Learning to think in a reflective and critical manner
Results of research

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Agenda

- Theoretical frame: Typologie of exchange + P4C
- Method of analysis
- Results:

  - Exchanges among children
  - Social Representations (SR) of emotions
  - SR of violence
  - Development of judgment

The *Convention on the Rights of the Child*, ratified in 1989 by the United Nations (UN), recommends (particularly in articles 5,13,14,15 and 16) the children's right to freedom of expression, and to freedom of thought (Daniel, in press).

"*Children must know who they are. They must have a positive sense of their own identity. They must be able to think properly and express themselves clearly. They must learn to understand the different ways people have of communicating."* (Garbarino, 1990)

Position

Following John Dewey and Matthew Lipman, our position:

an approach which aims the development of children's "***cognitive"*** and ***"discursive"*** competencies should be used in schools to really educate the young generations.

And that this learning should start as early as kindergarten.

Cognitive competencies

We understand thinking skills as *simple* when children use them spontaneously.

Ex.: Concrete example, simple statement of a belief, etc.

We regard thinking skills as *complex* when children must acquire them through regular and continuous *praxis*.

Ex.: Justification of points of view, conceptualisation, evaluation, criticism, correction, etc.

Discursive competencies

By “Discursive competencies”, we mean the capacities to engage in dialogue.

From Dewey and Lipman’s perspective, a dialogue differs from a conversation.

Dialogue is not a spontaneous mode of exchange, as conversation is.

It necessitates systematic and regular learning, by means of a *praxis*.

Why Preschool children ?

It is in preschool that children start to (Bentolila, 1996) :

1) Understand how to construct meaning, that is, understand what speaking means, how to transmit meaning with words;

Why Preschool children ?

2) Discover the rights and obligations linked to the use of language, the right to freedom of expression, the necessity of being understood by others, and therefore of constructing a clear message allowing an exchange of experience;

Why Preschool children?

3) Experiment with the fact that one speaks with specific intentions, learn to differentiate acts of speech: does one wish to explain, relate, convince or question? - A particular strategy of wording corresponds to each of these intentions;

4) Understand that the word plays a critical role in the reciprocal comprehension process.

OBJECTIVES of the Research-project

1. To verify if P4C could foster the quality of the exchanges among 5 year-olds: Could it be reflexive and critical ?

2. To study children's social representation (SR) of Emotions

3. To study their SR of violence

4. To verify the impact of the P4C approach on the development of children's judgment.

OBJECTIVE 1 .. typology of exchanges.. research results ..

A previous research project (SSHRC*) conducted in Australia, Mexico and Quebec with 240 pupils aged 10 to12 years

revealed that exchanges between pupils who use P4C are not homogeneous.

5 types of exchanges emerged from the analysis (Daniel et al., 2002)**:**

- Anecdotal;
- Monological;
- Dialogical
  - Non-critical;
  - Semi-critical;
  - Critical.

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Anecdotal

- An exchange is considered *anecdotal* when children “speak” in an unstructured manner regarding personal situations.
- In this case, the pupils are not in a process of inquiry, they do not strive towards a common goal, and they are not at all influenced by peer interventions.
- Furthermore, they do not justify their points of view, and their opinions are presented as conclusions.

Anecdotal - criteria

- Exchange with no common goal;
- Exchange that amounts to a series of personal anecdotes directed toward the teacher;
- Discourse highlights a concrete thought based on perceptual experience;
- Children are incapable of justifying their statements, even when stimulated by the teacher;
- Limited interest in peer perspectives - questions are not asked;
- The classroom amounts to a group of isolated individuals (rather than a micro-society or a community of inquiry).

Anecdotal - Example

- *Facilitator: In the story, why didn't Ramon like mathematics exams?*
- *P1: I get nervous during exams.*
- *P2: Because sometimes I, because I worry.*
- *P3: Because I get nervous.*

Monological

- The exchange is considered *monological* to the extent that the pupils begin to enter a process of inquiry, but one that is essentially aimed at searching for "*the*" correct answer.
- Each pupil intervention is independent from the others.
- At this stage, pupils find it difficult to justify their opinions.

Monological - Criteria

- Pupils' answers are brief (a few words rather than a complete sentence);
- Answers are independent from each other, as though each person pursues an internal monologue;
- Statements are not spontaneously justified. They are justified only under teacher stimulation;
- Solving problems amounts to searching for *the* correct answer;
- According to the pupil, the teacher knows all the correct answers;
- Pupil satisfaction resides in teacher approval.

Monological - Example

P1 (showing the facilitator the cube he has just drawn): My cube is perfect.

Facilitator: Tell us why it's a perfect cube.

P1: I'm not sure.

Facilitator: It's certainly a cube isn't it?

P1: It looks like one.

Facilitator: Is it a perfect cube?

P1: Yes.

Dialogical

- An exchange is considered *dialogical* when pupils begin to form a CI,
- in other words, when they construct their interventions based on those of their peers,
- and they invest themselves in reflection through their motivation to solve a common problem as a community.

- The experiment with Australian, Mexican and Quebec pupils allowed us to note that a dialogical type of exchange was not critical *per se*.

- From our analysis, it emerged 3 types of dialogical exchanges: non critical; semi-critical; critical.

