A conversational intervention procedure as a tool for improving and evaluating narrative skills : A study of 5-to-8 years old French children.

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INTRODUCTION

Narrative skills require sophisticated linguistic discursive, cognitive and pragmatic abilities to understand and communicate a story's key events.

By 4-5 years children can produce descriptive narratives but have difficulties explaining and evaluating events, as well as making reference to the characters' internal states and to their individual perspectives.

However, children produce more complex narrative contents when prompted (e.g., Wellman & Bartsch 1988; Eaton, Collis & Lewis 1999) or even in monological narratives if these are told after an explanation-oriented conversation (e.g., Veneziano & Hudelot, 2006; Veneziano Albert & Martin, 2008; Veneziano, 2010).

AIMS OF THE STUDY

1) To validate the results of earlier studies concerning the effect of a conversation focused on the causal explanation of events, on the evaluative content of children's narratives (Figs 1 to 5) ;
2) To determine the degree of STABILITY of the causal-oriented conversation effect one week later;
3) To determine whether the effect is GENERALIZABLE to a new story;
4) To determine the relationship between the linguistic expression of False Belief in the narratives and cognitive mastery on ToM FB tasks.

METHOD

Participants

- 84 French-speaking children between the ages of 5;6 and 8;8 years
  28 children per school level:
- Kindergarten - 5,6 to 6,4 years
- First grade - 6;4 to 7;2 years
- Second grade – 7;3 to 8;8 years

Procedure

1. Each child was presented with five wordless pictures (the "stone story" a story of a misunderstanding between two depicted characters, see below) presented sequentially. Once the pictures were removed the child was asked to tell the experimenter what s/he had understood of the story (First Narrative)
2. Then the experimenter engaged in a conversation with the child soliciting causal explanations of the main events;
3. Children were asked to tell the story again (Second Narrative).
4. One week later - each child went through the same procedure as in 1 (Stability Narrative)
5. Same procedure with an analogous story - the Bicycle story (Generalization story)

The interviews were video-recorded, transcribed *verbatim* in CHAT and linked to the video.

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Measures of Narrative Content

1. Overall coherence score for a story of misunderstanding
A score of 0 to 20 points was attributed for: narrative structure (max. 3 pts), explanation of key events (max. 2x4=8 pts), expression of False Belief and of its rectification (max. 4+3=7 pts) and expression of all the main elements (max. 2 pts).

2. Causal explanation of the 4 key events: pushing, pushing back, showing the stone, picking up the partner
Examples of causal explanation (translated from French) for: 1) pushing: *He has stumbled on a stone and has pushed the other one;* 2) pushing back: *He pushes back because he thought he had pushed him on purpose*; 3) showing the stone: *He shows the stone to say that it wasn't his fault;* 4) picking up the partner: *He explains to him and the child then helps him to get up*

3. References to the characters' intentional and epistemic states: intentional : does/doesn't do it on purpose; epistemic: believe, know...

4. False belief expression (FB score : from 0 to 4) : For the higher scores (3 and 4, children
- express the unintentional and/or physical cause of the first push: *il a trébuché sur une pierre* 'he stumbled on a stone'*;* AND
- attribute to one of the characters the belief that the push was intentional : *l'autre croit qu'il l'a fait exprès* 'the other one believes he did it on purpose"

5. Rectification of the false belief expression (RFC score : from 0 to 6) : For the higher scores, children
- have P1 explain the physical cause of the first push AND
- have P2 understand and clear the misunderstanding*: et il disait que c'est à cause de ce caillou que je t'ai poussé…* 'and he said that is because of this stone that I pushed you'believes

RESULTS

For all measures and in all groups, a major effect of *causal-oriented conversation* is found on all subsequent narratives. Post-hoc comparisons show that second, stability and generalization narratives **have a higher score then the first narrative**, and. for the most part, are not statistically different among themselves.

Fig. 1 Overall coherence, by narrative and class/age

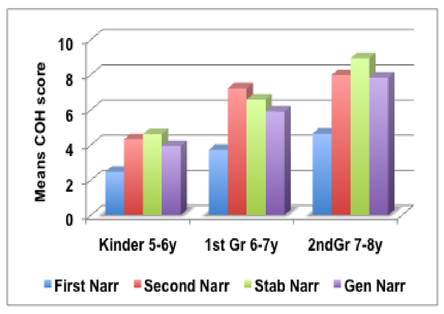

Fig.1 - Main effect of
- order of narrative: F(3,324)=15.32;
- class/age: F(2,335)=31.39, both with p<<.001.
second narr – Kindergarten < 1st and 2nd graders, 1st=2nd graders;
Stability and Generalization narr.: Kindergarten **<** 1st grade **<** 2nd grade children

Fig. 4 FB expression, by narrative and class/age

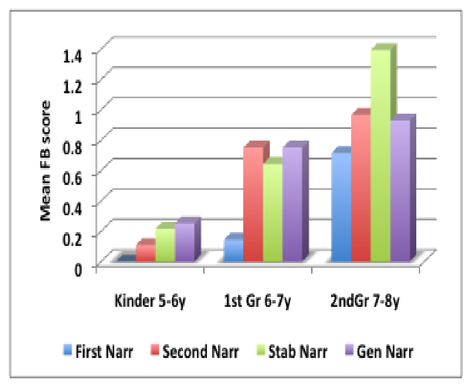

Fig. 4 - Main effect of
- order of narrative: F(3,324)= 2.94, p<.05;
- class/age: F(2,335) = 18, p<<.001.
Second and stability narr – Kindergarten < 1st and 2nd graders, 1st=2nd graders;
Generaliz narr.: Kindergarten **< <** 2nd graders, 1st=2nd graders.

