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LEXICAL AND GRAMMATICAL ACCESS ERRORS IN THE SPEECH OF INTERMEDIATE/ADVANCED LEVEL STUDENTS OF SPANISH

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This paper is the first known analysis to investigate the lexical and grammatical access errors made by intermediate/advanced level students of Spanish as a foreign language in an American university setting.

The data show that most of the errors committed at this level are paradigmatic in nature, i.e., neologisms, confusion of derivationally related forms, ser/estar, prepositions and conjunctions, and incorrect choice of gender, mood, tense and person.

The most common syntagmatic errors are those involving omission or addition of function words and anaphoric agreement of gender, number and person. In general, these findings concur with other studies of the acquisition of Spanish as a second language by Anglo adults.

1. INTRODUCTION[1]

Of the error analyses of the speech of adults learning a second language that have been published to date, very few studies have been done using Spanish as the target language. Those that have been carried out with Spanish as the L2 for adult native speakers of English, have focussed primarily on the acquisition of grammatical morphemes (Andersen 1984; LoCoco 1975, 1976; Guntermann 1978; Van Naerssen 1980), used first year university oral (Van Naerssen 1980) and written (LoCoco 1975, 1976) data, or used intermediate level oral data gathered from students who had acquired their proficiency in the language partially in a Spanish speaking country (Guntermann 1978, Andersen 1984).

This paper will be the first known analysis to investigate the lexical and grammatical access errors made by intermediate/advanced level students of Spanish as a foreign language in an American university setting. Some of the categories for this present study parallel those in other analyses but many are unique. In the following section on methodology a description of the labels used to categorize the errors in the present work will help elucidate the assumptions and decisions made by the authors.

[1]We would like to thank Ida Cafiero, Robert Chubrich, and especially Tracy Terrell and Linda Waugh for their valuable comments and suggestions on this paper. We are also grateful to Peter Lafford for his help with the graphics. This work was also carried out with the help of a Faculty-Grant-in-Aid from the College of Liberal Arts and Sciences from Arizona State University.

2. Research Design and Methodology

2.1 *Sample selection and the interview*

The study is cross-sectional in design; nineteen students from the second semester of a third year level conversation class sequence in Spanish at Arizona State University (SPA 312) during the Spring of 1986 provided the oral data for this project. Fourteen of the nineteen students were native speakers of English, three were native English speakers exposed to Spanish in the home, one was a native Japanese speaker and one's native tongue was French. Eleven students had had little or no experience in a Spanish speaking country, five had spent a summer or a year or two in such an environment while three came from a Spanish speaking home[2].

The *task mode* for this study consisted of *oral* data elicited from each student in an individual 15 minute interview[3] which served as the final examination for the course. The *task focus* was on natural semi-structured conversation where the manipulation of specific structures was sacrificed in favor of the elicitation of more natural, spontaneous speech. The interview consisted of five open-ended questions which the students chose by lot from a longer list. The questions dealt with their own opinions and reactions to readings they had done throughout the semester.

All interviews were transcribed by the authors. The errors were coded (according to the system outlined below) and then analyzed with the SPSS-x program.

2.2 *Description of error types*

2.21 *Paradigmatic vs. syntagmatic*

The first division of the corpus was made between paradigmatic and syntagmatic errors. If Jakobson (1957) was correct in his assumption about the "cardinal dichotomy in language" involving the operations of paradigmatic selection and syntagmatic combination of linguistic signs to form a communicative utterance, then it seems plausible to categorize L2 errors in this manner.

2.211 *Paradigmatic (selection) errors*

For the purposes of this study, paradigmatic errors will be defined as those made as the speaker attempts to access a lexical or grammatical morpheme which will then be syntagmatically combined to form sentences. When dealing with grammatical morphemes, paradigmatic errors are those made when the speaker selects the sign *for the first time* in the discourse. From the point of view of information theory, it is important to distinguish the initial selection and first paradigmatic introduction of a grammatical

[2]It is hoped that future studies will correlate the linguistic background of many more students with types of errors made. Since the present study only included nineteen informants, it was felt that such correlations found in these data would not be significant.

[3]All interviews were conducted by Barbara A. Lafford, Assistant Professor of Spanish and Linguistics at Arizona State University. She has had extensive experience in interviewing techniques and the use of the computer for linguistic analysis. The errors were transcribed and coded by both Barbara A. Lafford and Joseph G. Collentine (a candidate for a Masters degree in Spanish linguistics at Arizona State University) using a coding system developed by them both.

concept in the linguistic context, from the syntagmatic, anaphoric redundant use of that concept in the discourse[4].

2.2111 *Paradigmatic: lexical*

Lexical errors occur when speakers select from their repertoire of acquired or semi-acquired (semi-bound, Terrell 1986) forms, either the wrong member of the right part of speech category, e.g., *concepción* (noun) for *concepto* (noun), or the wrong part of speech, e.g., *bien* (adverb) for *bueno* (adjective). Learners may also confuse members of closed lexical sets such as prepositions, e.g., *a* for *de* and conjunctions, e.g., *que* for *como*. All of the above confused forms may or may not be formally or semantically related to different degrees. In addition, students may access signs which are only formally related, e.g., *sentar* for *sentir*, or only semantically related, e.g., *saber* for *conocer*[5], to the target forms. Learners may also invent new forms (neologisms) **escribido* for *escrito* or simply use a phrase from their mother tongue or another language they know, e.g., *well* (English) for *pues* (Spanish) and *si* (French) for *tan* (Spanish).