Non-Critical Dialogical

- ✓ An exchange is considered *non-critical dialogical* when pupils have the capacities to engage in dialogue. But at this level, they do not evaluate the points of view or perspectives at stake, and they do not evaluate the validity, the usefulness or the viability of statements or criteria.

Non-Critical Dialogical - Criteria

- ✓ Pupils construct their interventions based on those of their peers;
- ✓ Pupils invest themselves in reflection to solve a common problem;
- ✓ Respect for differences in points of view;
- ✓ Statements are justified when the teacher guides them in this direction;
- ✓ Quantity (rather than quality) of statements seems to be the pupils' goal;
- ✓ Validity of viewpoints is neither evaluated nor questioned.

Non-Critical Dialogical - Example

Facilitator: Why do you say that geometry is interesting?

P1: Because it's part of our everyday life.

P2: That's true because in school for example we're now learning figures and when we're older and want to buy some land we can figure out how much land area we own.

P4: I agree with P2. And also because with geometry for example architects can build schools, buildings and everything, stores and everything we need in everyday life as P1 said.

Semi-critical Dialogue

- An exchange is considered *semi-critical dialogical* when, in a context of interdependence, some pupils are sufficiently critical to question peer statements.
- But the latter are not sufficiently critical to be cognitively influenced by the criticism dispensed, so that this criticism does not lead to the modification of the point of view or perspective.

Semi-critical Dialogue - Criteria

- Common question to be solved ;
- Interdependence of points of view;
- Critical questions, however, they do not influence peers;
- Statements that are not always completely justified;
- Listening to others and respecting them are not completely integrated;
- The result : the initial idea is improved but not modified.

Semi-critical Dialogue - Example

P1: First you have to learn because if you don't learn how can you understand?

P2: But I don't agree with P1 when he says first you have to learn…First you have to understand and figure out what you're going to do then you learn it so you can see if it's right or not.

P1: How can we understand mathematics if we don't learn it?

P5: I think that right now in the sixth grade what we're doing is understanding. There are things that we have already learned…but maybe we understood more or less and maybe we have to learn them all over again to understand them more clearly.

P1: I think first we learn because how could I understand numbers if no-one ever taught them to me? To understand a formula like "the base times the height" first you have to have learned it.

Critical Dialogue

An exchange is considered *critical dialogical* when the pupils not only improve the group's initial perspective, but when they also modify it.

Critical Dialogue - Criteria

- Explicit interdependence between pupils' interventions;
- Search centered on the construction of meaning (vs. truth);
- Search for divergence of points of view ;
- Uncertainty does not create uneasiness;
- Evaluation of statements and criteria;
- Spontaneous and complete justifications;
- Moral preoccupations;
- Statements in the form of hypotheses to be verified (vs. closed conclusions);
- Modification of the initial idea.

Critical Dialogue - Example

FAC: Last week, we worked on the notion of order; the order of numbers and digits, and the hierarchy between humans and animals. Would someone like to summarize or pursue last week's discussion?

P1: It depends on the context. It depends if we're talking about humans from the point of view of their inventiveness or of their instinct. And I think that humans are more intelligent than other animals in their inventiveness. But then again, it might not be true. In other animals' eyes, we may not be more intelligent, because other animals act according to their needs, not their desires, like us.

P2: I think humans are the only ones that can do mathematics. Humans invented English and mathematics. Math is like another language we invented. We use it to understand things, to understand the reasons behind things. Like why the sky is blue and why can't we float or fly. (…) But animals, they just think "sky" and they don't really think about the sky. Because they have, if for us eating and mating are an instinct, for them, it's their principal instinct...If it's about intelligence, I think humans are at the top of the list.

Fac.: Why? On what criteria do you base yourself?

P2: On how complex we are. And also on the fact that we have other kinds of intelligence, like empathy, sympathy and things like that.

P3: I agree, because we build things, animals don't. They only listen to their instincts. We do things for our own pleasure and in general we do them freely. It is the brain power that is bigger. I am not sure but I think it is bigger.

P4: I disagree with P3. He tells animals do not build things. They build nests, etc. which is not easy. And they only kill for their real needs.

Fac.: So, what makes them more intelligent than us?

P4: I do not know yet. Because as P1 said, it depends. Because we invented mathematics but we cannot blame animals for that. We cannot tell animals are stupids because they do not do mathematics. They are our mathematics. They have their own ways to do things. (…) If animals could think they probably think we are stupid because we do not do as they do. Humans. Look at us. We have massive holocausts and kill millions of persons. (…)

P3: I think I changed my mind. I agree with P4. (…) But I still think we are superiors to animals but … it really depends. (…)

P1: Well, for me, my theory is that we were a couple of different species placed on Earth as a test, to see if we could evolve. (…) And it has nothing to do with intelligence. It has to do with whether we will evolve or not.

P3: Then there would be like two different paradigms.

P4: Yes, there's the intelligence to think about how to make things and there's the intelligence about how you're going to use those things. We're both the most stupid and the most intelligent.

Philosophy for Children (P4C)

To foster young children's skills and attitudes related to Critical Dialogue,

we introduced P4C in the kindergarten classroom.

P4C

- ✓ The P4C approach was put forward by American philosopher M. Lipman and his collegues from MSU.
- ✓ Lipman's material includes Manuals for teachers, and philosophical novels for youngsters aged between 6 and 15 years, in which various concepts that stem from fields of philosophy.
- ✓ P4C is implemented in 50 countries and its material has been translated to 20 languages.

