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Consolidated Learning, Learning Speed and Cross-linguistic Transfer

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Abstract

This article analyses the concept of consolidated learning in an environment where students have systemised and automated their learning. As compared to observed learning, consolidated learning is not affected by unforeseen or unpredictable circumstances. Starting out from that concept, speed of learning has been measured. Focussing on consolidated learning, the acquisition process of the English negation system by nine native beginner-level Spanish speakers has been evaluated. It is further claimed that there is a relationship between the participants' learning speed and the process of cross-linguistic transfer.

I. INTRODUCTION

In the literature of second language (L2) acquisition of English, the majority of studies have been compiled using data from direct observation. These research studies have indicated that the learning process did not follow a linear path, but the fact that the oscillations may distort the evaluation of the learning process seems to have been overlooked.

In this article I present a study of the learning process of negation in English by a group of beginner EFL native-speaker Spaniards. I attempt to do so using a new approach: a method called consolidated learning. Via this approach, I will try to measure the learning that has been automated and systemised by the students. This learning process is different from observed learning, which can be influenced by unforeseen circumstances. Such circumstances may be varied, but they could be, for example, an activity in class on the day prior to the test, or a general correction made by the teacher of an error made by a student, or the possible occurrence of an ambiguous question in a questionnaire.

II. NEGATIVE TYPOLOGY AND DATA OBTAINED FROM THE STUDY

In my study on negation, I refer to the following regular typology (Larsen-Freeman and Long, 1994):

- *no V* construction: “I *no* understand”, “I *no* can see”, “They *no* have water”.
- *don't V* forms: “We *don't* like it”, “I *don't* can explain”.
- *auxiliary- negative* forms: “It's *not* dangerous”, “He *can't* see”.
- *analysed forms of don't*: (*do not*, *doesn't*, *does not*, *didn't*, *did not*)
“I *didn't* even know”, “One night I *didn't* have the light”.

Apart from these four negative forms, the study considers a fifth variable:

- *avoidance*. It has not been included in many studies of SLA, but it is a relevant strategy used by the students, so we opted for including it. Avoidance is the cognitive strategy of process that speakers use when they substitute the initial plan of expression for another, due to a lack in necessary linguistic resources (Faerch and Kasper, 1983). As a matter of fact, in our study, *avoidance* includes affirmative answers and other devices that avoid negation, including silences (Alonso-Vazquez, 2003). *Avoidance*, so defined, is in the maximum neighbourhood to the L1 of any subjects (Tarone, 1983; Varadi, 1980).

Nine native Spanish speakers participated in this longitudinal study (Neff, Licerias, & Diaz, 1998). They were interviewed and recorded in monthly sessions over a period of eight months. The participants were monolingual Spanish speaking residents living in the Madrid region.

The main consideration when selecting the subjects was their level of English proficiency. This was determined by a comprehensive-productive placement test made for the purpose. The subjects were all volunteers attending EFL classes at beginner level, and they were interviewed during their first year of English studies. All participants attended state schools.

Eight different tests were specially created in order to use a different one each month, thus avoiding a practice effect in the subject's answers. They included instructions and training exercises at the beginning of each task. The aim of the interviews was to elicit negative structures from the subjects at particular points in time. The interviews consisted of a number of tasks with at least ten different questions in each. The interview materials were based on three different types of tasks (see Table 1): free production tasks, guided production tasks, and controlled ones, so that subject's use of negative structures in various

situations could be tested. All the pictures used to elicit data were easy to describe and kept in front of the subjects during the interview.

Table 1. Types of tasks in the interviews.

Free production tasks:	* Personal questions. * Tell your own story. * Description of pictures. * Spot the difference.
Guided production tasks:	* Questions based on stories. * Questions based on pictures.
Controlled production tasks:	* Drill: repetitions * Drill: transformations (positive to negative). * Complete the following sentences.

To meet the aims of the study, longitudinal data (Agnello, 1977, Bruzese, 1977, Young, 1988) was required from the earliest stages of their attempts to use the negative system. Therefore, data elicitation, in order to take into account the eventuality of the period of silence, began three months after the subject's first exposure to the target language structures. There were two reasons for this three month period, firstly, following Butterworth & Hatch (1978) it seemed a long enough period of time for subjects to make themselves familiar with the learning of English negative devices, and secondly, following Gibbons (1985) and Saviile-Troiike (1988) L2 learners –both children and adults- may go through a period of silence to prepare for the time they begin speaking the L2. This period is thought to take place during the initial three months.

Speech samples needed to be frequent enough to detect fairly small changes in the participants' rule system as manifested by their speech production. Therefore, subjects were interviewed once a month for eight months. All participants followed the same interview procedure in the same week, so their negation evolution could be compared. Each subject had a record sheet with the recorded date on it. To avoid strain on the participants interviews lasted no longer than fifteen minutes. For each interview the subjects sat individually at desks, facing the interviewer either at their school or at the interviewer's home. The interviews were later transcribed in traditional orthography. After this, the recorded sessions were collected in one record for each subject. These records were used as the main source of data.

Further information on the participants is given in table 2.

Table 2. Cultural and demographic characteristics of participants.

Participant	Level of English	Age	Sex	Weekly hours of English lectures	Other contact with English	Level of studies
1. Child 1	Beginner	9	F	5	None	Primary
2. Child 2	Beginner	9	M	5	None	Primary
3. Child 3	Beginner	9	F	5	None	Primary
4. Adol. 1	Beginner	13	F	6	None	Second.
5. Adol. 2	Beginner	13	F	6	None	Second.
6. Adol. 3	Beginner	12	M	6	None	Second.
7. Adult 1	Beginner	49	F	4	None	Primary
8. Adult 2	Beginner	38	F	4	None	Primary
9. Adult 3	Beginner	21	F	4	None	Primary

The subjects received the same instruction based on a text book, even though special attention was devoted to the negation system, both by teachers and test makers.

III. OBSERVED LEARNING AND CONSOLIDATED LEARNING

In the evaluation of the results of my subjects' learning, I have encountered some difficulties. Given that learning does not take on a linear form, and that under no circumstances will it do so through continuous advances, its direct evaluation has resulted in some complications. Graph 2 shows the results of the learning progress of participant 1. In this graph it can clearly be seen from the oscillations or the peaks and troughs of the graph that the learning process of participant 1 has produced irregular patterns. Thus it can be deduced that the evaluation of the learning process of this participant will not be conclusive. These irregular patterns, present in all nine participants, indicates that using only the data directly observed and collected in the tests it is impossible to clearly determine to what extent and at what rate the participants have progressed in the learning of each of the analysed negative constructions.

With the objective of resolving the difficulties encountered, the following question was posed:

- During this first year of learning, has participant 1's level of English improved with regard to their usage of *aux-neg* and *no+V*?

Graph 2 shows that the usage of this participant, with regard to aux-neg and no+V, has been subject to generally abrupt changes between consecutive tests. Due to this, even taking into account the data from any of our graphs, it is impossible to answer the question. Furthermore, it is equally difficult to answer the following:

- Has the usage of some forms increased or decreased through the learning process?

