

Development of syntactic comprehension and production in Friulian-Italian bilingual children

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Abstract. In this paper we studied syntactic comprehension and production in 7 Friulian-Italian bilingual children aged 6 to 7 years. We aimed at: 1) assessing receptive and productive syntactic abilities in these age groups; 2) verifying whether in producing an elicited story children rely only on syntactic structures they perfectly understand or venture syntactic structures they master less than perfectly. Results show that first graders have similar receptive syntactic abilities in Italian and Friulian, while second graders show a great improvement in Italian but not in Friulian. This is attributed to the metalinguistic awareness of Italian they acquire at school. Furthermore, in the narrative task children seem to use only syntactic structures they master completely.

Keywords. Syntactic comprehension, bilingualism, narrative language.

Introduction. In the last 20 years the investigation of language development in children has focused on narrative abilities (Bamberg 1987; Lavarato 1988; Berman & Slobin 1994; Baumgartner & Devescovi 2001). Studying narrative development in a picture description task yields comparable measures of fluency, language and story-construction abilities across different age groups (D'Amico, Devescovi & Tonucci 2002). It is thus possible to investigate not just the

presence of a given grammatical feature but also its frequency of use (Tavano, De Fabritiis Fabbro, in press). In bilingual children the problem arises of how the two or more languages known by a subject interact in narrative production. In particular, it seems important to understand: 1) whether each language uses different linguistic structures in narrative production (Dart 1992); 2) how the type of bilingualism influences narrative production (Fiestas Pena 2004). In

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this work we present preliminary data on narrative production in Friulian-Italian bilingual children compared with the results of a syntactic comprehension test in order to investigate the development of syntactic knowledge in Italian and Friulian. The aim of this work is two-fold: 1) assess receptive and productive syntactic abilities in bilingual children aged 6 and 7 years old; 2) verify whether in the narrative task children use only those syntactic structures they perfectly understand or also syntactic structures they understand to a significant extent but not perfectly. In this way we intend to verify whether the narrative task encourages children to venture an answer and show all their syntactic abilities or prompts a more conservative behavior. In this work we studied both Friulian-Italian (L1 = Friulian, L2 = Italian) and Italian-Friulian (L1 = Italian, L2 = Friulian) children.

Materials and methods

Subjects. This work originates from the dissertation of the first author (Franz 2004) which involved children of the elementary school of Chiussaforte, a small village in Canale del Ferro, a valley of Friuli Venezia Giulia (Italy). We investigated the sociolinguistic condition of first- and second-grade children through a questionnaire administered to parents and teachers and selected seven subjects, three first-grade and four second-grade children. Three of them (two first-grade and one second-grade) had Friulian as L1; two children had acquired Friulian at a later age but

very early. Finally, two children had acquired both languages at the same time since they spoke one language with their mother and the other with their father (*one parent – one language* model).

Procedures. To assess receptive syntactic abilities we used the *Test di Comprensione Grammaticale per Bambini* (TCGB, Test of Grammatical Comprehension for Children) by Anna Maria Chilosi and Paola Cipriani (1995), adapted into Friulian by Alessandra Burelli (*Test di Comprension Grammaticâl pai Fruts*). Besides, we used a picture description task *The Bird Nest Story* (Paradis, 1999). The first author (LF) administered the comprehension test and the picture description task in Italian, while the second author (AT) administered them in Friulian. The comprehension test consists of 76 item sentences each of which corresponds to a plate with four pictures. Among such pictures, there is only one which exactly matches in meaning the sentence that the examiner utters; the other pictures are grammatical and lexical/visual distractors. A grammatical distractor graphically represents a sentence which contrasts with the uttered sentence only by one morphological or syntactic feature. For example, in picturing the sentence “Cjaminin” (They walk), present tense, III person plural, the grammatical distractor is a figure where only one child walks (“Cjamine”, present tense, III person singular). A lexical distractor is a figure which contrasts in meaning with the uttered sentence only by one lexical element. For example, in the