P4C

- ✓ The essence of P4C is found in "philosophical dialogue within a community of inquiry" (CI).
- ✓ Works have shown that weekly use of P4C with students aged 8 to 12 helps stimulate their cognitive and discursive skills.
- ✓ To our knowledge, there is no empirical works studying the impact of P4C on 5 years olds.

P4C

Lipman suggests 3 steps when presenting the philosophical material to the pupils:

- 1) Reading
- 2) Questioning
- 3) Discussion

A question is considered "philosophical" when it:

- **Concerns the "why" rather than the "how"**;
- **Questions concepts** (What is…? What does… mean?);
- **Develops around the origin, causes, consequences, relationships (logical and linguistic) between words, concepts, ideas** (Where does… come from? "What will happen if…?);
- **Questions knowledge, traditions, and prejudices; ETC.**

3) Discussion in a CI

The essence of P4C is found in learning to "dia-logue".

The goal of the 3rd step is not to bring the children to argue for the sake of competition, but rather to bring them to *dia-logue* in a perspective of cooperation; each individual intervention thus contributes to enrich the group's perspective.

A true CI is manifested when dialogue among peers is characterized by pluralism, reciprocity, and tolerance (Lipman *et al.*, 1980).

Material used for our study

Lipman's philosophical material is intended for children aged 6 to 15,

and is inspired by fields of philosophy: logic, metaphysics, ethics and aesthetics.

Due to lack of relevant material intended for pre-schoolers we developped *The Tales of Audrey-Anne* (Daniel, 2002, 2003).

The Tales of Audrey-Ann

It is a collection of 16 short philosophical tales (for children aged 4 to 7 years).

The Tales are said *philosophical,* because :

- they question "open" concepts for which there are no single answers,
- and upon which the children are invited to reflect as a community of inquiry.

The Tales of Audrey-Ann

The objectives :

- The development of children's HOT skills,
- stimulation of social and dialogical competencies,
- consciousness of various manifestations of violence (physical, verbal, sexual)
- awareness of their body and of their peers.

Method of analysis

Objective 1 (critical dialogue at 5 years old?)

- Qualitative analysis - Typology of Exchanges

- 3 classrooms from QC: (12 to 18 children/class)
- The P4C sessions took place each week (45 mn/week) from October to May.
- 3 sessions were tape-recorded (October, February, May) and immediately transcribed in full.
- We present 2 transcripts of exchanges: the first one and the last one.

RESULTS - 1st Exchange (October)

Teacher: Which situation is most pleasant: gently petting a dog's nose or petting a dog by strongly pressing on his nose?

An: Softly petting his nose.

Teacher: Can you tell us why?

An: It makes us happy.

Mel: It makes the dog happy.

Bri: When you pet a dog, and you do it too fast, it can hurt him and he can bite you.

1st exchange (October)

Teacher: Let's move on to another situation. Which is more pleasant: when you gently push a friend, or when you violently push a friend?

El: Gently push.

Teacher: Why?

El: **...?**

Teacher: Can anyone help El and say why it's more pleasant?

Mel: It's more pleasant because it hurts less.

Lu: You won't really feel like playing with that friend anymore.

An: It can make him really mad.

Analysis - 1st transcript (October)

- The first exchange, because it is well "guided" by the teacher, surpasses the expression of personal anecdotes that are *un*related to the question asked. Indeed, the children's interventions are well targeted.
- However, their answers are short;
- They are independent from one another, each one contributing a different point of view. Therefore, there is no perspective construction, but rather a juxtaposition of points of view.
- These points of view are directed toward the teacher, not toward peers.

- This exchange was called **"Monological".**

RESULTS - Last Exchange (May)

Teacher: *Here is another situation: Jojo doesn't like the candy her aunt gave her, but she eats it anyway because she doesn't want to disappoint her aunt. Is this a good solution?*

Ca: *I think it's a good idea (...) because she won't be sad.*

Teacher: *Does anyone agree or disagree with Ca's idea?*

Mel: *I don't agree (...) I would take the candy and drop it in the garbage and say I finished the candy. (...) because I don't want to eat mints I don't like. (...) This way, she won't know I didn't eat them.*

Last exchange (May)

Teacher: *Do you agree with the ideas that were just said?*

Lu: *I don't agree with Mel because if my aunt gave me some candy I don't like and I threw it away …… when the aunt throws something away, she will look in the garbage and see the candy and she would be angry with me.*

Mel: *If we put them way, way, way down in the bottom and put some stuff over them and then close the lid...*

An: I don't agree with Mel because when you put the candy at the bottom of the garbage, you can get your hands dirty.

Last exchange (May)

Teacher: *Well then, what would you do?*

An: *Well, I would eat them even if I don't like them. If I really really don't like them I'll give them back to my aunt without telling her I don't like them.*

Lu: *I have another idea. All you have to do is tell your aunt "Could you change the candies?"*

ANALYSIS (May) - Cognitive level

Complex thinking skills and predispositions:

- justification of points of view,
- active listening,
- logical reasoning,
- considering peer points of view when construction one's own,
- criticizing peer statements.