The fact that the answer may be different depending on the intervals considered, and that in some cases the difference may be quite noteworthy, raises doubts about an evaluation using directly observed data. If the study is completed on a peak, the answer will be that the subject has obtained a higher achievement during the period of learning. However, if on the other hand it is completed on a trough, a lower reading will be obtained. From this, it can be gathered that the result would be highly unsatisfactory if the evaluation of the learning process should depend, to a large extent, on the unforeseen circumstances of a chosen moment in order to end the analysis.

If avoidance, don't v and analysed don't are considered, the same conclusions are reached, even though the ups and downs of don't v and analyzed don't are less prominent due to the lower level of usage. Therefore it can be concluded that through the directly observed data, it is apparently impossible to evaluate thoroughly the learning curve of negation in English.

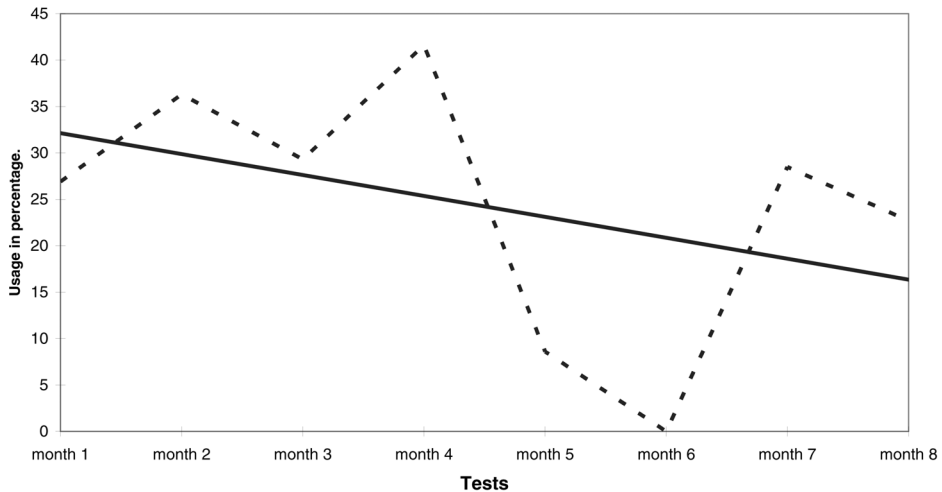
Different authors, such as Odlin (1989, 2003), Selinker (1972, 1992), Zobl (1983, 1984) and Han (2000), have highlighted that learning is influenced by cross-linguistic transfer, both positively and negatively. Positive cross-linguistic transfer was used by the participants in this study, and they have demonstrated a strong urge to use aux-neg and no+v forms throughout the whole process. Also, negative cross-linguistic transfer has become apparent in the low usage of the don't v and analyzed don't constructions.

However, not only will learning strategies and socio-environmental factors have to be considered, but also unforeseen circumstances, which may be the causes of the peaks and troughs in the graphs. It would be useful to be able to eliminate the effects of these factors on the learning curve. The curve obtained after having eliminated the unforeseen circumstances, is what I call "consolidated learning", and its resolution could be significant, both in the theory of second language learning (SLA) and in its teaching. In the area of SLA theory, the knowledge of consolidated learning will permit the achievement of a precise definition of the learning speed, a concept which until now has remained vague and almost always defined in general terms; I will now attempt to measure it.

IV. THE CONCEPT OF CONSOLIDATED LEARNING

In order to provide an analysis, I will consider the evolution of learning concerning the usage of the avoidance construction of participant 1 (discontinuous line in graph 1). From a visual and numerical examination of the observed data it seems to show a decrease in its usage, which would suggest that an improvement in learning has taken place. However, this is based on less than conclusive findings. For example, if all eight tests are taken into account, the participant will have moved from using this type of form from 26.9% to 22.7%. However, if the study had been discontinued at test six, this participant would have gone from using it to not using it at all, i.e. from 22.9% to 0%. Thus, their learning progress would have shown a bigger improvement between tests one and six than during the period of time used to conduct all eight tests. I consider that with directly observed data, which in the initial stages is highly variable, this train of thought cannot be continued and that the conclusions are therefore not totally satisfactory.

GRAPH 1. PROGRESS OF AVOIDANCE (OBSERVED AND CONSOLIDATED) FOR PARTICIPANT 1



In order to proceed with an in-depth analysis and obtain results that are not over-dependant on unforeseen factors, I will now determine the notions “consolidated evolution” and “consolidated learning” which are new concepts which I propose to apply in this paper. By these concepts we reduce to a minimum the unforeseen circumstances. The “consolidated evolution” of avoidance by participant 1 is shown by the straight line superimposed on the discontinuous path in graph 1. The straight line provides us with information on

learning evolution as if unforeseen circumstances had been eliminated from the learning process. We could have fitted a non-linear form. But as far as theoretic analysis is concerned, the lineal adjustment is satisfactory and offers a great advantage due to its simplicity.

It can be shown that consolidated learning (and evolution), as it has been defined in the above paragraph, is shown by the line fitted by the least-squares regression. The mathematical formula is written as follows:

$$CL = a + b t$$

Where:

CL: consolidated learning,

t: represents tests 1, 2, 3,..., 8,

“a”: parameter that represents consolidated usage in the beginning, $t=0$. Therefore it represents the initial consolidated usage of the negative form or of *avoidance*.

“b”: parameter that represents the slope of the straight line. It measures the increase or decrease of the consolidated usage of the negative forms and *avoidance* from one test to the forthcoming one.

The value of the parameter “b”, that represents the variation of the usage of the form in question between two consecutive tests, is the *learning* (or *evolution*) *speed*.

When $b=0$, the straight line will be horizontal and the learning process will remain stationary.

When $b>0$, the straight line will move upwards; if we look at the *aux-neg*, *don't v* and *analysed don't* forms, it indicates that they encourage an improvement in learning. On the other hand, if we focus on *avoidance* and *no+v*, $b>0$ would indicate a backward progression in the learning process.

When $b<0$ the situation would be the reverse of the above.

I shall therefore speak of learning speed of forms *aux-neg*, *don't v* and *analysed don't*, and evolution speed for transitional forms, *no+v*, and *avoiding* strategy.

In the case of participant 1 and their usage of *avoidance*, the consolidated evolution equation would go as follows:

$$CL (\textit{avoidance}, 1) = 34.4 - 2.2t.$$

Initially, this participant showed a consolidated usage of *avoidance* of 34.4.

The evolution rate came out at -2.2 , which shows the reduction in the use of this strategy by participant 1 between every two consecutive tests. Therefore, I have determined the consolidated evolution of participant 1, with regard to *avoidance*, throughout the first year of learning English, and which can be defined by the parameters $a = 34.4$ and $b = -2.2$.

