

## VERB MOVEMENT AS A TEACHING TOOL

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**Abstract** – The article discusses the results of an experiment conducted as a follow-up to a previous research (Formisano 2013) in which the theory of Verb Movement (Pollock 1989) was used to teach the position of English adverbs to Italian students of English as a foreign language. The hypothesis underlying the experiment is that an explicit explanation of the deep computational mechanisms of a language should be more effective in resetting a parameter than a traditional descriptive explanation.

The first experiment was conducted in 2008 with a total of 67 participants of which 38 were in their second year of Junior High School (mean age 12) and 29 were in their third year of High School (mean age 17). Eighteen students in their first year of university (mean age 20) participated to the follow-up experiment carried out in 2011. The methodology was the same for both studies. In the first phase the participants were tested to record their knowledge of the position of English adverbs. Then they were divided into two groups (for each age range). One was given a descriptive account of adverb placement, and the other was given a linguistic account of the reason why the two languages differ on adverb position, namely the verb movement theory. They were tested immediately after the explanation and again after 10 weeks. Results show a greater and longer lasting improvement in the ability to place adverbs correctly in those participants who were exposed to the linguistic account of the difference between the two languages compared to the ones who were only given the descriptive explanation.

**Keywords:** verb movement, adverbs, parameters resetting, UG, transfer.

### 1. Introduction

The role of Universal Grammar in second language acquisition and the kind and amount of transfer that takes place during this process are still debated. As pointed out in White (2003), the three main theories that account for these questions are Minimal Trees Hypothesis (Vainikka, Young-Scholten 1994), Weak Transfer Hypothesis (Eubank 1993) and Full Transfer/Full Access Hypothesis (Schwartz, Sprouse 1994). The proponents of the MTH put forward the idea that only lexical categories are transferred from the L1 onto the L2 during initial phases of acquisition. Then, as the interlanguage develops further, functional categories are transferred as well. On the other hand, Eubank (1993) proposes that both functional and lexical categories are transferred onto the L2 but without the value of the feature, which is transferred at more advanced stages of the interlanguage. The most widely accepted and corroborated theory among the three is the FT/FA theory,<sup>1</sup> according to which the initial transfer of parametric values from the L1 onto the L2 is complete and then, as interlanguage progresses, a failure-driven readjustment process guided and constrained by UG takes place.<sup>2</sup> This last theory will be adopted in this paper which sets out from the assumption, supported by the data collected, that Italian learners of English apply their parametric setting to the L2 they are learning and hence, as concerns the

<sup>1</sup> See White (2005) for evidence against MTH and WTH.

<sup>2</sup> For an alternative account of UG accessibility in L2 see, Bley-Vroman (1989) and Schachter (1988).

parameter of verb movement, they move the verb in English. This transfer causes incorrect linear orders in sentences where adverbs are present and actually errors of this kind are found in Italian learners of English even at high levels of proficiency. Coping with the difficulty that derives from this parametric difference is rendered more problematic to students by the explanations they are given by traditional pedagogical grammars which confine themselves to giving a rule along with several exceptions to memorize and which do not even try to explain why the two languages differ as to the position of adverbs.<sup>3</sup>

Therefore, the aim of the experiment conducted was to demonstrate that giving an explicit account of the reason why two languages differ, that explains the deep computational mechanisms of languages, proves to be a more effective explanation than a traditional descriptive account for second language learners. This hypothesis was corroborated by the first experiment (Formisano 2013) with four groups of learners of two age ranges: mean ages (m.a.) 12 and 17. In the initial phase of the experiment the subjects were tested on their knowledge of adverb placement in English, so as to have a record of their starting level. Then, two groups, one for each age range, were given a traditional descriptive explanation on where adverbs are placed in English while the remaining two were presented the theory of verb movement (Pollock 1989) and its account of linear differences between the two languages as concerns adverbs.<sup>4</sup> The linguistic explanation proved more successful and was retained more than the traditional descriptive one. For the percentages of target answers in the four groups see Table 1.