ANALYSIS (May) – Dialogical level

- ✓ The children's interventions are lengthier, more complete and better organized than in the first transcript.
- ✓ The children make cognitive efforts to reach together a practical and realistic solution that does not penalize anyone. They **"dialogue"**.
- ✓ They offer criticisms to peers points of view. Although the latter are not influenced by these criticisms.
- ✓ This type of exchange is called **Semi-critical dialogical**.

ANALYSIS (May) – Epistemol. level

- A 1st solution that is focused on personal well-being,
- A 2nd is focused on the well-being of others,
- A 3rd is oriented toward communication.

The children were able to surpass:

a) egocentricity in which each person is isolated in her personal anecdotes,

b) negative relativism where each opinion is juxtaposed to the previous ones with the intent of accumulating as many points of view as possible (positive relativism).

CONCLUSION – Objective 1

- **At 5 years old, children are able to dialogue**
- **They use HOT skills to exchange with peers**
- **The dialogue is not critical but semi-critical because they are not yet open to criticism and self-correction.**

In anY case, the use of philosophical dialogue with a CI represents an interesting contribution in school. Regular *praxis* of philosophical dialogue gives children the courage :

- **to express themselves in a group,**
- **to expose, to argue and to justify their points of view,**
- **to criticise unrelevant statements and to self-correct.**

CONCLUSION 1 (LIMITS)

- Some of our observations in Australia, France, Belgium, Mexico and Quebec prompt us to state that a widespread tendency to “let the pupils speak” is becoming apparent.
- Doing so, the school does not foster children’s cognitive, dialogical and epistemological competencies.
- Even worse, doing so, schools give the children the illusion they enter in dialogue when they only speak, and the illusion they think in a reflexive and critical manner when they think in a linear and simple manner.

OBJECTIVES 2 -3: SR OF EMOTIONS AND VIOLENCE

- Representation refers to the product and process of a mental activity by which a person or a group reconstructs a reality and gives it meaning.
- Its theoretical basis is (socio) constructivist, and it presupposes that *objective* reality does not exist, but that it is always represented. In other words, it is appropriated by a person or a group, reconstructed in their mental universe and integrated into their value system (Abric, 1994).
- It corresponds to opinions, beliefs and attitudes that refer to a (social) reality.
- The study of SR is generally conducted using discourse analysis.

METHODOLOGY

- Mixte study . i.e. quantitative with experimental groups (P4C during 7 months) and control groups (no P4C).
  But mainly qualitative method of analysis, inspired by the Grounded Theory approach (Chamarz, 2005; Glaser et Strauss, 1967).
- 6 kindergarten classrooms (experimental and control groups) from QC:
- Age, gender, language, culture, socio-economic backgrounds were taken into account.
- Individual interview (20 mn) at the beginning (pre-test) and the end (post-test) of the school year.
  - 9 children/classroom (total: 53)
  - Interviews were registered on video tape.

INTERVIEWS (Objectives 2-3)

- At the beginning of the interview, children were asked to draw him/herself with friends in the playground.
  Drawing: a «fun» pretext on which the interviewer could question the children.
- The questions of the interview were based on « Words Association ».
- 4 emotions: Happiness, Anger, Sadness, Fear.
  « In your drawing, I see a personnage who looks sad. What does sadness mean to you? Give me 3 words. »

Analysis was done according to the GT approach
in order to understand better the process of socialisation of emotions and violence in children.

Grounded Theory (objectives 2-3)

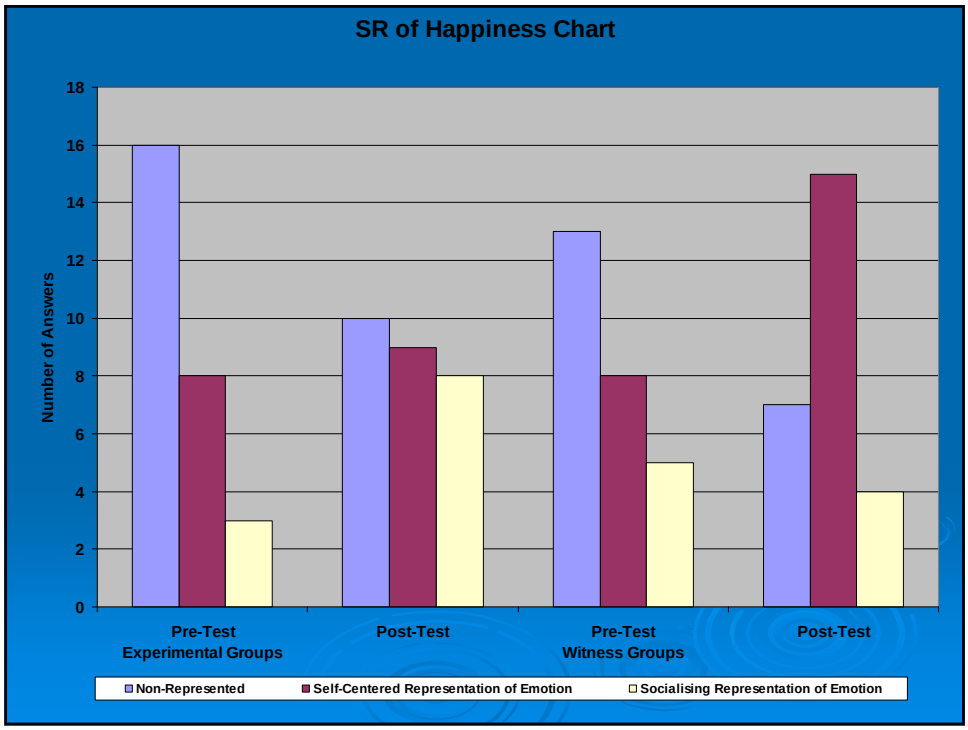
- **Phase 1 :**
  - Transcription of 424 answers (53 children x 4 emotions x pre and post-test).
  - Codage of answers in order to highlight the most important meanings of the data.
  - Grouping of these codes in preliminary conceptual categories (10).
  - Attribution of distinctive caracteristics (or properties) to each of the categories.
  - Relation (as many as possible) between these categories in order to get 3 main categories which include all the data:

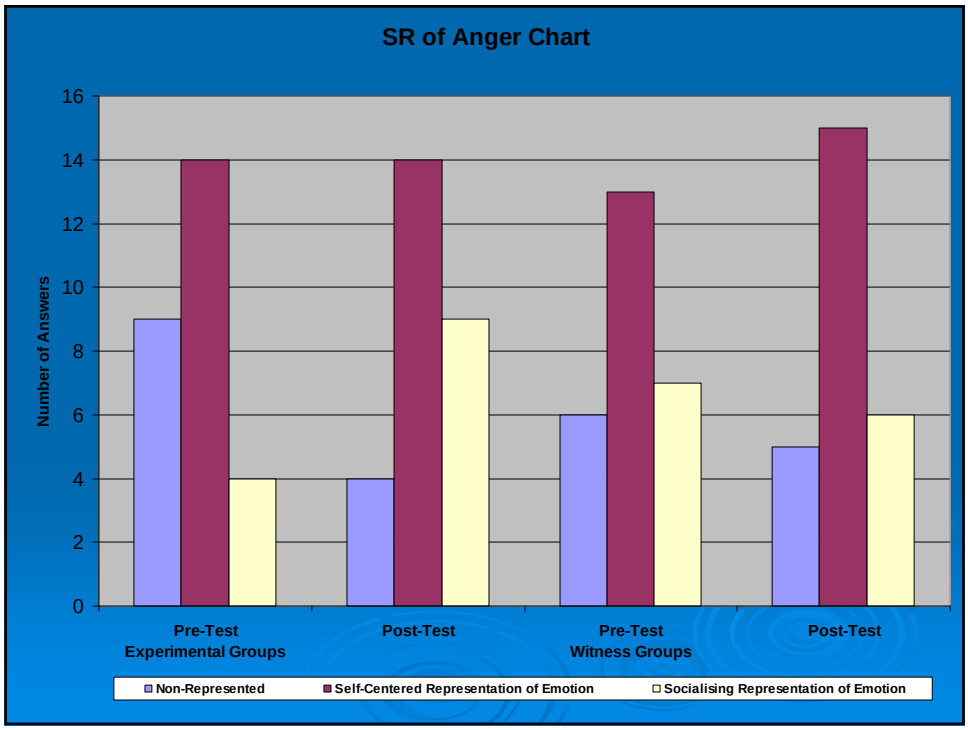
    1) non-representation of emotions
    2) egocentric representation of emotions
    3) socialising representation of emotions.

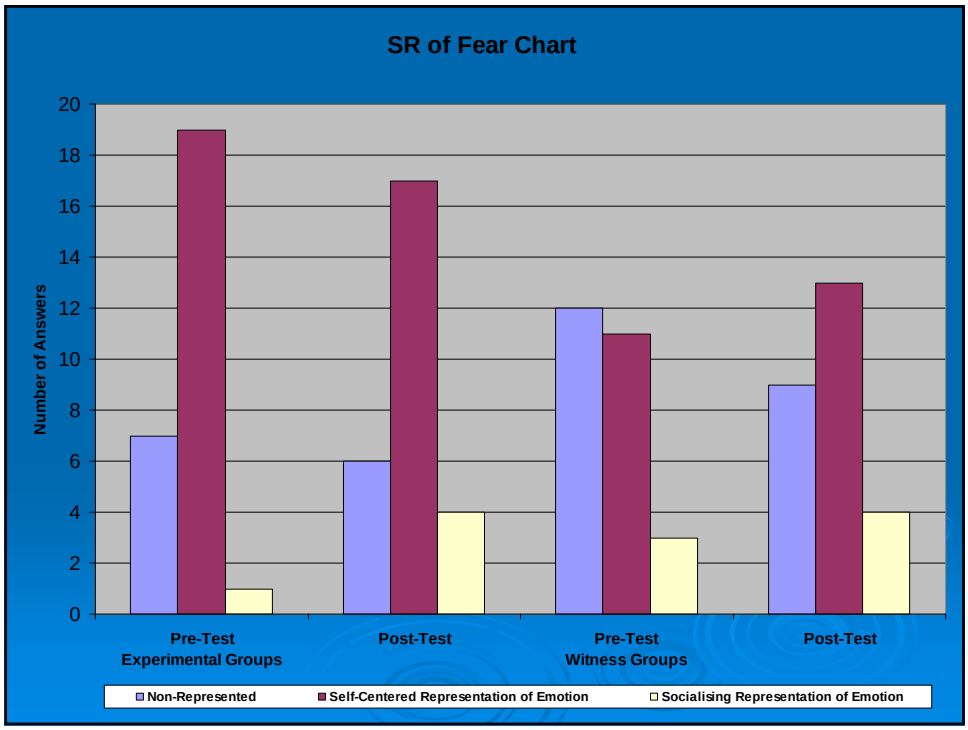
- **Phase 2 :**
  The analysis result of phase 1 (3 main categories and 10 sub-categories) became the tool to analyse the data (phase 2).
  In other words, we applied the categorisation of SR to the 424 answers collected.