V. CONSOLIDATED LEARNING OF THE PARTICIPANTS IN THE STUDY

In this section I will study the learning process of our participants in their first year of contact with English, through consolidated learning.

• Participant 1.

The consolidated learning and evolution of this participant resulted in the following equations:

$$CL (no+v, 1) = 32.9 + 0.7t$$

$$CL (don't v, 1) = 15.1 - 2.4t$$

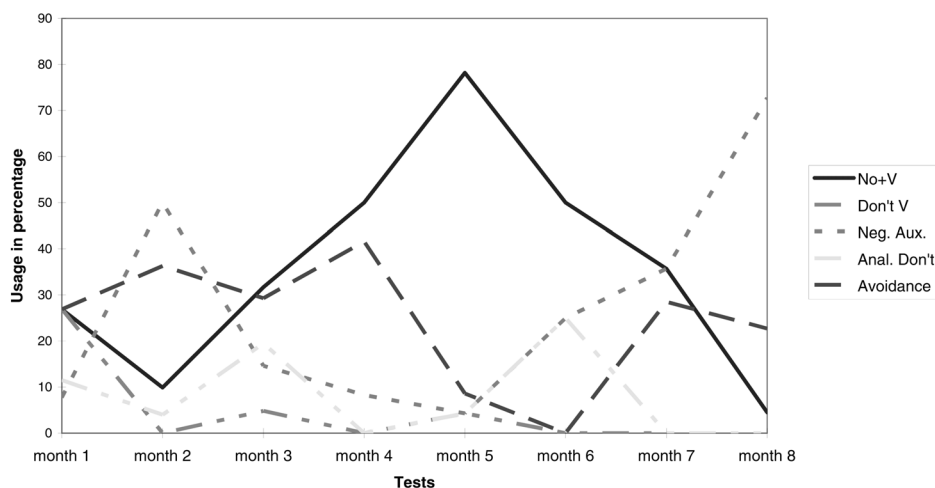
$$CL (aux-neg, 1) = 5.3 + 4.9t$$

$$CL (anal-don't, 1) = 12.3 - 0.9t$$

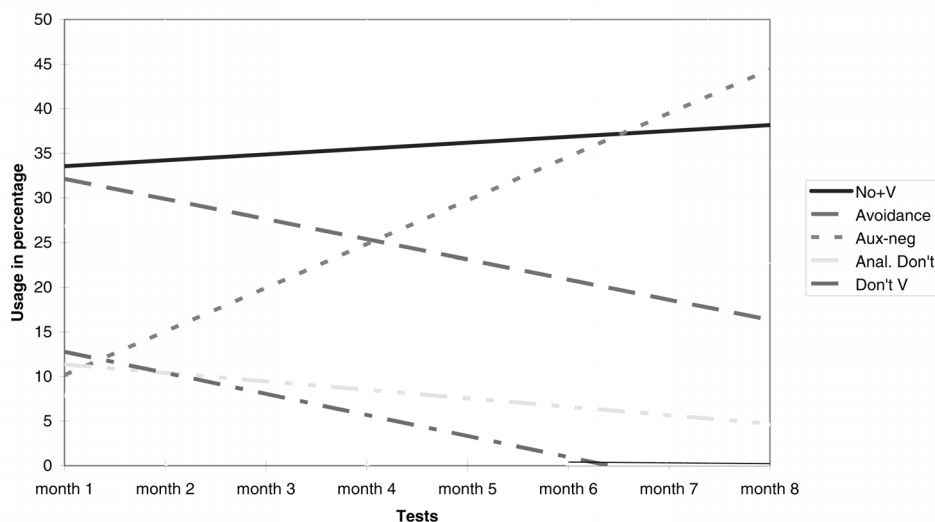
$$CL (avoidance, 1) = 34.4 - 2.2t.$$

Its graphical representation appears in graph 3, and the observed data in graph 2.

GRAPH 2. PROGRESS OF NEGATIVE CONSTRUCTION AND AVOIDANCE FOR PARTICIPANT 1



GRAPH 3. PROGRESS OF CONSOLIDATED LEARNING FOR PARTICIPANT 1.



One of the first characteristics of the learning process of this participant is that during this year he preferred to use the forms *no+v*, *aux-neg* and *avoidance*, therefore not using the forms *don't v* and *analysed don't*. Eckman's Markedness Differential Hypothesis —MDH— (1985:3-5) highlights cross-transfer linguistics in its positive version in the first three constructions and in its negative version in the last two (Jarvis and Odlin, 2000) as a fundamental cause of this difference.

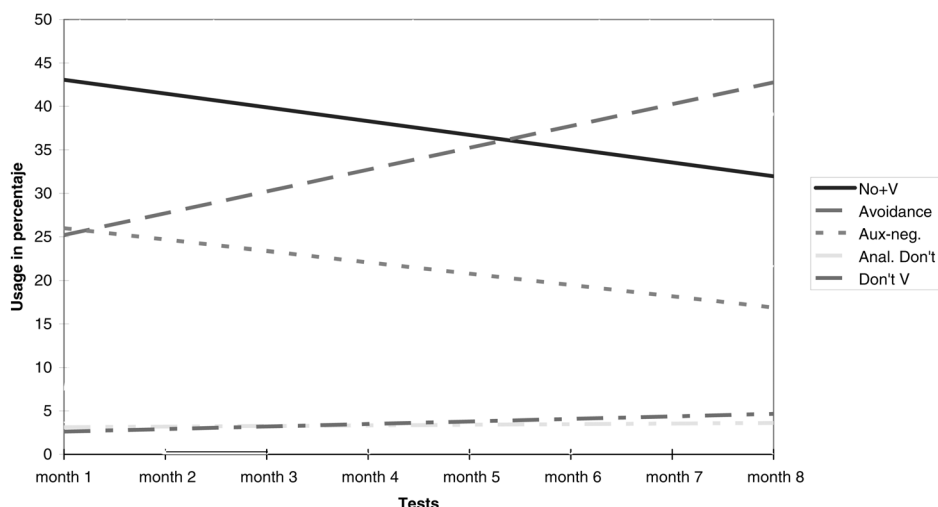
This participant shows a rate of learning of the construction *aux-neg* which increases by 4.9% in every test, while her initial score of 5.3 was certainly low. The participant's rate of evolution in *avoidance* highlights that her score decreases by 2.2 points with every test. Without going into an evaluation of their magnitudes it can be concluded that the learning process of *aux-neg* and the evolution process in *avoidance* have been going in the right direction.

However, use of the form *no+v* in each test increases by 0.7 points. The positive sign of this rate of evolution shows an evolution contrary to the desired one, as, being a transitional form, the presence of *no+v* should be decreasing. The increase that can be seen in *no+v* seems to be the consequence of an intense transfer, which pushes this participant to performing in a manner which is very easy for her.