Fig. 2 Explanation of key events, by narrative and class/age

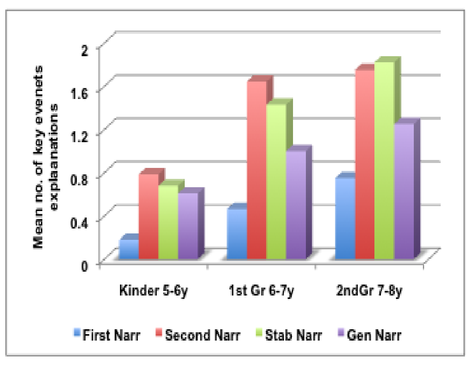

Fig. 2 - Main effect of
- order of narrative: F(3,324)=13.43;
- class/age: F(2,335)=18.1, both with p<<.001.
Post-hoc comparisons show that second narr. doesn't differ from stability narr. but is better then the generalization one. Kindergarten score < 2nd graders on all narratives, while 1st and 2nd graders do not differ.

Fig.5 RFB expression, by narrative and classe/age

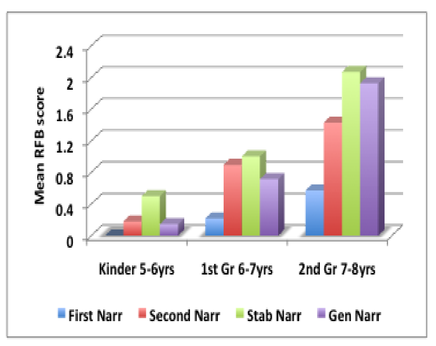

Fig. 5 - Main effect of
- order of narrative: F(3,324)= 6.08, p<<.001;
- class/age: F(2,335) = 22.57 p<<.001.
Kindergarten <1st gr < 2nd graders
Second, stability and generalization narr - 2nd graders' score > 1st gr and Kindergarten.

Fig. 3 Epistemic States, by narrative and classe/age

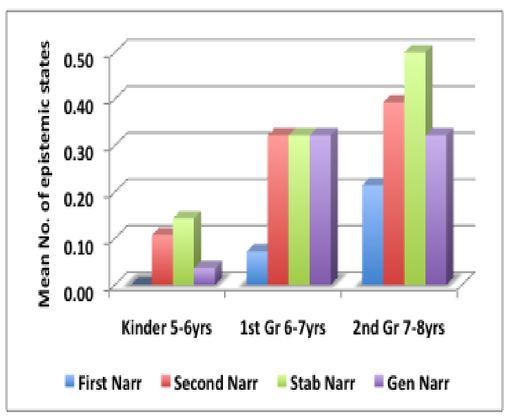

Fig. 3 - Main effect of
order of narrative: F(3,324)=3.49, p<0.01;
- class/age: F(2,335) = 10.36, p << 0.001.
Post-hoc comparisons show that second, stability and generalizazion narratives do not differ between themselves. but is better then the generalization one. Kindergarten < 1st and 2nd graders, the last two not differing between themselves.

Fig. 6 Success in ToM tasks according to class/age

ToM tasks	2 tasks	1 task	0 tasks
Kinder 5-6yrs	43%	39%	18%
1st Gr 6-7yrs	43%	50%	7%
2nd Gr 7-8yrs	54%	43%	4%

Fig. 6 – there is no difference between the class/age groups in the success on ToM tasks: One-way Anova: F(2,81)=0.606, ns

Fig. 7 Relationship between FB expression in narratives and success in ToM tasks

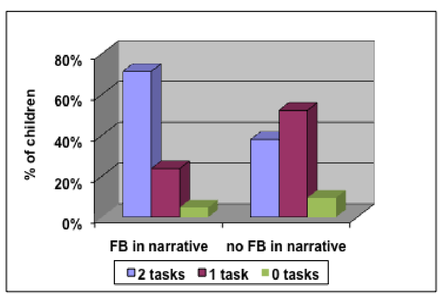

Fig. 7 – Children who express FB in at least one of the four narratives, are more likely to succeed 2 ToM tasks then children who do not express FB in narratives: $\chi^2(2,84) = 7.04$ p<.05

CONCLUSIONS

1. The findings of earlier studies are validated. A causal-oriented conversation has a major effect on the content of all children's subsequent narratives: Increase in overall score of coherence, explanation of events, expression of epistemic states, false belief and rectification of misunderstanding. The effect is stronger for 6 to 8 yrs old than for 5-6 yrs. 2. This effect persists one week later (stability narrative) and 3. Is generalizable for all measures (excepted epistemic states and RFB in 5-6 year olds). 4. Children who express the FB in at least one of the four narratives tend to be those who have good mastery of ToM FB tasks.
Results confirm the importance of the conversational procedure for improving young children's narrative functioning and its usefulness in the assessment of children's narrative competencies.

The stone story (Furnari (1980), Veneziano & Hudelot, 2006)