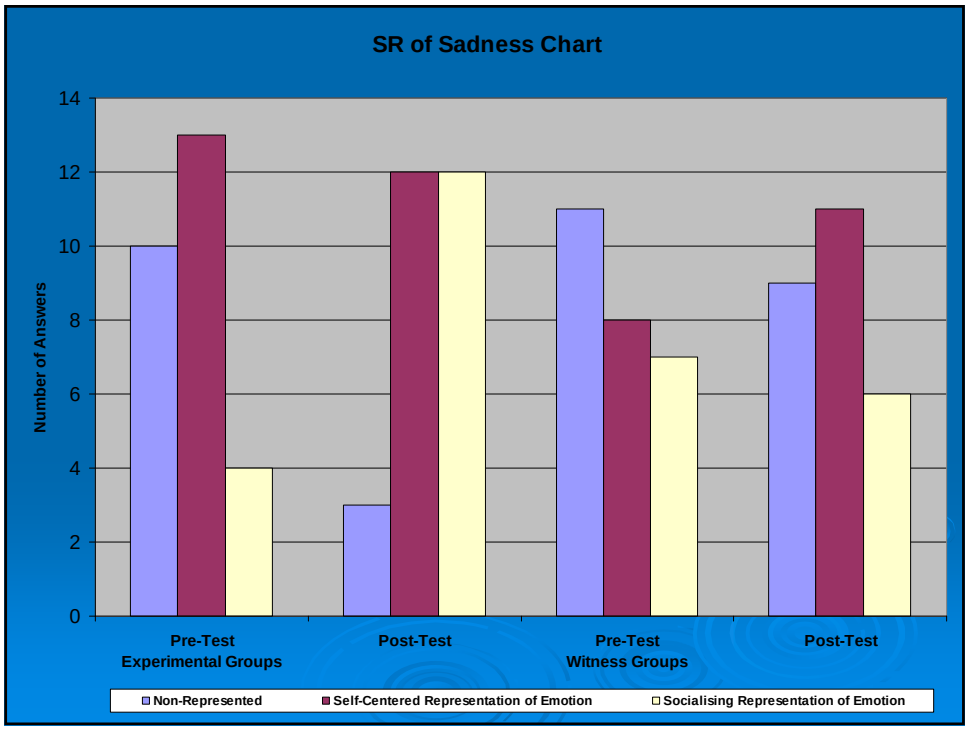
SR of Emotions - 3 main categories

Category	Examples of answers to: *"What does happiness mean to you?"*
1. Non-represented	*"I don't know."*
2. Egocentric representation	*"Eating chocolate cake."*
3. Socialising representation	*"Having fun with my friends."*


SR of Happiness Chart
Number of Answers
18
16
14
12
10
8
6
4
2
0
Pre-Test
Experimental Groups
Post-Test
Pre-Test
Witness Groups
Post-Test
Non-Represented
Self-Centered Representation of Emotion
Socialising Representation of Emotion


SR of Anger Chart
Number of Answers
16
14
12
10
8
6
4
2
0
Pre-Test
Experimental Groups
Post-Test
Pre-Test
Witness Groups
Post-Test
Non-Represented
Self-Centered Representation of Emotion
Socialising Representation of Emotion


SR of Fear Chart
Number of Answers
20
18
16
14
12
10
8
6
4
2
0
Pre-Test
Experimental Groups
Post-Test
Pre-Test
Witness Groups
Post-Test
Non-Represented
Self-Centered Representation of Emotion
Socialising Representation of Emotion


SR of Sadness Chart
Number of Answers
14
12
10
8
6
4
2
0
Pre-Test
Experimental Groups
Post-Test
Pre-Test
Witness Groups
Post-Test
Non-Represented
Self-Centered Representation of Emotion
Socialising Representation of Emotion

CONCLUSION - OBJECTIVE 2
SR emotions

- From the analyses of individual interviews, it appears that, within one school year, in every group (experimental and control), the children modified their SR of emotions.
- Modifications were more significant in the experimental group and changes were manifested in the 3rd category, socializing representation.
- Maturation (from 5 to 6 years of age) is fundamental in modifying SR of emotions. Nevertheless, without reflection with peers, and without social interrelationships, the socializing nature of modification does not seem to be ensured (Daniel et al., 2006 *In Pons et al.*).