The consolidated learning process of the forms *don't v* and *analyzed don't* are particularly interesting as although they originated from low values (15,1 and 12,3 respectively) they show negative learning rates. Values are significant in

the case of *don't v* (-2,4) and less in the case of *analyzed don't* (-0,9). This backward step may have two causes. Firstly, it may be due to errors in the design or application of the test. Secondly, there may be a combined interference with an initial mechanical use and therefore it is not analysed by the participants during the first months. During those months the participants used these forms in a mechanical way following the explanations of the teachers without conducting an analysis and internalisation of the structures. However, as they progressed through the domain of English negation they become aware of the difficulties of both constructions and move towards progressively substituting them for less risky forms (in order to stick rigidly to the cross-transfer) such as *no+v* and *aux-neg*.

GRAPH 4. PROGRESS OF CONSOLIDATED LEARNING FOR PARTICIPANT 2



• Participant 2

The consolidated learning process of this participant is shown by the following equations:

$$CL (no+v,2) = 44.6-1.6t$$

$$CL (don't v, 2) = 2.3+0.3t$$

$$CL (aux-neg,2) = 27.3-1.3t$$

$$CL (analyzed-dont,2) = 3.1+0.1t$$

$$CL (avoidance,2) = 22.7+2.5t.$$

Its graphical representation appears in graph 4.

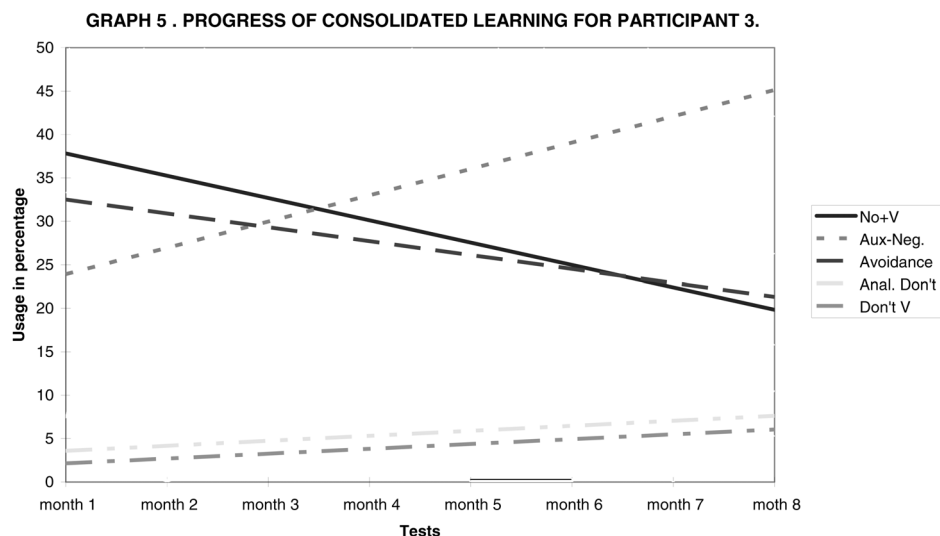
This participant shows an important separation of about 20 percentage points between the less marked constructions in Eckman's sense, *no+v*, *aux-neg*

and *avoidance* on the one hand and the strongly marked constructions in Eckman's sense as well, *don't v* and *analyzed don't* on the other hand. As the grouping together in these two blocks is due to the different grades of markedness, it can be confirmed that cross-transfer has an important influence on this participant's learning process.

This participant's evolution of *no+v* is on the right line ($b=-1,6$), just as the *don't v* which shows a learning rate of 0.6. The constructions *analyzed don't*, with a learning rate of almost zero, remain stationary.

It is important to note, however, that this participant decreases the use of the form *aux-neg* ($b=-1,3$) while increasing the use of *avoidance* ($b=2.5$). This is much more significant when considering that the initial utilisation of this strategy had been very relevant, comprising a quarter of the answers.

In general, the performance of participant 2 in his first year of learning seems to have been quite poor.



• Participant 3

The consolidated learning process of this participant is shown by the following equations:

$$CL(no+v,3) = 40-4-2.6t$$

$$CL(don't,3) = 1.6+0.6t$$

$$CL(aux-neg,3) = 20.9+3t$$

$$CL(\text{analyzed don't}, 3) = 3 + 0.6t$$

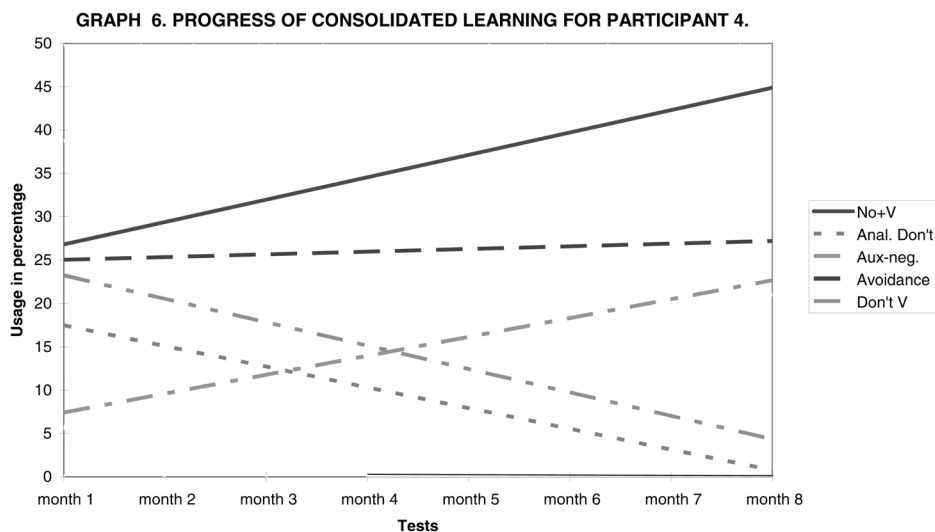
$$CL(\text{avoidance}, 3) = 34.9 - 1.6t,$$

Its graphical representation appears in graph 5.

The two forms, *no+v* and *aux-neg* and the *avoidance* strategy which are very frequently used due to positive cross-transfer appear separated from those with high negative cross-transfer (*don't v* and *analyzed don't*). This indicates that the participant is strongly influenced by cross-transfer in her learning process.

The rates of evolution of the constructions *no+v* (-2,6), and of *avoidance* (-1,6) and the rate of learning of *aux-neg* (3), which are the three most popular categories, demonstrate an advisable learning process. The same occurs with the learning rates of the more complicated *don't v* (0,6) and *analyzed don't* (0,6) forms.

This participant demonstrates a learning process in all the constructions, increasing the *aux-neg*, *don't v* and *analyzed don't* at the cost of *no+v* and *avoidance*.