case of the sentence “La frute e da la cartele al frut” (The girl gives the *schoolbag* to the boy), the lexical distractor is represented by the figure in which the girl gives the *ball* to the boy. The grammatical comprehension test tracks the syntactic development from 3 to 8 years of age. Target sentences can be grouped into the following syntactic types: *locative sentences (L)*, *sentences with a focus on bound morphology (BM)*, *active declarative sentences (A)*, *active negative declarative sentences (AN)*, *passive declarative sentences (P)*, *passive negative declarative sentences (PN)*, *relative sentences (R)* and *dative sentences (D)*. Quantitative results are given in error scores, but it is also possible to have qualitative results by analyzing data according to error types. In our study, a sentence is considered ac-

quired or perfectly understood when children attain a score $\geq 95\%$ correct. In the Bird Nest Story the child is shown a series of 6 pictures describing a short story (Figure 1).

Children are asked to look carefully at each picture and tell the story. The examiner does not interfere with the child's production, which is recorded, transcribed and coded along the following parameters (see Tavano et al., in press):

1. *Total number of words (TW)*, counting all distinguishable words and syllables, including false starts, reformulations and repetitions.
2. *Narrative time (in seconds) (NT)*, counting how long it takes the child to tell the story.
3. *Narrative fluency (NF)*, given by the following formula:



Figure 1.

$$\frac{\text{total number of words} * 60 \text{ seconds}}{\text{narrative time (in seconds)}}$$

4. *Total clauses* (TC), counting all main clauses (MC) and all subordinate clauses (SC). A clause is a syntactically complete unit containing a unified predicate, that is a predicate which refers to a single situation (activity, event or state) (Berman, Slobin, 1994; Baumgartner, Devescovi 2001).
5. Number of *types* (TY), counting all open class words (nouns, adjectives, verbs and derivational adverbs) excluding all repetitions of the same word.
6. *Total number of narrative words* (NW), excluding repetitions, reformulations and false starts.
7. *Mean length of Clause* (MLC), a measure of syntactic complexity obtained by dividing the number of narrative words by the number of clauses.
8. *Type/Token Ratio* (TTR), an index

of lexical access. The word *token* identifies every open class word, including all repetitions of the same word.

Finally, all *morphosyntactic and word errors* are coded: omissions, substitutions and additions of free grammatical morphemes; substitutions of bound morphology; phonological and semantic word errors. The data collected in Tavano et al. (in press) were used as reference values for Italian.

Results. Below are the data collected for each child both on the comprehension test and the narrative task in Italian and Friulian.

SUBJECT 1 (FIRST GRADE)

Sociolinguistic data: the child speaks Italian with his mother but also uses Friulian with the rest of the family. With strangers he speaks only Italian, while with friends he switches languages when required to do so.

Table 1. TCGB in Italian and in Friulian.

Grade	Total number of errors	Errors by Syntactic Subtype							
		L	BM	A	AN	P	PN	R	D
Italian	5,5	0	1	0	2	0,5	1	1	0
Friulian	3	0	0,5	0	1	0,5	1	0	0

Table 2. The "Bird Nest Story" in Italian and in Friulian.

Grade	TW	NT	NF	TC	TY	NW	MLC	TTR
Italian	78	77	60,7	11	26	75	6,82	0,93
Friulian	58	34	102	8	16	56	7	1

On the TCGB (see Table 1) the child made more errors in Italian, although he has problems with the

same syntactic structures in both languages. However, a couple of errors made in both languages for the same

structure differed in the choice of distractors. Narrative production (see Table 2) is within normal limits for Italian and shows a higher fluency score in Friulian. Also, the MLC and TTR indices are higher in Friulian, and this is important since they measure syntactic complexity and lexical access. Thus, narrative production in Friulian is overall better than in Italian. In his narrative production in Friulian the child

mainly used active declaratives sentences and two locative sentences, that is, structures which he masters perfectly. The same is true for Italian.

SUBJECT 2 (FIRST GRADE)

Sociolinguistic data: The child speaks Friulian with his parents, while he uses both languages with the rest of the family, his friends, and at school. With strangers he speaks only Italian.

Table 3. TCGB in Italian and in Friulian.

