bad mood.	
-I feel angry.	
-That´s very bad.	Not well, I get angry.

Context Analysis:

Support group	Classmates	Loren
-Do you think if we don´t express our feelings, peoples can know we feel?	-I think can be in first image, but in picture second, I think if you don't say it, you don't can know.	
-But, you only intuit it or do you know it?	-Well, of course, I guess.	
	-I don´t think it, thus for each person different situations can get different feeling.	-I think I can't know it, especially, regarding picture second.

Family Diary: Loren integrates the conceptual content about know the feelings of others peoples, must express them openly, since, contrary, peoples could only do suppositions.

5. Exchange of Contextual Roles

Classroom: Loren makes the proposal to make a visit the archaeological museum:

Loren	Classmates
-What do you think if we visit the archaeological museum and take pictures for this subject-matter?	-I think it's a good idea, we can meet tomorrow.
	-I can't tomorrow, if we go next week, I wouldn't have a problem.
(Partner 3)	-(Doesn´t answer).
	-Then, how do we do?

Then, a support group member tells:

Support group	Loren
-Partner doesn´t answer, it´d be better ask before.	-Ok.

Loren	Classmates
-What do you think about this idea of going the museum? (Loren asks partner 3).	-3: I don't know, I have many things to do, but, all right, I think it's fine.

Support group	Loren
- If partner 3 hadn´t answered, would you know he wants?	- No.

Family Diary: Loren understands the need to expressly indicate her own ideas for others know he thinks or feels about interactive context.

6. Expression of Socio-Emotional Empathy

Support group performs emotional understanding expressive activity with Loren:

Support group	Loren
- How did you feel when your partner didn't answer?	- Unsure, I didn't know to do.
- How do you think other partners felt when partner 3 didn´t answer?	- I don't know, maybe, like me, because I didn't know if I wanted go.
-How do you think others peoples feel when you don't answer about you think?	- Maybe, like me now, they don't know think about this proposal.
- How do you think these kind of situation can resolved?	- I think saying one thinks that time.
-However, sometimes you keep quiet along social conversation, why?	- I thought it wasn't necessary to do.
-But, you found it´s very difficult to know one thinks if isn´t expressly said.	- Yes, I´ll say I think avoid these situations.

Family Diary: Loren internalized cognitive belief regarding situation caused by its interactive communication absence.

7. Psycho- Emotional Analysis

Analysis of social consequences without interactive social communication. When you don´t participate interactively, expressing you think, feel or need. What effect may have?

- Comment different alternatives:

Support group	Loren
-That individual isn´t respected next time in group.	- It could be, because if you say nothing, then they don't expect it.
-That individual be excluded from opinions.	- I don't believe because in particular time, you back give opinion.
-That peoples carry out actions without its feelings.	- Partially, it´d be normal because if you don´t say anything, they´ll able to do they want.
-That be isolated.	- I don't believe because each person can share differently.

But, if you´re interactively, what consequences could have?

- Comment different alternatives:

Support group	Loren
-That individual is always considered within group to make any decision.	- Yes, I think if you participate they should take you into account.
-That individual is very well integrated within group.	- I don't believe, I think it should be integrated the same.
-That always consider your opinion.	- I believe so, since if you always think, then they wait for oneself.

In synthesis, do you think it's more positive actively participate about group or, contrary, do you think not?

Interact	No interact

8. Cognitive Analysis

Analyze the consequences that can affect the absence of group interaction:

Support group	Loren
- That individual don´t know what say about it.	-Many times happens.
- That people don´t adapt to situations.	-It may be, there´re times you feel this way.
- That person are afraid they say is wrong or inappropriate.	- Sometimes it can happen too.
- That people don´t think because simply don´t	-I don't think he doesn't care, but, maybe, he thinks it´s

care anything.	not necessary say it.
- That individual don´t have resources to know how behave at context.	-That happens me very often, I don't know if I should behave now or how do it.

In summary, what would be the most important analysis you´d select between different alternatives:

Family Diary: It´s necessary extend assay of natural behaviors to carry out a learning process as wide as possible of flexible behavioral repertoires learned, followed by meta cognitive analysis of learned situation.

9. Natural Situations Learned

Following examples of actions are developed to implement a natural behavioral learning in structured environments, which help as basis to adapt in posterior natural situations and, therefore, generalize the learned processes.

Support Group: Simulation of following actions indicated with images associated, while support group and Loren comment about it.

Support group	Classmates	Loren
A boat trip 	- I think it's great, can we take pictures?	- I´d like very much.
	- We can tour coast and observe whole environment.	
	- But, how much cost?, I don't know if I´ll can.	- Loren, if you can´t, we can put a little more money.
	- I agree with Loren.	

Study in the technology class. 	- We can search videos about aeronautics.	- I´d also like to go.
	- Yes, we also need study it.	- Also, I like these subject- matters.