• Participant 4

The consolidated equations of the first year of learning of this participant are:

$$CL(\text{no+v}, 4) = 24.2 + 2.6t$$

$$CL(\text{don't v}, 4) = 25.9 - 2.7t$$

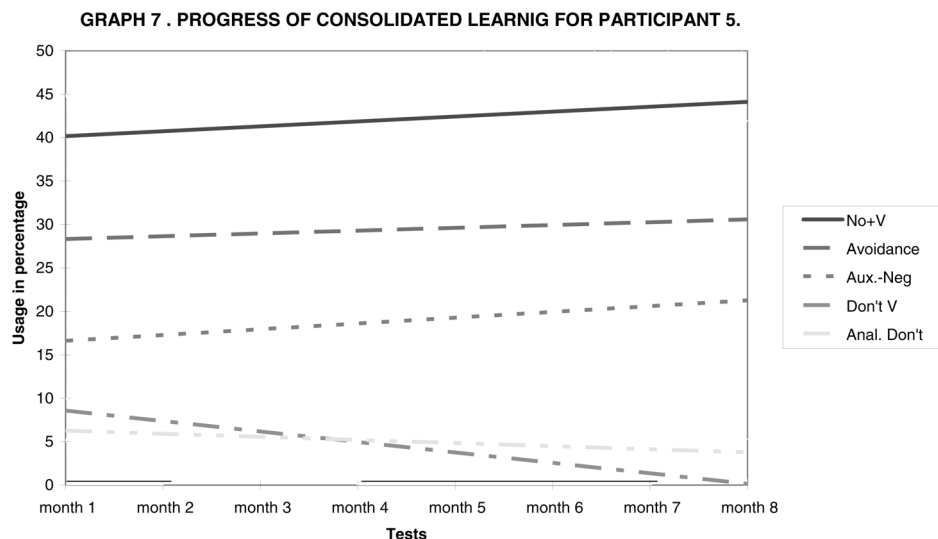
$$\begin{aligned} \text{CL}(\text{aux-neg}, 4) &= 5.2 + 2.2t \\ \text{CL}(\text{anal-don't}, 4) &= 19.8 - 2.4t \\ \text{CL}(\text{avoidance}, 4) &= 24.7 + 0.3t. \end{aligned}$$

Its representation appears in graph 6.

Both the equations and the graph confirm that this participant shows a reduced separation between the two blocks, the marked and the non-marked forms and the *avoidance*. In fact, during the first four months the different negative constructions appear intermingled, and it is only from the fifth month on that the formation of the two blocks is present. I therefore conclude that this participant does not appear to show a high inclination towards cross-transfer, neither positive nor negative.

The rate of the learning process of the *aux-neg* (2,2) highlights an increase in the performance of the learning. However, all the other negative forms and *avoidance* have taken a backward step. This is shown clearly in the case of *no+v*, *don't v* and *analyzed don't* and much less when considering *avoidance*.

This participant has gone from a good start to a poor performance in the last months.



• Participant 5

The consolidated equations for this participant are as follows:

$$\begin{aligned} \text{CL}(\text{no}+v, 5) &= 39.6 + 0.6t \\ \text{CL}(\text{don't } v, 5) &= 9.7 - 1.2t \end{aligned}$$

$$CL (aux-neg, 5) = 16+0.7t$$

$$CL (an-don't, 5) = 6.6-0.4t$$

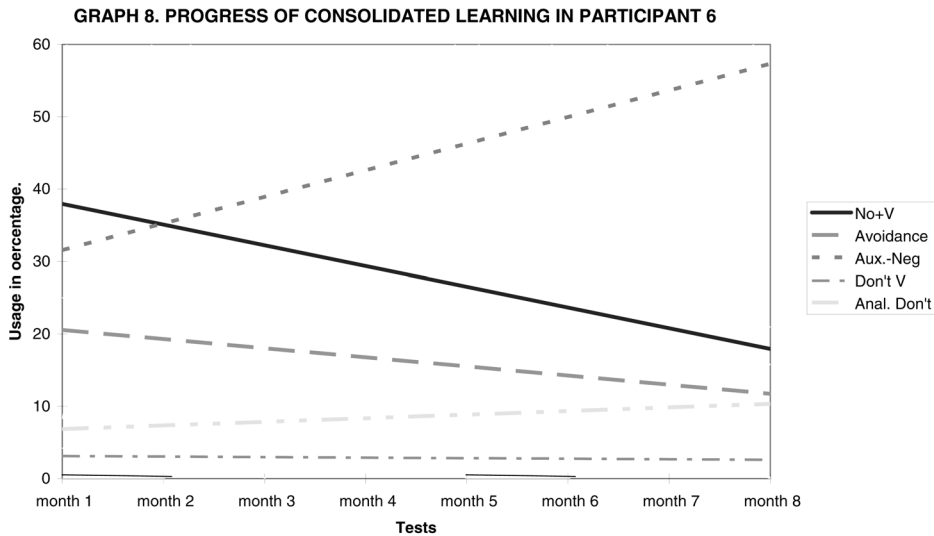
$$CL (avoidance, 5) = 28+0.3t.$$

Its representation appears in graph 7.

With this participant, a clear separation can be seen between the marked constructions that have been very much utilised and the non-marked ones, which ranges from 10 to 15 percent points.

Participant 5 demonstrates a stationary learning process, as the learning speeds of three of the four forms, *no+v*, *aux-neg*, *analyzed don't* and in the *avoidance* strategy all have values near zero. Furthermore, *don't v* demonstrates a strong inclination to decrease, which is shown with the initial use of 9.7, with a negative rate of -1.2 , which ends with a value of zero.

The learning process of this participant has shown a poor evolution. She has evolved from a poor initial utilisation to an even worse final point and at the same time turning very intensive towards transfer throughout the months of the study.



• Participant 6

The consolidated equations of this participant are as follows:

$$CL (no+v, 6) = 40.8-2.9t$$

$$CL (don't v, 6) = 3.2-0.1t$$

$$CL (aux-neg, 6) = 27.9+3.7t$$

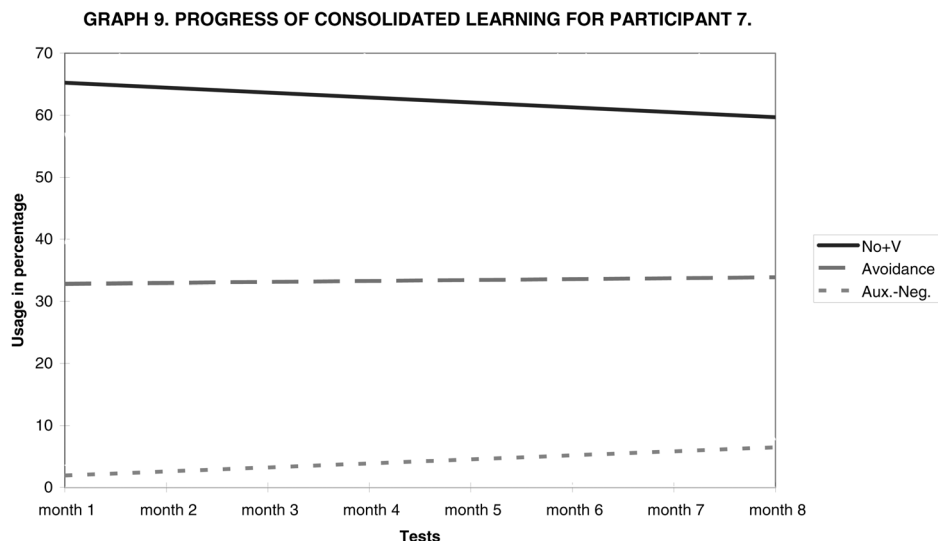
$$CL (anal-don't, 6) = 6.4+0.5t$$

$$CL (avoidance, 6) = 21.8-1.3t.$$

The graphical representation appears in graph 8.