Grade	Total number of errors	Errors by Syntactic Subtype							
		L	BM	A	AN	P	PN	R	D
Italian	9	0,5	1	0,5	0,5	1	1,5	3,5	0,5
Friulian	4	0	0,5	0	0	0,5	2	0,5	0,5

Table 4. The "Bird Nest Story" in Italian and in Friulian.

Grade	TW	NT	NF	TC	TY	NW	MLC	TTR
Italian	76	50	91,20	13	25	69	5,31	0,93
Friulian	93	55	101,4	14	26	85	6,07	0,87

On the TCGB (see Table 3) the child made more errors in Italian than in Friulian (errors were made on the same target structures in both languages). In Italian he had difficulties above all with relative sentences, scoring below normal values. Narrative production in Italian (see Table 4) is within normal limits. However, most indices (with the exception of the Type-Token Ratio) are higher in Friulian. This may be explained by the fact that the child speaks Friulian more often than Italian. In Italian he mainly produced active declarative

and locative sentences, which he seems to know almost perfectly (0.5 error points for each structure on the TCGB). In Friulian, besides active declarative and locative sentences, which he masters perfectly, the child also used one relative clause, a structure which he seems to know well.

SUBJECT 3 (FIRST GRADE)

Sociolinguistic data: The child speaks only Friulian with her family while she uses Italian with strangers and school friends (together with Friulian).

Table 5. TCGB in Italian and in Friulian.

Grade	Total number of errors	Errors by Syntactic Subtype							
		L	BM	A	AN	P	PN	R	D
Italian	14	1,5	5	0,5	1	2	1,5	1	1,5
Friulian	8,5	0	4	0	1,5	0,5	1,5	0,5	0,5

Table 6. The “Bird Nest Story” in Italian and in Friulian.

Grade	TW	NT	NF	TC	TY	NW	MLC	TTR
Italian	70	49	85,72	11	20	62	5,64	0,95
Friulian	54	29	111,7	8	13	50	6,25	0,86

This child also made more errors on the TCGB (see Table 5) in Italian. She is below the 10th percentile and thus shows a four-month delay compared to age peers. She has particular difficulties with sentences focused on bound morphology and dative sentences in both languages. In Italian she showed difficulties with some structures which she masters well in Friulian. Generally, narrative results in Italian are within normal limits (see Table 6). She said more words in Italian but Narrative Fluency and MLC are higher in Friulian. The child seemed to make more efforts in telling the story in Italian. In both cases she used active declarative and locative sentences. On the TCGB she

made two errors with these structures but the type of sentences she produces are more complex. It is important to understand the influence of the family linguistic environment on the performance of this child since she seems to have been little exposed to Italian prior to school and still has few occasions to speak Italian outside school.

SUBJECT 4 (SECOND GRADE)

Sociolinguistic data: The child speaks Friulian with her mother and uses both languages with her father (initially only Italian). With the rest of the family she speaks Friulian and uses both languages with friends (both at school and during her free time).

Table 7. TCGB in Italian and in Friulian.

Grade	Total number of errors	Errors by Syntactic Subtype							
		L	BM	A	AN	P	PN	R	D
Italian	0,5	0	0	0	0,5	0	0	0	0
Friulian	2	0	1,5	0	0	0,5	0	0	0

Table 8. The “Bird Nest Story” in Italian and in Friulian.

Grade	TW	NT	NF	TC	TY	NW	MLC	TTR
Italian	91	59	92,5	15	34	82	5,46	0,97
Friulian	100	45	133,3	14	23	81	5,78	0,88

The child only failed an active negative declarative sentence in Italian (see Table 7) (item 53 “The girl does not push the boy”) which also other first- and second-grade children failed. Narrative production in Italian is within normal limits (see Table 8). Narrative production in Friulian yields more words but also more false starts (almost the same number of narrative words in both languages). The child seems to find Italian easier, although she has problems with indirect

speech and showed an instance of language mixing. Active declarative, locative and relative sentences are the most used sentence types in both languages: she also seems to understand these structures very well in both languages.

SUBJECT 5 (SECOND GRADE)

Sociolinguistic data: The family and the child speak only Friulian. The child switches language in the presence of strangers or school friends.