	Traditional Explanation Pretest	Traditional Explanation 2nd Post-test	Linguistic Explanation Pretest	Linguistic Explanation 2nd Post-test
m.a. 12	32%	30%	25%	40%
m.a. 17	54%	59%	52%	78%

Table 1  
Percentages of target answers

The younger subjects that received the traditional explanation from a starting point of 32% of target answers went to 30% at the end of the study. Their peers that were exposed to the linguistic account scored 25% in the pre-test and 40% in the delayed post-test ( $p < 0.05$ ).<sup>5</sup> The same was found in the older groups where the subjects that received the linguistic explanation performed better than the other ones. The ‘traditional explanation’ group of older subjects scored 54% target answer in the pre-test phase and 59% in the second post-test. On the other hand, the group that received the linguistic explanation went from a 52% in the pre-test to 78% in the delayed post-test ( $p < 0.05$ ).

These results show that providing a linguistic account of the difference between the two languages was a better and more retained explanation of adverb placement in English for Italian learners. Considering the heterogeneity of the results in two age ranges, a further analysis of the results was deemed necessary. The percentage of improvement was calculated for the four groups considering the difference between the starting and the end points: the higher the difference is, the more the students improved. The younger students improved their target answers by 57% and the older students by 41%. The mean

<sup>3</sup> Examples of descriptive accounts taken from school textbooks can be found in Appendix 1.

<sup>4</sup> Both the explanations were PowerPoint™ presentations, for details see § 2.2.

<sup>5</sup> The  $p$  values were calculated using the Mann-Witney Test.

improvement for the two classes that received the linguistic explanation was 49%. The younger students that received the traditional explanation instead, decreased their target answers by 5% and the older students improved by 8% which is a mean of 1.5% improvement for the classes that received the traditional explanation, as illustrated in Table 2.

	Mean percentages of improvement
Subjects that received the traditional explanation	1.5%
Subjects that received the linguistic explanation	49%

Table 2  
Mean percentages of improvement

We can further add that, even though the older students performed better overall, as percentages of improvement show, the linguistic explanation worked better with the younger students whose correct answers increased more than did those of the older students (57% vs. 41%). It is as if their parametric setting, having been set from a shorter time, were more malleable than the parametric setting of the older subjects, whose percentage of improvement is slightly lower.

These encouraging results instilled the desire to investigate within an older and more educated group to understand whether the success of an explicit linguistic explanation is inversely proportional to age, in other words whether this kind of parametric explanation works the better the younger the subjects are.

## 2. The Study

### 2.1. Subjects

Eighteen students (mean age 20) participated in the follow-up study. They were all native speakers of Italian in their first year of university majoring in English language and literature. They had not received any explanation about the position of adverbs in their English language classes at university but they had all studied English during Junior High School and High School for a total of eight years before enrolling at university and during these years they all came across the descriptive account of adverbs placement in English. This information was collected during the administration of the test which included some questions about subjects' exposure to English as L2.

### 2.2. Experimental design

The experiment consisted in two basic phases: testing and explaining.

Subjects were tested three times to verify their knowledge of adverbs placement in English. First, to record their starting point, they were tested at the beginning of the study, before any explanation had been given to them. Then the same test was administered right after explanations about adverbs placement had been provided to them (either a traditional or linguistic explanation) and lastly they were tested after ten weeks from the explanation to attest their retainment level. The testing modality was the same as used in the original study, namely 6 exercises that required subjects to use 17 different adverbs in 37

sentences. The six exercises required subjects: to translate from Italian to English (e.g. Jane si sveglia sempre alle 6), to re-order words to make sentences (e.g. never/shopping/Saturdays/I/on/go), to correct errors (e.g. I have usually a shower when I get up), to place a single word in a sentence (e.g. I go to bed after midnight – rarely), to answer questions with provided information (e.g. Does Sally like your new house? – has been there – never), and to create sentences out of a chart (e.g. Angela isn't in the office in the afternoon – often).

