

The onset of story comprehension and production in young Italian children learning English as a second language



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The study

- In this presentation we explore the onset of story comprehension and production in children from 9 to 36 months of age learning a second language.

Video description

- In the brief film you will see an interaction between a mother and her son. The boy is being educated bilingual German-Italian.
- They are at home and the mother is doing a story with her son in German. She had acted out the story together with her son about 20 times during a period of 4 weeks. The beginning of the story is about a dinosaur who hatches from an egg.
- While looking at the video please observe the gestures. You will see:
 - the boy puts his finger in front of his lips and does “*shh*” short before the mother does it;
 - next he puts his hand near his ear indicating “*listen*” as the mother will do next;
 - then he makes the gesture for an egg opening (“*croc croc croc*”) followed by his mother;
 - next he expresses admiration for the open egg (“*ooohh*”) with appropriate gesture, again followed by his mother right after.



Who tells who the story?

- The intent of the mother is to have her son imitating her.
- What we can observe instead is that the boy is anticipating the gestures he knows the mother will do next.
- As a matter of fact he is anticipating the next event of the story.
- In other words, he does not speak, but he knows what event comes next and he shows the appropriate gesture for it.
- He shows he understood the sequence of events, i.e. the narration

Theoretical issues

- Research in comprehension and production of stories in children is traditionally linked to the children's verbal possibilities and therefore connected to the age of three years or older.
- In the present study we intend to show that children are much earlier able to understand and produce stories, also in a second language, when the means of communication are not only verbal, but given through actions and gestures as well.
- Moreover, child's early narrative abilities can be fostered by activities where the contents and structure of the narratives are conveyed not only through words but also through visual stimuli.

The present study

- The aim is to collect evidences of the non-verbal construction process of narrative ability, examining how children in the prelinguistic stage participate in the activity of the Narrative Format where storytelling is performed with enhanced non-verbal communication behavior such as actions, gestures and facial expressions.
- Hypotheses:
 - a) pre-linguistic children can imitate iconic gestures produced by an adult telling a story in a multisensory modality;
 - b) they are able to anticipate the iconic gestures of the adult showing a knowledge of the logical sequence of the narrative events;
 - c) there is a relation between imitation and anticipation of gestures suggesting an important role of imitation in the learning path of narrative ability.
- Method: video-observations of the narrative activity with the Observer to analyze the occurrence and timing of the adult's and children's gestures.

Method

Participants

- 57 children (26 girls)
- Two age groups:
 - 12-24 months-old (37 children)
 - 24-36 months old (20 children)

Data collection

- 13 teachers were video recorded while performing the Narrative Format in English with their kids.
- For each teacher one session was recorded and then analysed with the Observer, a specific program for analysing behavioural developmental micro categories.

Coding scheme

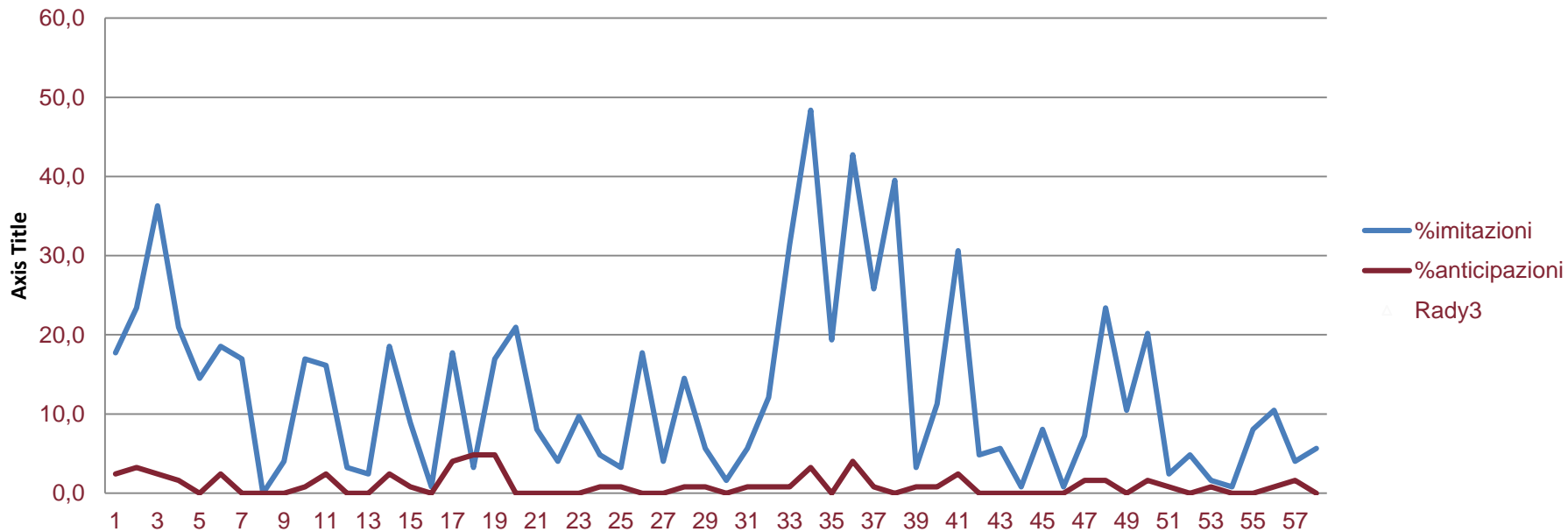
- Children's gestures are coded as:
 - Imitated: the child makes the gesture just after the teacher did it.
 - Anticipated: the child makes the gesture just before the teacher does it.
- Narrative gestures produced by the teacher are also coded.

Results - Children's gestures

- 91% of the children imitated the teacher's gestures, with a difference according to age almost statistically significant ($\text{Chi}^2_{(1)} = 2.8; p = .09$).
- Anticipations were present in a much lower quantity in the majority of children (40/57).

Imitation predicts anticipation

- Gestures' imitation and anticipation are strongly and positively correlated ($r = 0.568$, $p = .000$).
- Gestures' imitations are a significant predictor of anticipations (Beta = 0.647, $p = .000$) while age group was not (Beta = -0.159, $p = .25$) (overall model fit $R^2 = 0.34$ ($F_{(2,50)} = 12.35$; $p = .000$)).



- These results have been replicated in another study where children were followed in several observations in a 2 months period.
- Three teachers and their kids (N=27) were video recorded during repeated performances of the Narrative Format.
- In fact, the correlation between imitated gestures and anticipations of gestures is positive and significant ($r = .429$, $p = .011$) confirming the role of imitation for learning the narrative sequence.

Conclusion

- Children first imitate gestures and actions of the educator and next anticipate gestures or actions of the event that would follow right after in the story sequence.
- Children, therefore, in a perfect synchrony of turn-taking, go on anticipating actions and gestures followed by the educator who would repeat them and go on with the next event.
- Children have enough cognitive capacities to understand and produce a story when the means of communication are not only verbal and when the contact with the story happens in interaction with an adult.
- These findings are an important application of some of the most recent studies regarding the influence of gestures and actions for acquiring languages.

- Our special thanks go to all the Magic Teachers and the children involved in the present study.
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