Table 9. TCGB in Italian and in Friulian.

Grade	Total number of errors	Errors by Syntactic Subtype							
		L	BM	A	AN	P	PN	R	D
Italian	0,5	0	0	0	0	0,5	0	0	0
Friulian	4,5	0	1	0	1,5	1	0	1	0

Table 10. The “Bird Nest Story” in Italian and in Friulian.

Grade	TW	NT	NF	TC	TY	NW	MLC	TTR
Italian	124	97	76,7	15	33	94	6,26	0,94
Friulian	126	76	99,47	15	34	107	7,13	1

The child made only one error on the TCGB in Italian (see Table 9) failing a passive negative sentence. Errors in Friulian comprehension involve sentences with a focus on bound morphology and passive sentences. Narrative production in Italian is within normal limits with the exception of narrative time and nar-

rative fluency indices which score below normal limits. This partly depends on the fact that, when telling the story in Italian, the child frequently alternates languages, while this does not happen in Friulian. During narrative production she showed frequent repetitions of short words or sentences in both languages.

Thus, the number of total words is above normal limits, and while narrative time expands the informative content does not increase. The child seemed less confident in telling the story in Italian and made frequent pauses, longer than 3 seconds. Narrative indices are higher in Friulian. The child showed various instances of language mixing and switching during story-telling in Italian. In story-telling in Friulian two instances of the same language mixing episode can be found: “vedê” instead of *viodût*. A substitution of a preposi-

tion (*a l'ospedâl* instead of *intal ospedâl*) is probably due to the influence of Italian. In both languages, the child mostly used active declarative, relative and locative structures which she seems to know very well. In Friulian she also used a dative sentence.

SUBJECT 6 (SECOND GRADE)

Sociolinguistic data: The child uses Italian with his mother and Friulian with his father, the rest of the family, friends and strangers addressing him in Friulian. At school he uses Italian.

Table 11. TCGB in Italian and in Friulian.

Grade	Total number of errors	Errors by Syntactic Subtype							
		L	F	A	AN	P	PN	R	D
Italian	0	0	0	0	0	0	0	0	0
Friulian	2,5	0	1	0,5	0,5	0,5	0	0	0

Table 12. The “Bird Nest Story” in Italian and in Friulian.

Grade	TW	NT	NF	TC	TY	NW	MLC	TTR
Italian	74	55	80,7	12	32	73	6,08	1
Friulian	102	64	95,6	14	35	95	6,71	0,97

The TCGB in Italian (see Table 11) shows no errors. Errors in Friulian involve bound morphology and passive sentences.

Narrative results for Italian are above normal limits. With the exception of the Type-Token-Ratio, all other indices are higher in Friulian. Narrative production mainly consists of active declarative sentences and locative sentences in both languages (the

best understood ones); in Friulian the child also uses some relative sentences.

SUBJECT 7 (SECOND GRADE)

Sociolinguistic data: Her parents initially addressed to the child in Italian. Later on, the child acquired Friulian as L2 which she now alternates with Italian when speaking to her parents, relatives, friends and strangers.

Table 13. TCGB in Italian and in Friulian.

Grade	Total number of errors	Errors by Syntactic Subtype							
		L	BM	A	AN	P	PN	R	D
Italian	0,5	0	0	0	0,5	0	0	0	0
Friulian	4,5	0	0	1,5	1	0	1,5	0,5	0

Table 14. The “Bird Nest Story” in Italian and in Friulian.

Grade	TW	NT	NF	TC	TY	NW	MLC	TTR
Italian	94	49	115	11	31	96	7,82	1
Friulian	92	51	108,2	12	30	86	7,16	0,97

The child made the same error on the TCGB in both languages (item 53, a difficult one for most children) (see Table 13). On the Friulian TCGB, she mainly failed active declarative and passive sentences (respectively, item 34 and item 66). Narrative results for Italian are within normal limits (see Table 14). There

seems to be no difference between the two languages, although in Friulian the child made more errors. She mainly uses active declarative, locative and relative sentences.

Discussion. Reference values for the TCGB and the narrative task are available only for Italian (see Table 15).

Table 15. Collective performances of the TCGB in Italian and in Friulian.