The tested adverbs were:

- 8 adverbs of frequency: always, usually, often, rarely, never, frequently, occasionally, seldom
- 3 adverbs of manner: slowly, easily, carefully
- 3 'focusing'<sup>6</sup> adverbs: only, even, also
- 1 adverb of quantity: very much
- 1 epistemic adverb: probably
- 1 pronoun that behaves as an adverb: both

The responses of the control group of 10 English native speakers provided a default position for 'correctness'. Correct answers were those that respected the basic word order (adverb-lexical verb and auxiliary verb-adverb); other word orders, possible in English, that require prosodic or contextual disambiguation so as to be correct, were not considered target answers.

In the explanation phase, subjects were divided into two groups of nine students each. Group A was given a traditional descriptive rule that explained the position of adverbs in English while group B was provided with a linguistic explanation of the reason why Italian and English differ as to the position of adverbs. Both explanations were PowerPoint<sup>TM</sup> presentations so that the two groups would be exposed to the same experimental conditions.

Participants in the 'traditional' group were shown animated slides<sup>7</sup> with Italian and English sentences with adverbs pointing out that in Italian the word order is verb-adverb (no matter the kind of verb), while in English it is adverb-lexical verb and auxiliary verb-adverb.<sup>8</sup>

The linguistic explanation<sup>9</sup> started from the same point showing Italian and English sentences and underlining the differences between the two. After this brief descriptive phase, subjects were told that thanks to linguistics we know that the human brain does not process sentences word by word but it follows a structure which is the same for every language (Chomsky 1981; Pinker 1994; Rizzi 2006 among others). A simplified sentential structure was shown to the students, highlighting the positions of the subject, adverb, and verb. After that, students were told that there is a position for verbal inflection too, and in Italian the verb moves to that position. Verbal inflections are fewer in English and there is no such verb repositioning. Hence the linear differences between English and Italian are

<sup>6</sup> Belletti (1990).

<sup>7</sup> See Appendix 2.

<sup>8</sup> Even if the descriptive explanation has been considered traditional, it is actually different from traditional rules first because it is a PowerPoint<sup>TM</sup> presentation, thus the information provided is supported by visual stimuli, and second because it points out the different behaviour of lexical verbs and auxiliary verbs which is not present in descriptive explanations used in schools. What was traditional was the fact that this explanation only took into account the *location* of adverbs in the sentence.

<sup>9</sup> See Appendix 3.

ascribable to verb movement. The position of auxiliary verbs was also added to the structure so as to account for the different behaviour of lexical and auxiliary verbs in English.

### 3. Results

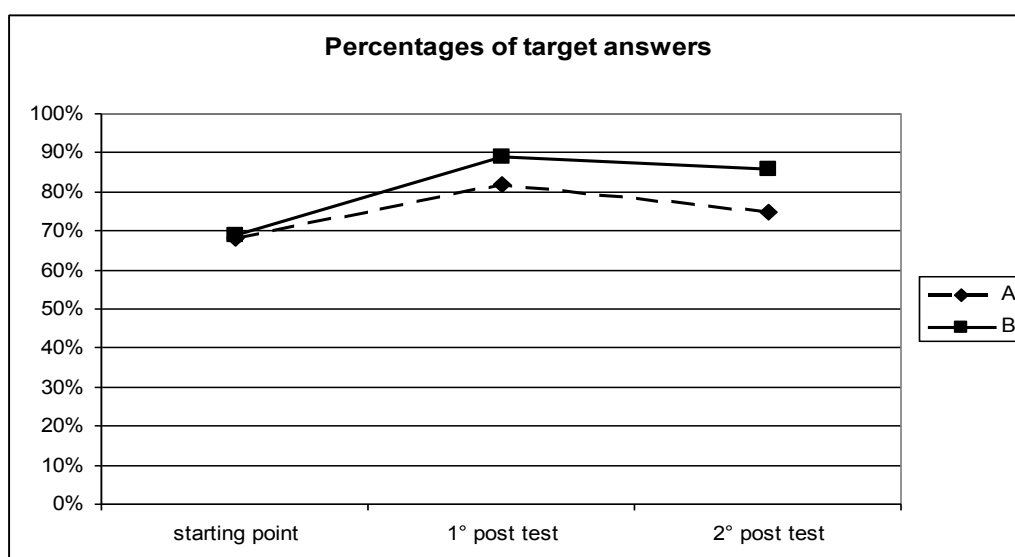
As in the original study, also in the follow-up the subjects were divided into two groups and were first tested before any kind of explanation as to adverb placement had been provided to them. Table 3 illustrates the starting levels of both groups. Group A scored 68% of target answers and Group B 69% in this phase.