A separation between the blocks of marked and non-marked constructions exists, although it is not very large. In fact, at the end of the period *avoidance* presents a value which is very close to the *analyzed don't*.

The learning speed and the rates of evolution of the three least marked constructions, *aux-neg*, *no+v*, and *avoidance* (-2,6; 3,7; -1,3) certify his performance in the learning process. The use of *no+v* and of *avoidance* decreases and at the same time the use of *aux-neg* increases considerably. The rate of learning of *analyzed don't* (0,5) also moves in the right direction.



• Participant 7

The consolidated equations of this participant are:

$$CL (no+v, 7) = 60-0.7t$$

$$CL (don't v, 7) = 0$$

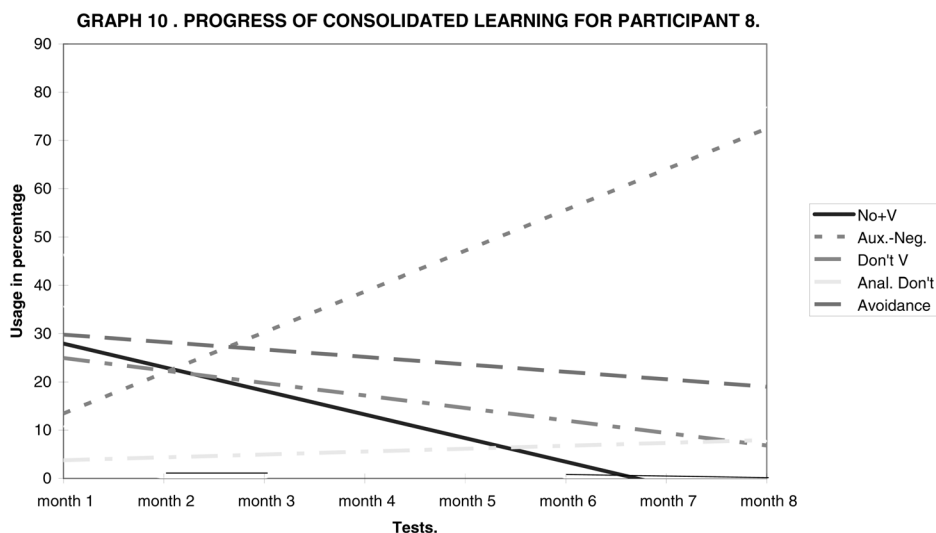
$$CL (aux-neg, 7) = 1.3+0.6t$$

$$CL (anal-don't, 7) = 0$$

$$CL (avoidance, 7) = 32.7+0.1t.$$

The consolidated learning process is represented in graph 9.

The use of the negative system of this participant is extremely simple. It shows a high use of *no+v* and *avoidance* and a quite reduced use of *aux-neg*. However, the forms *don't v* and *analyzed don't* are not used in even one of the 8 tests. This participant does not demonstrate any noticeable advance in her command of the English negation system. Given her limited knowledge, it would be risky to put forward any hypothesis on her learning strategy.



• Participant 8

The consolidated equations appear in:

$$CL (no+v, 8) = 32.9-4.9t$$

$$CL (don't v, 8) = 27.5-2.6t$$

$$CL (aux-neg, 8) = 5+8.4t$$

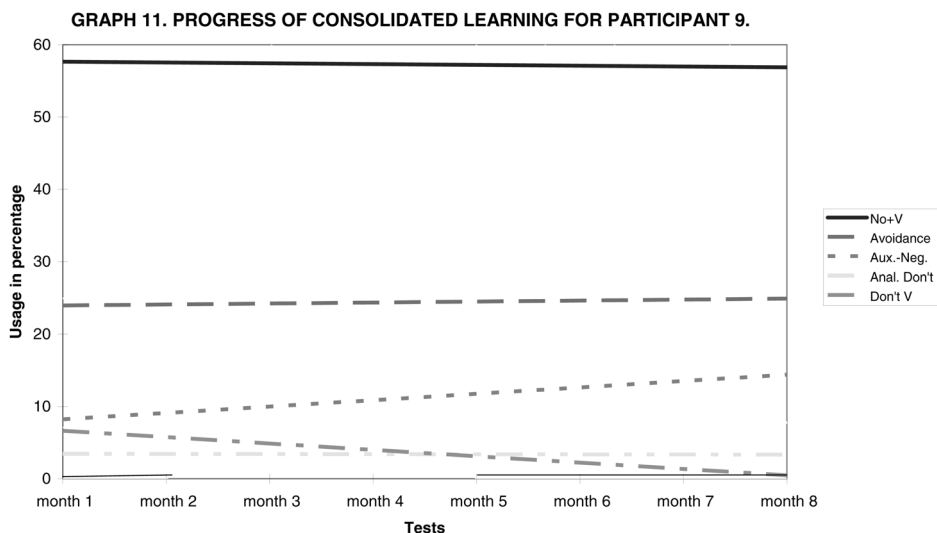
$$CL (anal-don't, 8) = 3.2+0.6t$$

$$CL (avoidance, 8) = 31.3-1.5t.$$

Graph 10 represents this consolidated learning.

Participant 8 does not demonstrate separation between the blocks of marked and non-marked constructions. This indicates a limited presence of cross-transfer. The rates of learning, given the initial values, demonstrate a satisfactory evolution. The transitional constructions *no+v* (-4,9) and *avoidance* (-1,5) reduce their presence while *aux-neg* increases to a rate of 8.4. The rate of learning of *analyzed don't* (0,6) highlights the effort of this participant to avoid using cross-transfer. The only contradictory fact with this participant is the negative learning

speed of *don't* (-2,6), which could be due to its high initial level (27,5). The speed of learning of this participant has been generally satisfactory.



• Participant 9

The consolidated equations are the following:

$$CL(no+v, 9) = 57.8 - 0.1t$$

$$CL(don't\ v, 9) = 7.5 - 0.9t$$

$$CL(aux-neg, 9) = 7.3 + 0.9t$$

$$CL(anal-don't, 9) = 3.5 - 0.01t$$

$$CL(avoidance, 9) = 23.8 + 0.1t.$$

They are represented in graph 11.

This participant's learning process is expressly inadequate. All the learning and evolution rates, with the exception of *don't v*, which is also negative, are close to zero. These results indicate a barely evolving situation. In fact, 90% of this participant's responses have been carried out using the *no+v* and *avoidance*. In view of her low level and limited advancement throughout the year, as with participant 7, trying to relate her evolution with cross-transfer would prove risky.