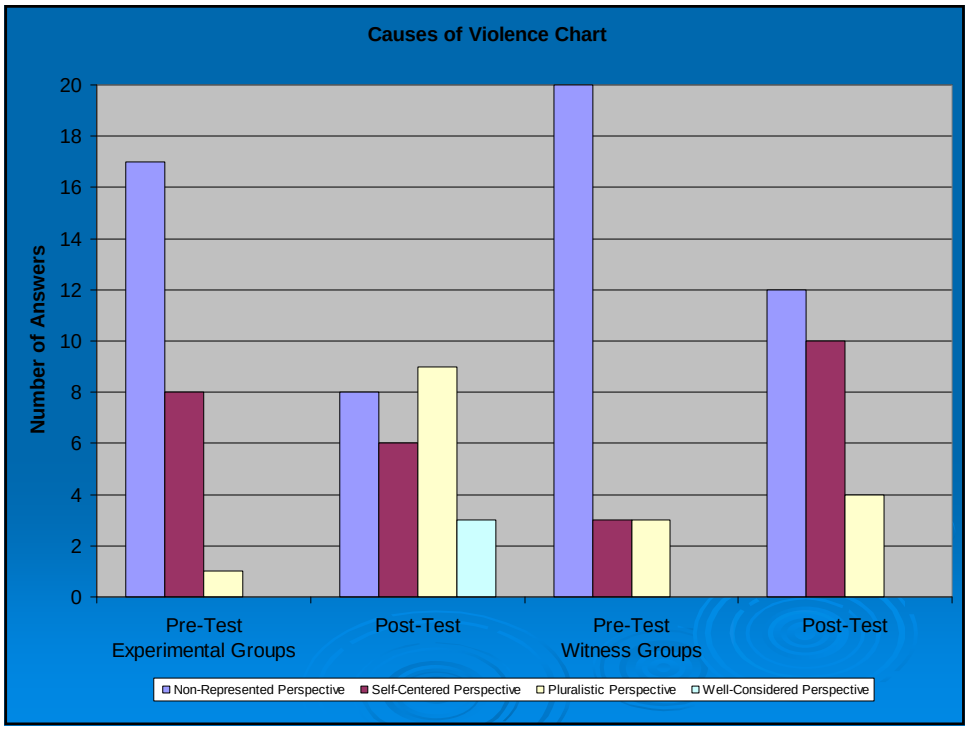
CONCLUSION 2 (LIMITS)
SR emotions

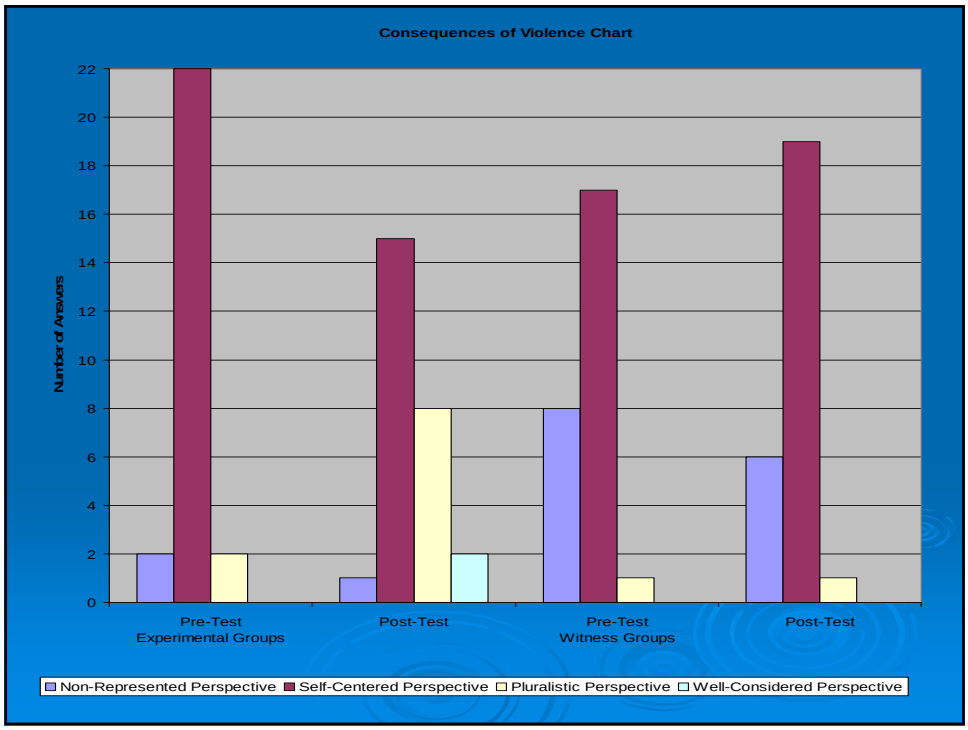
- The relationship between children's cognitive and social evolution in the philosophical CI, and the apparently more socialistic construction of their representations of emotions, is an interesting hypothesis that should be further verified using a larger sampling and diversified instruments (e.g. Pons' TEC, in progress).
- The validity of the categories that emerged from this study should also be verified among a larger number of subjects (Daniel & Auriac, submitted).