	Target answers	Non target answers	Omissions
Group A	68%	30%	2%
Group B	69%	29%	2%

Table 3  
Starting level

Considering that in the original study the groups that had performed worse were chosen to receive the linguistic explanation, here the opposite choice was made so as to eliminate a possibly influencing variable. Hence group A was given the traditional explanation and Group B the linguistic one even though the difference in the performance of the two groups has no statistical significance.

Graph 1 presents the percentages of target answers of the two groups in the three phases. Pretest (68% vs. 69%,  $p < 0.2$ ), before any explanation had been given them, first post-test (82% vs. 89%,  $p < 0.2$ ) right after subjects had been provided with either the linguistic or the traditional account, and second post-test (75% vs. 86%,  $p < 0.05$ ) after 10 weeks from the explanations.



Graph 1  
Target answers in the two groups

Again the group that received the linguistic explanation performed better than the other one.

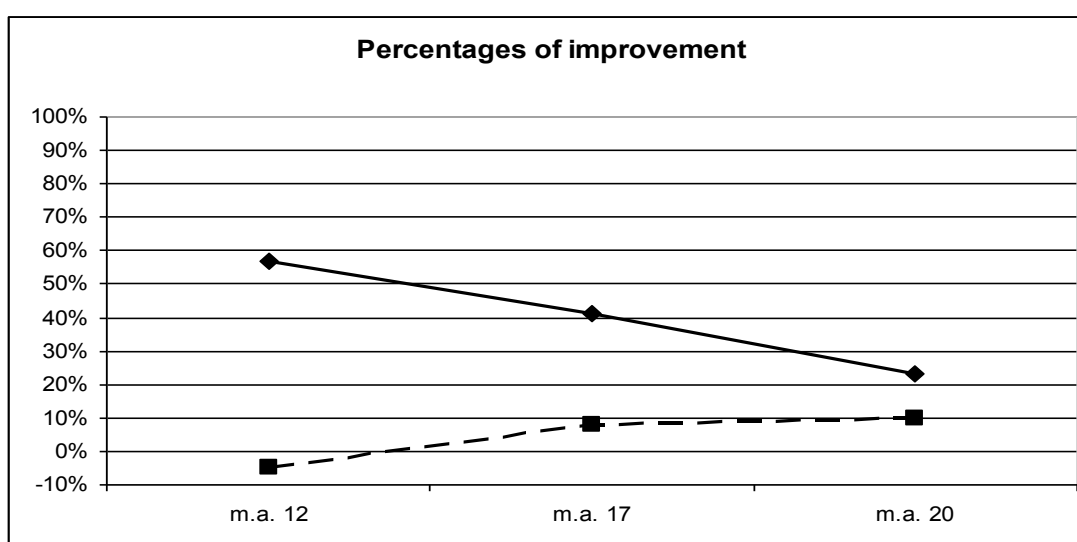
Group B scored 69% in the pre-test, 89% right after the explanation and 86% in the second post-test. This means that from the starting to the ending point there was a 23% improvement. On the other hand, Group A scored 68% in the pre-test, 82% in the first post-test and 75% in the second post-test. Their improvement percentage from the pre-test to the second post-test was 10%. The hypothesis of the study was further confirmed, corroborating the assumption that a linguistic explanation of the linear differences between English and Italian, which takes into account and renders explicit the deep functioning of languages would prove more effective for teaching adverb position to L2 learners (Formisano 2013). Table 4 compares the percentages of improvement.