VI. COMMON LEARNING FEATURES

From the analysis of the previous section, the common features observed during our participants learning processes in their first year of studying English can be obtained. They can be summarised in five points.

1. Almost without exception, all the participants have demonstrated a clear preference for the use of the less marked constructions, *no+v*, *aux-neg* and *avoidance*. It must be stressed that this preference is maintained, in general, throughout the whole year. Underlying this frequent use, and as has already been noted repeatedly, is cross-linguistic transfer. Measuring this closeness through Eckman's MDH (1985:3-5), I find that the participants tend to use the forms closest to their language.
2. The participants show an increased learning speed in the construction *aux-neg*. The reason for this trend is also found in cross-linguistic transfer.
3. The participants show a negative evolution speed in the *avoidance* strategy, i.e. they decrease its use, undoubtedly aware that through this communicative strategy they are not capable of making themselves understood by their teachers. Despite this, the use of *avoidance* has been continually high in this first year, reaching almost 30% of all the responses.
4. Almost all the participants showed a negative evolution rate in the transition form *no+v* decreasing its use. The exceptions to this were participants 1 and 6 who showed a positive evolution rate.
5. The forms *don't v* and *analyzed don't* have been used very little by all participants due to a negative cross-linguistic transfer. However, in the majority of cases they showed negative learning speeds. We can therefore summarise that *don't v* and *analyzed don't* have been used very little in the initial test and actually decreased during the learning period. This could be explained, as already seen, by deficiencies in the tests or by a mechanical utilization in the first few months (perhaps in the time following the initial explanation by the teacher, where the participants were forced to give robotic responses, which were later abandoned when faced with actually understanding its difficulty) or due to the negative cross-linguistic transfer which forced them to use other constructions. In each case, cross-linguistic transfer has been prevalent in the evolution of the learning of each of these negative constructions.

VII. THE SPEED OF LEARNING AND EVOLUTION

In previous sections I have dealt with learning speed in general terms, limiting myself to talking only about its signs and saying nothing about level. In the following I will look for evidence to confirm whether the learning and evolution rates are high or low. To this end I have built table 3, which shows the different learning speeds.

Table 3. Table of Learning (*aux-neg*; *don't v*; *anal-don't*) and Evolution (*no+v*; *avoidance*) Speeds

	<i>no+v</i>	<i>don't V</i>	<i>aux-neg</i>	<i>anal-don't</i>	<i>avoidance</i>
Particip. 1	0,7	-2,4	4,9	-0,9	-2,2
Particip. 2	-1,6	0,3	-1,3	0,1	2,5
Particip. 3	-2,6	0,6	3	0,6	-1,6
Particip. 4	2,6	-2,7	2,2	-2,4	0,3
Particip. 5	0,6	-1,2	0,7	-0,4	0,3
Particip. 6	-2,9	-0,1	3,7	0,5	-1,3
Particip. 7	-0,8	0	0,6	0	0,1
Particip. 8	-4,9	-2,6	8,4	0,6	-1,5
Particip. 9	-0,1	-0,9	0,9	0	0,1
Average	-1	-1	2,6	-0,2	-0,4

The average evolution speed of *no+v* was -1 , which means that on average the participants reduced the use of this form by 1 percent point in every test. Participants 8, 6 and 3 stand out due to their high negative evolution speeds and their acceptable progress using this method. Also subject 4 stands out due to the speed of backward movement instead of learning performance, since the use of this form increased by 2.6 points in every test.

The form *don't v* shows an average learning rate of -1 . In other words, the participants on average decreased the use of this form at the rate of 1 point in each test.

The construction *aux-neg* develops a significant average speed; in each test the participants increased its use by 2.6 points. It must be noted that eight out of nine participants displayed an increase in learning with this construction. This appears to show that the participants understand how to use the *aux-neg*.

The average usage of the construction *analyzed don't* appears almost stationary. The participants do not appear to show any significant learning evolution, although it must be noted that the behaviour of the different participants is quite different.

Avoidance has an average evolution speed of -0.4 , which is very low with respect to forms with a low markedness level, such as *no+v* and *aux-neg*. Due to its characteristics, *avoidance* should decrease at a very high speed and be replaced by other correct negative constructions or of transition and it can reasonably be expected that by the end of the year the presence of this construction would be close to zero. However, in fact it has shown a very low evolution speed, approximately only a sixth part of that of *aux-neg*. This becomes even clearer when it is realised that only five of the nine participants have shown a reduction in resorting to this strategy.

VIII. A DISCUSSION ON LINGUISTIC CROSS-TRANSFER AND LEARNING SPEED

In this section I will tackle the study of the relationship between learning and evolution speed and linguistic cross-transfer. Given the corresponding relationship which exists between them, it is quite probable that the increased speed of learning in the *aux-neg* method by our Spanish speakers participants, which was on average 2.6, is a reflection of linguistic cross-transfer. These participants easily acquire the *aux-neg* of English due to its closeness to the Spanish equivalent. (I am reading = Yo estoy leyendo). It must be noted that this learning rate has been very high in some subjects. Three of them (1, 6 and 8) show the highest speeds out of all the participants (8.4, 4.9, 3.7) and five can be found amongst the nine highest. I conclude then that the *aux-neg* has shown the highest cross-linguistic transfer of all the constructions of my typology. This is clearer still when the initial level of use *aux-neg* is evaluated, which was, on average, 12.9, a considerably high level.

The cross-linguistic transfer resource lead the participants to a final level of 33.4, which, given the test design, corresponds to the correct level of use.

The average evolution speed in the transition construction, *no+v*, (-1), which in spite of being a non-required (syntactically incorrect) form, is very close to the equivalent Spanish forms (*I no eat = Yo no como), also reflects a significant cross-linguistic transfer (Long, 2003). It is also evident that the use of this form should have decreased much more quickly. This is even clearer when we take into account the high initial levels of this construction. Given that, on average, in the initial test the participants used this form in 41.5% of the answers, it should be expected that the speed of evolution would be much higher. The result of this learning deficiency is that after a year, the participants still used *no+v* in 33.4% of the responses. Our participants, in spite of being aware of the misuse of this construction, at the end of their first year of learning still continue

to use it for a third of the responses. This clearly shows that there is a considerable cross-linguistic transfer.

Transfer is evident in the use of transition form (*no+v*), but even more so is the use of *avoidance*. Given that this is the most inappropriate communication strategy, and that in the majority of cases communication will not be possible and will be rejected by teachers, the participants should quickly stop using it. This need is reinforced by its high initial use, which on average is more than 28.9% of the responses. However, the very low level of evolution speed (-0.4) shows clearly that this is not the case. Our participants kept using it as a strategy, and at the end of the year, all the participants without exception resorted to *avoidance* to a large extent.