Grade	Total number of errors	Errors by Syntactic Subtype							
		L	BM	A	AN	P	PN	R	D
1 ^a grade Italian	28,5	2	7*	1	3,5	3,5	4	5,5*	2
2 ^a grade Italian	1,5	0	0	0	1	0,5	0	0	0
1 ^a grade Friulian	15,5	0	5*	0	2,5	1,5	4,5	1	1
2 ^a grade Friulian	13,5	0	3,5	2	3	2	1,5	1,5	0

Results for grammatical comprehension can be understood as follows (see Table 15): first-grade children made more errors in Italian (28.5 in Italian and 15.5 in Friulian); second-grade children made very few errors in Italian (1.5), while they still showed errors in Friulian (13.5). This

shows the effect of schooling on grammatical comprehension. In Italian first-grade children seem to have more difficulties with sentences with a focus on bound morphology, active negative declarative sentences, passive (both declarative and negative declarative) sentences and relative

sentences. In Friulian they seem to have more difficulties with sentences with a focus on bound morphology, active negative declarative and passive negative declarative sentences. In Italian, second-grade children had some difficulties with active negative declarative and passive declarative sentences, while in Friulian they had difficulties with sentences with a focus on bound morphology and active negative declaratives. In Table 15, the star means that the score was mainly due to the performance of only one child. For example, with regard to sentences with a focus on bound morphology, first graders obtained 7 as an error score but 5 error points were made by one subject only. A qualitative inspection of error types allows us to infer

that second-grade children make almost only grammatical errors in Italian, while in Friulian they also choose lexical distractors. First-grade children make both types of errors in both languages (and they make more mistakes in Friulian). This suggests that, while for most of the children Friulian is an implicitly acquired oral language, they have less access to metalinguistic knowledge in providing their answers. Furthermore, first-grade children seem to have difficulties with the same structures in both languages. This does not hold true for second graders. Therefore, it may be concluded that children may have more difficulties with syntax in one or both languages, depending on age and schooling experience.

Table 16. Collective performances on the narrative task in Italian.

Grade	TW	NT	NF	TC	TY	NW	MLC	TTR
1 ^a grade Italian	74,6	58,6	79,2	11,6	23,6	68,6	5,92	0,94
2 ^a grade Italian	95,7	65	91,2	13,3	32,5	86,3	6,41	0,97
1 ^a grade Friulian	68,3	39,3	105,2	10	19,5	63,6	6,36	0,91
2 ^a grade Friulian	105	59	109,2	13,7	30,5	92,3	6,69	0,95

Data from the narrative task (see Table 16) show that second-grade children generally scored higher. First graders show higher narrative fluency in Friulian than in Italian. Second graders show higher scores in Friulian with respect to total number of words (TW), fluency (NF) and narrative words (NW). In Italian the two groups seem to differ the most in number of total words (TW) and number of narrative words (NW); in Friulian, in number of total words (TW), number of narrative words

(NW) and narrative time (NT). Thus, the two grade groups differ in lexical resources, not in grammatical abilities. Actually, both first- and second-grade children tend to use only active declarative and locative sentences in their narrative speech. Sometimes they use relatives too. However, they understand these sentences completely. The narrative task seems to pose additional difficulties (attentional, informational) besides the linguistic structure, and this may induce the child to resort to easier syntactic

structures to save cognitive effort. However, it is also possible that the structure of the Bird Nest Story prevents subjects from producing complex syntactic structures.

In conclusion, we described some aspects of the development of syntactic comprehension and production in Friulian-Italian bilingual children aged 6 and 7 years. We verified that in their narrative production children tend to use only the structures they know perfectly without venturing an answer. Thus, the narrative task can be characterized as conservative.

Children use the same structures in both languages. Finally, the number of investigated subjects is not sufficient to clearly define the influence of the type of bilingualism on syntactic comprehension and narrative production. However, it seems that at age 6 years implicit language skills such as those showed in Friulian are stronger. At age 7 years, probably due to schooling, the resources available in Friulian and Italian become separate and the positive effects of metalinguistic awareness enhances comprehension and production in Italian.

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