	Percentages of improvement
Subjects that received the traditional explanation	10%
Subjects that received the linguistic explanation	23%

Table 4  
Percentages of improvement

## 4. Discussion

As expected, the effectiveness of the linguistic explanation proved to be higher the younger the subjects were. Graph 2 shows that as the subjects get older their parametric setting appears less prone to being reset to match the L2, probably because the parametric setting of the L1 stabilizes with age and becomes less accessible even with a more explicit explanation.



Graph 2  
Percentages of improvement

The difference between the group that received the traditional explanation and the group that received the linguistic explanation is evident in the older subjects of the follow-up, but

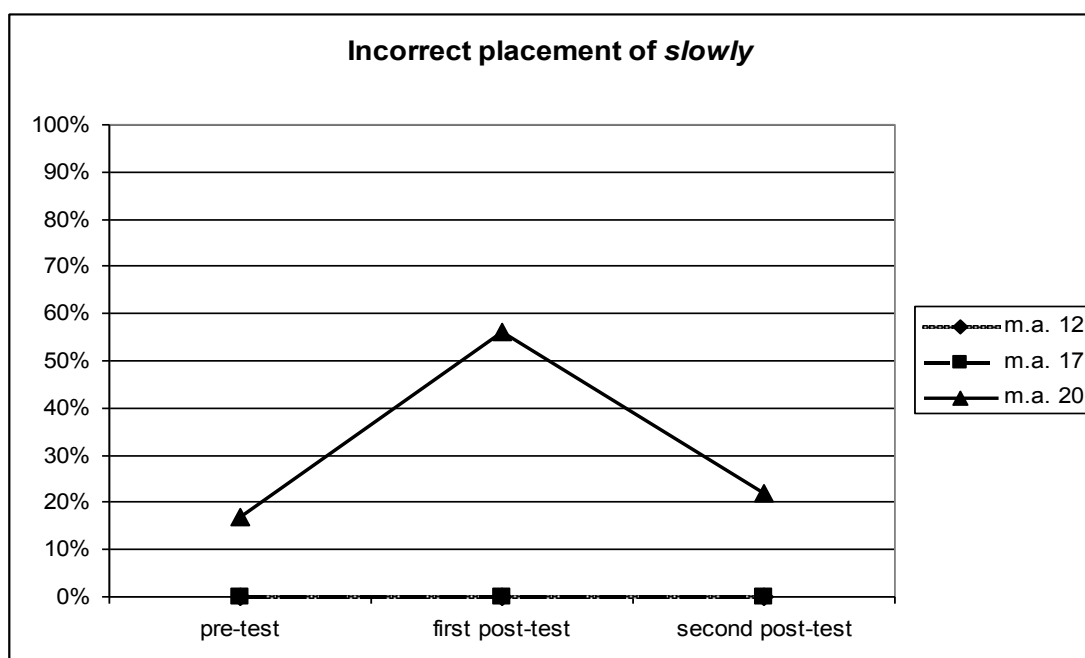
it is not as marked as in the younger groups of the original study. As graph 2 illustrates, the older the subjects are, the less significant is the difference of target answers between the linguistic and the traditional group. This is further illustrated in Table 5.

Percentages of improvement		
	Traditional explanation	Linguistic explanation
Mean age		
12	-5%	57%
17	8%	41%
20	10%	23%

Table 5  
Comparison of percentages of improvement

The traditional explanation shows the reverse pattern, as subjects get older their target answers increase. This clearly demonstrates the difference between having learners memorize a rule and its exceptions, a task in which the older the subjects are the better they perform, and focussing learners' attention on the parametric setting to have them understand linear differences between languages; an approach that, precisely because it involves the parametric setting, is able to influence the resetting necessary to foster L2 acquisition and proves to work better with young subjects.