The construction *don't v*, with a high average negative learning speed (-1) is atypical. However, given its high degree of markedness, due to the fact that there is no auxiliary verb (*do*) in Spanish to form negation, this negative rate, apart from other factors already mentioned, reflects the negative cross-linguistic transfer going on. It should be noted that this type of transfer has a strong influence because this construction has not only a low initial usage but also that the participants tend to stop using it as they learn.

The construction *analyzed don't* shows similar characteristics to those of *don't v* although not as prominent. The average learning rate (-0.2) signals that there is a tendency to stagnation, although the behaviour differs between the nine participants. Four showed evidence of learning, although slow, two remained unchanged and three suffered a large fall. Negative cross-linguistic transfer is present in those participants who show a low initial usage and later reject these strongly marked constructions.

IX. FINAL LEARNING RESULTS

I am now in a position to analyse the results after a year of study. It will be obtained resolving equations for $t=8$. It can be seen that, apart from participant 8, all the others have shown a high use of *no+v*. On average, after a study course, the participants continued to resort to this transitional construction in over a third of the responses. Following Cancino et al (1978), it was hoped that at this time the level of usage would be close to zero.

Aux-neg is on average around 33%, which shows that the participants finished the first year of learning with an average use which is adequate for this construction. However, there is a large variation in its use among all the participants. Four reached over 44% while three were under 17%.

The forms *don't v* and *analyzed don't* ended with an average use of practically zero. As a matter of fact, only one participant achieved over 10% in the use of these constructions.

Avoidance, on average, took over the fourth part of the responses and its usage has been relatively the same among the nine participants.

The nine participants finished this first year using *no+v*, *aux-neg* and *avoidance* in equal amounts and ignoring the more complex forms *don't v* and *analyzed don't*. This confirms the strong presence of cross-linguistic transfer that I have discovered in the previous sections.

X. CONCLUSIONS

In this report I have approached an L2 acquisition study in terms of consolidated learning, an evaluation of which can be made once the effects of unforeseen and accidental circumstances are reduced to a minimum.

I have found that the straight line fitted by least-squares regression to the information observed appears to apply to the concept of consolidated learning.

Once I had obtained consolidated learning I determined the learning (and evolution) speed, a concept used in L2 literature in generic form. This focus has allowed me to find a precise definition and measure for the learning speed.

I have applied both concepts —consolidated learning and learning speed—to the study of the acquisition of English negation structures and *avoidance* for nine Spanish speakers studying English as FL. Also, I have identified the equations required to evaluate consolidated learning for each of the nine participants in the four negative constructions and in the *avoidance*, as well as the corresponding learning speeds. The higher learning speed corresponded on average to *aux-neg*, while the rates for *no+v* and *avoidance* were lower than those expected. *Don't v* and *analyzed don't* have shown anomalous results and negative learning speeds, which implies a decrease in use. In fact, I have found that the learning rate of *aux-neg* by the participants is almost three times higher than the evolution rate of *no+v* and six times higher than *avoidance*.

Also, I have found a link between learning and evolution speed and cross-linguistic transfer. The high learning speed of *aux-neg* shows a considerable positive cross-linguistic transfer, while the anomalous results of *don't v* and *analyzed don't* show evidence of a strong negative cross-linguistic transfer. In general, the participants in this study have evidenced a strong tendency to resort to cross-linguistic transfer as a direct learning strategy.

References

- Alonso-Vázquez, C. 2003. "Avoidance as a learning strategy". *Forthcoming*.
- Agnello, F. 1977. "Exploring the pidginization hypothesis: a study of three fossilized negation systems" in C. Henning (ed.) *Proceedings of the Los Angeles Second Language Research Forum*. English Department (TESL). University of California at Los Angeles 224-234.
- Bruzzese, G. 1977. "English/Italian secondary hybridisation: A case study of the pidginization of a second language learner's speech" in C. Henning (ed.) *Proceedings of the Los Angeles Second Language Research Forum*. English Department (TESL). University of California at Los Angeles 235-245.
- Butterworth, G.A. and E.M. Hatch 1978. "A Spanish-speaking adolescent's acquisition of English syntax" in E.M. Hatch (ed.) *Second Language Acquisition. A Book of Readings*. Rowley, Mass.: Newbury House 231-245.
- Cancino, H., E.J. Rosansky, and J.H. Schumann 1978. "The acquisition of English negatives and interrogatives by native Spanish speakers" In E.M. Hatch (ed.) *Second Language Acquisition: A book of Readings*. Rowley, Mass.: Newbury House: 207-230.
- Eckman, F. 1985. "The Markedness Differential Hypothesis: Theory and applications" in Wheatley B., A. Hastings, F. Eckman, L. Bell, G. Kruckar and R. Rutowski (eds.) *Current Approaches to Second Language Acquisition: Proceedings of the 1984 University of Wisconsin-Milwaukee Linguistics Symposium*. Bloomington, Ind.; Indiana University Linguistics Club 3-21.
- Han, Z-H. 2000. "Persistence of the implicit influence of NL; the case of the pseudo-passive". *Applied Linguistics*, 21 (1): 55-82.
- Jarvis, S., and Odlin, T. 2000. "Morphological Type, Spatial Reference and Language Transfer". *Studies in Second Language Acquisition*, 22: 535-556.
- Larsen-Freeman, D., Long, M. 1993. *An Introduction to Second Language Acquisition Research*. London: Longman.
- Long, M.H. 2003. "Stabilization and Fossilization in Interlanguage Development" in *The Handbook of Second Language Acquisition*. Oxford: Blackwells 487-537
- Neff, J., Licerias, J. and Diaz, L. 1998. *A Parametric Perspective of EFL Acquisition in Institutional Contexts*. DGICYT (PV94-1096-CO2-02. Madrid-Ottawa.
- Odlin, T. 1989. *Language transfer. Cross-linguistic Influence in Language Learning*. Cambridge: Cambridge University Press.

Odlin, T. 2003. "Cross-Linguistic Influence" in *The Handbook of Second Language Acquisition*. Oxford: Blackwell 436-487.

Saville-Troike, M. 1988. "Private speech: evidence for second language learning strategies during the silent period". *Journal of Child Language* 15: 567-90.

Selinker, L. 1972. "Interlanguage". *International Review of Applied Linguistics* 10: 209-231.

Selinker, L. 1992. *Rediscovering Interlanguage*. New York: Longman.

Tarone, E. 1983. "On the variability of interlanguage systems". *Applied Linguistics* 4:69:82.

Varadi, T. 1973. "Strategies of target language communications: message adjustment". *International Review of Applied Linguistics* 18:59-71.

Young, D.I. 1988. *The Acquisition of English Syntax by Three Spanish Speaking Children*. Unpublished M.A. Thesis. University of California at Los Angeles.

Zobl, H. 1983. "Markedness and the projection problem" *Language Learning* 33: 293-313.

Zobl, H. 1984. "Cross Language Generalisations and the Contrastive Dimensions of the Interlanguage Hypothesis" in Davies, A, Criper, C. and Howatt, A. (eds.) *Interlanguage* Edinburgh: Edinburgh University Press 79-97.

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