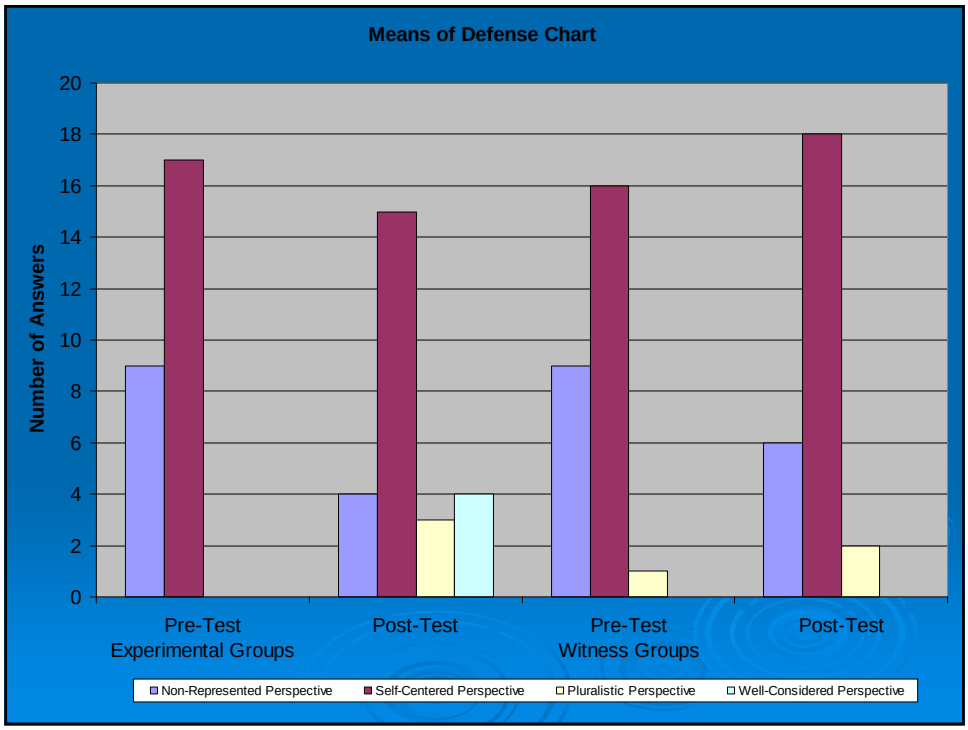
OBJECTIVE 3 - SR of Violence

Causes, Conséquences, Means of regulation

Category	Characteristics
1.Non-represented	- No SR of causes, consequences, or means of regulating.
2.Egocentric R.	- Concrete or materialistic SR.
3. Socialising R.	- SR that include another child in the consequences and means.
4.Well-considered R.	- SR that question and qualify causes, consequences…




Consequences of Violence Chart
Number of Answers
22
20
18
16
14
12
10
8
6
4
2
0
Pre-Test
Experimental Groups
Post-Test
Pre-Test
Witness Groups
Post-Test
Non-Represented Perspective
Self-Centered Perspective
Pluralistic Perspective
Well-Considered Perspective


Means of Defense Chart
Number of Answers
20
18
16
14
12
10
8
6
4
2
0
Pre-Test
Experimental Groups
Post-Test
Pre-Test
Witness Groups
Post-Test
Non-Represented Perspective
Self-Centered Perspective
Pluralistic Perspective
Well-Considered Perspective

CONCLUSION – OBJECTIVE 3
SR violence

- **In the experimental groups:**
  Although the majority of SR remained at the perspective 2 level,
  SR were refined between pre-tests and post-tests for each of the aspects of violence that were studied,
  due to a decrease in perspective 1 in each of the aspects,
  to an increase in perspective 3,
  and to the appearance of perspective 4 in each of the aspects.

- **In the control groups:**
  The SR were hardly modified between the pre-tests and the post-tests – except for the causes of violence.
  In both tests, the salient nucleus remained centered around perspective 2, followed by perspective 1.
  Perspective 3 remained stable and quite marginal between both tests.
  Perspective 4 was absent in both pre-tests and post-tests

(Daniel, Doudin, Pons, 2006)

CONCLUSION (LIMITS)
OBJECTIVE 3

- Further studying of the relationships between the practice of Critical Dialogue and the evolution of children's SR should be done.
  Indeed, a number of other factors may also influence the modification process of children's SR : **1)** maturity, **2)** overall cognitive development is likely to make a difference in SR, **3)** emotional characteristics (abuse, attachment relationships, etc.) are known to play a fundamental role in children's development (Harris & Pons, 2003).

- In this research project, groups rather than individuals were analyzed. Individuals should be analyzed (Martiny & Daniel, en cours).

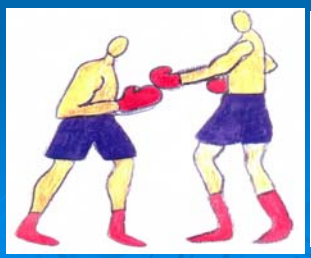
- In a perspective of primary prevention of violence, we need to verify the incidence of the modification of children's SR of violence on their behaviour
  (4 types: competitive, individualistic, collaborative, cooperative)
  during an interpersonal conflict generated by the researchers (Martiny & Daniel, en cours).

OBJECTIVE 4: Impact on Judgment

To study the impact of critical dialogue on pupils' judgment:

- 2 individual interviews with 9 children/classroom (n=53 children)
- Beginning of October (pre-test) and End of April (post-test)
- 4 series of drawings were presented to children: "***Which is different? And Why?"*** (Schleifer, 2001)

OBJECTIVE 4: Judgment



OBJECTIVE 4 – Item 4

Pre-test:

Experimental groups:	5%
Control groups:	5%

Post-test:

Experimental groups:	95%
Control groups:	16%

Summary of Results

- Five-year-old children are capable of a semi-critical dialogue - *when using regularly P4C*.
- They show an epistemology related to positive relativism.
- Their SR of emotions and violence improved towards the socialising RS and reflexive RS (vs control groups).
- Their judgment was refined (vs control groups).

DEKUJI !

DAKUJEM !

THANK YOU !

MERCI !