Further evidence of the fact that UG involvement is related to age is the fact that, as shown in Graph 3, young subjects of the original study did not make *a single* mistake in the placement of the adverb *slowly*,<sup>10</sup> either before the explanation or afterwards.



Graph 3  
Slowly

<sup>10</sup> According to Cinque (1999), *slowly* is a 'low' adverb so, even if in English the verb does not move, this adverb appears after the lexical verb because of its low position in the sentential hierarchy.

Even though both kinds of explanation pointed out that the linear order in English is adverb-lexical verb, when these subjects had to use the adverb *slowly* they did not over-apply the rule and respected the hierarchy of their UG. Nevertheless, this did not happen in older subjects of the follow up. Having been instructed on the rule adverb-lexical verb they applied it to every adverb, *slowly* included, no matter what kind of explanation had been given to them. In the pre-test, 3 subjects out of 18 placed *slowly* incorrectly, 10 out of 18 in the first post-test and 4 out of 18 in the second post-test. It is interesting to point out that after ten weeks, in the second post-test, the incorrect placement of *slowly* goes roughly back to the starting level, something that probably means that in the end it is UG which prevails. Nevertheless, in older subjects it can be temporarily deactivated by an explanation, something that does not happen with younger subjects.

Another interesting result concerns the possibility of learning – together with the resetting of a parameter – the cluster of properties connected to it. As White (1990, 1991) pointed out, in L2 acquisition the resetting of a parameter does not involve the acquisition of its cluster of properties. This has been confirmed by the results both of the original study and the follow-up. In L1 acquisition, when subjects set the parameter of verb movement, they also learn that if the verb does not move, nothing can interpose between the verb and its direct object. In the test used in this study, the sentence that verified whether the subjects learning that the verb does not move in English would also learn that nothing can separate the verb and its direct object was the following:

I enjoyed very much the party yesterday.

This sentence was in the error correction task and only two subjects out of the total of 85 (67 first study and 18 the follow-up) corrected it in the pre-test, two in the first post-test and one in the second post-test.<sup>11</sup> This shows that clustering of properties does not happen in L2 acquisition, no matter the age of the subjects and the kind of explanation provided to them.

## 5. Conclusion

Results of the follow-up study confirm what had been found in the original study. The linguistic explanation, which renders explicit the deep functioning of languages, proves to be more effective and retained by Italian students of English as L2. The subjects of the follow-up that received the traditional explanation started out with 68% of target answers and at the end of the study reached 75%. The group provided with the linguistic explanation instead, started out with 69% and arrived at 86% in the second post-test. These results corroborate the experimental hypothesis that providing learners with an explicit explanation of the mechanisms of languages fosters the parameters resetting process and so L2 acquisition. This kind of explanation proved to work better in younger students indeed, the percentage of improvement decreases with age: the youngest student (m.a. 12) obtained the highest percentage of improvement (57%) and with age this

<sup>11</sup> In the pre-test the subjects that corrected the sentence were one in Junior High and the other in High school. In the first post-test one in the Junior High class and the other at university, both in the groups that received the linguistic explanation. In the second post-test the one subject that corrected it was in the Junior High class that received the linguistic explanation.



percentage decreased. Students with a m.a. of 17 improved their target answers by 41% and the oldest group (m.a. 20) by 23%. The groups that received the traditional descriptive explanation showed the reverse pattern. Their percentage of improvement increases with age, going from -5% of the youngest learners, to 8% of the subjects with a m.a. of 17 to 10% of the oldest subjects.

This study provides evidence to the FT/FA hypothesis. In the pre-test all of the subjects, with different percentages depending on their level of education, transferred the parametric setting of their L1 to the L2 they were learning, which resulted in incorrect linear orders in English sentences where adverbs were present. After the explanation phase, they improved their interlanguage trying to match the L2 parametric setting, accessing their UG at different levels according to their age. The younger the subjects were, the better they performed after the linguistic explanation; this could be evidence of an age factor related to the possibility of accessing UG. Furthermore, the experimental hypothesis was further confirmed. As in the original study, the percentage of improvement was higher in the groups that received a linguistically based explanation compared to the control groups that were provided with a traditional descriptive account of the rule of adverb placement.

Taken together with the results of the original research, this study demonstrates the crucial role that theoretical linguistics can have when applied to the field of language teaching and, also, how essential it is for teachers and operators in the field of education to receive adequate linguistic training both to understand how languages work and also to apply their knowledge to teaching and to developing innovative teaching techniques.

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## Appendix 1

1. Gli avverbi di frequenza esprimono con quale frequenza compiamo determinate azioni oppure si verifica qualcosa. In inglese essi sono **always** (sempre), **usually** (di solito) **often** (spesso) **sometimes** (a volte) **seldom/rarely** (raramente), **never** (mai). Gli avverbi di frequenza *precedono* sempre il verbo principale nelle frasi affermative, negative ad interrogative. Con il verbo **to be** essi vengono *posti dopo* il verbo, mentre con il verbo **to have got** *vanno posti tra have e got*.

Es.

Do you **often** play with your computer?

I **usually** have lunch at one o'clock.

Kate is **often** late for school.

I **haven't** **always** got my dictionary in my school bag<sup>12</sup>.

Adverbs of frequency express the frequency with which actions take place or are performed. In English these words are: always, usually, often, sometimes, seldom, rarely, never. Adverbs of frequency always precede the main verb in affirmative, negative and interrogative sentences. With the verb to be they are placed after the verb, while with the verb to have got they are placed between have and got.

2. We often use the present simple with adverbs of frequency (always, often, sometimes, usually, hardly ever and never). Adverbs of frequency go *before* the main verb, but *after* be.

Es.

He **often** goes out. NOT ~~He goes often out~~

She is **always** late. NOT ~~She is late always~~<sup>13</sup>

3. Some adverbs (for example, **always**, **also**, **probably**) go with the verb in the middle of a sentence:

Es.

Tom **always** goes to work by car.

We were feeling very tired and we **were also** hungry.

Your car **has probably been** stolen.

Study these rules for the position of adverbs in the middle of a sentence. (They are only general rules, so there are exceptions.):

i) If the verb is one word (**goes/fell/cooked** etc.), the adverb goes *before* the verb

Note that these adverbs go before **have to**.

ii) But adverbs go *after* **am/is/are/was/were**

iii) If the verb is two or more words (**can remember/doesn't smoke/has been stolen** etc.) the adverb goes *after the first verb*<sup>14</sup>

<sup>12</sup> P. Kelly, G. Chiodini. English Just like that. Student's book. LANG editions. Junior High School text book. Italics emphasise that the key point of the account is the location of the adverb rather than focusing on the verb. This type of approach fails to consider that learners do not need to *put adverbs* anywhere, because they are already part of the functional structure of the sentence.

<sup>13</sup> C. Oxenden, C. Latham-Koenigh, P. Seligson. New English File. Pre-intermediate student's book. Oxford University Press. This text book is used in the third year of High School and is the text book used by the older subjects of the experiment.

<sup>14</sup> R. Murphy. English Grammar in Use. A self-study reference and practice book for intermediate students. Cambridge University Press. This is a widely used text book in Italy, both in High Schools and Universities.

## Appendix 2

### The Traditional Explanation

La differenza di  
posizione  
dell'avverbio tra  
italiano e inglese

Gianni **legge** **spesso** il giornale  
V A

John **often** **reads** the newspaper  
A V

Italiano	Inglese
SV A	SA V

Gianni **legge** **spesso** il giornale  
V A

Gianni **è** **sempre** contento  
Aus. A

John **often** **reads** the newspaper  
A V

John **is** **always** happy  
Aus. A

# Grazie!

## Appendix 3

### The Linguistic Explanation

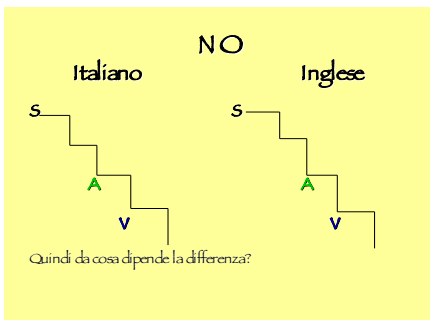
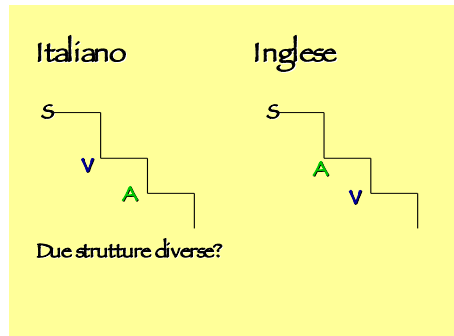
Il motivo della differenza di posizione di avverbio tra italiano e inglese

Gianni **legge spesso** il giornale  
 V A

John **often reads** the newspaper  
 A V

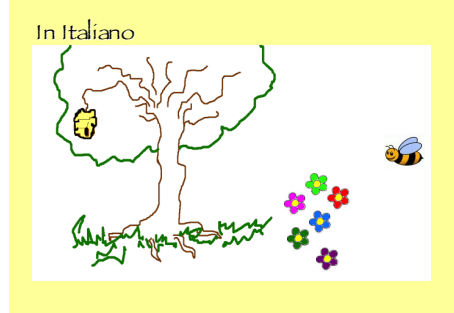
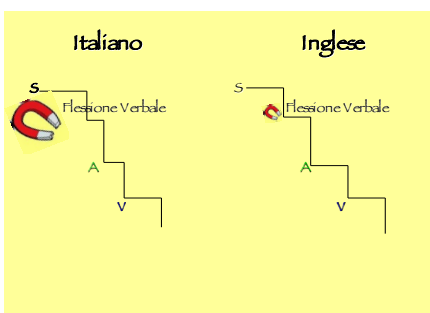
Italiano      Inglese

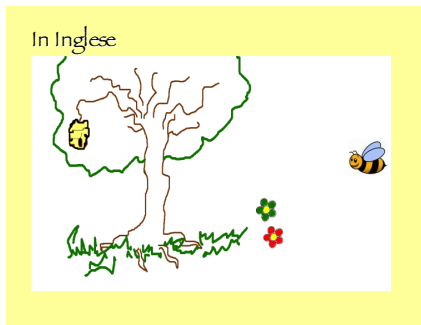
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La Coniugazione del verbo:  
 La Flessione verbale

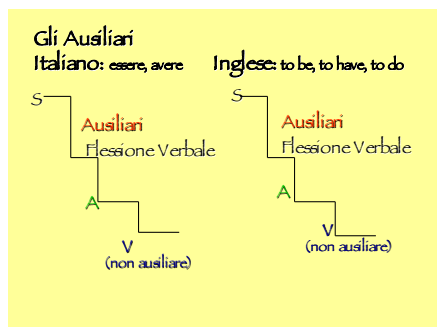
Italiano	Inglese
legg-o	read
legg-i	read
legg-e	read -s
legg-iamo	read
legg-ete	read
legg-ono	read





John **often reads** the newspaper  
**A V**

John **is always** happy  
**V A**



Gianni **legge spesso** il giornale  
**V A**

Gianni **è sempre** contento  
**Aus. A**

Gianni **ha parlato** spesso di te  
**Aus. V A**

John **often reads** the newspaper  
**A V**

John **is always** happy  
**Aus. A**

John **has often spoken** about you  
**Aus. A V**

Il **m**otivo della differenza di posizione dell'avverbio tra italiano e inglese

Il **M**ovimento del verbo