2.2112 *Paradigmatic: grammatical*

Grammatical errors of selection may occur in deictic (shifters) or non-deictic (non-shifters) categories. Jakobson (1971) defines shifters as those grammatical categories that necessarily refer to the particular speech situation for their meaning. Therefore errors of initial selection of person, e.g., "*Yo* tiene" for "*Él* tiene", tense, e.g., "Él se *morirá*" for "Él se *murió*" and mood, e.g., "Es urgente que *va*" for "Es urgente que *vaya*", would fit into the deictic shifter category. Non-deictic paradigmatic grammatical errors, then would consist of errors in the initial selection of gender, e.g., "*el* mujer" for "*la* mujer", number, e.g., "*la* casas" for "*las* casas", aspect, e.g., "Ellos siempre *trabajaron*" for "Ellos siempre *trabajaban*", and voice, e.g., "Él *asesinó* por ella" for "Él *fue asesinado* por ella" in the discourse.

2.212 *Syntagmatic (concatenation and agreement) errors*

Syntagmatic errors are those made in the process of combining signs to form larger utterances. They often occur when trying to refer back to an element already mentioned in the discourse for purposes of grammatical agreement.

The major subcategories include errors of concatenation: the omission and addition of function words (articles, pronouns, conjunctions and prepositions), e.g., "Voy trabajar" for "Voy *a* trabajar", as well as content words (verbs and adjectives); lack of

[4]In his article, "Linear Modification", Bolinger (1952) points out the fact that elements become more predictable (redundant) later on in the sentence: "Elements as they are added one by one to form a sentence progressively limit the semantic range of all that has preceeded" (1117). Therefore, it seems that anaphoric redundant use of a grammatical morpheme may pattern differently from its use when first introduced into the discourse; consequently, these two cases should be classified separately.

[5]Admittedly, it is somewhat arbitrary to say that signs such as *saber* and *conocer* are not formally related since they do share the same infinitival ending. For this study, decisions concerning the interrelatedness of signs based on formal and semantic criteria were generally made by comparing the roots and stems of signs (which contain lexical meaning) rather than their grammatical endings.

agreement (anaphoric concord) in non-deictic (gender and number), e.g., "Las cosas que compramos ayer son *bonito*" for "Las cosas que compramos ayer son *bonitas*", as well as deictic categories (person), e.g., "Nosotros *compran* eso" for "Nosotros *compramos* eso"; the use of incorrect verbal complements, e.g., "sin *perdiendo* la cabeza" for "sin *perder* la cabeza"; the use of the infinitive for a conjugated verb, e.g., "él *poner* todas sus cosas" for "él *puso* todas sus cosas" and word order "*no tienen casi* dinero" for "*casi no tienen* dinero".

These authors do recognize the problems in trying to definitively cast each error as either entirely paradigmatic or syntagmatic, due to the fact that the speaker *selects* as s/he *combines* the signs to form an utterance. Another complicating feature is the lack of necessary mention of the subject pronoun in a discourse situation, which may make the distinction of first mention vs. anaphoric reference to person somewhat hazy. However, since this categorization is a first attempt at creating a structured framework for analysis with future studies, such potential inconsistencies will be allowed as long as they are recognized by the authors and explained to the reader.

3. Analysis of the data

The error analysis that follows makes use of the basic aforementioned categories. Comparisons with other studies will be made where appropriate. It must be reiterated that the conclusions made here are somewhat tentative due to the fact that only nineteen students participated in this study. Future research of advanced students of Spanish acquiring the language in foreign language classroom settings needs to be undertaken to corroborate or refute these findings.

3.1 *Theoretical excursus into the way linguistic signs are stored*

Throughout the following analysis consistent reference will be made to four concepts which will be explicated at this time: formal partners, grammatical paradigms, lexical/derivational constellations and semantic schemata.

All four of these concepts assume (in a Saussurian sense) that linguistic signs are composed of a *signans* (acoustic sound image) and a *signatum* (concept) and that they are bound to the *signantia* and *signata* of other linguistic signs through hierarchical similarity and contiguity relations. *Similarity* relations among signs involve the notion of resemblance, e.g., simile, metaphor, whereas *contiguity* relations are those involving temporal or spatial adjacency, cause/effect, part/whole, etc., e.g., metonymy, synecdoche[6].

For the purpose of this paper we will characterize these four types of sign systems using diagrams. Only the relations pertinent to the particular categorical descriptions are illustrated graphically.

a) *formal partners*: those signs related only by similarity relations among various *signantia* with no obvious semantic similarity or contiguity connections, e.g., *sentar/sentir*. Part-of-speech (P.O.S.) or grammatical features may or may not be similar among the signs in question.

[6]For further explanations of these concepts, see Jakobson, 1956.

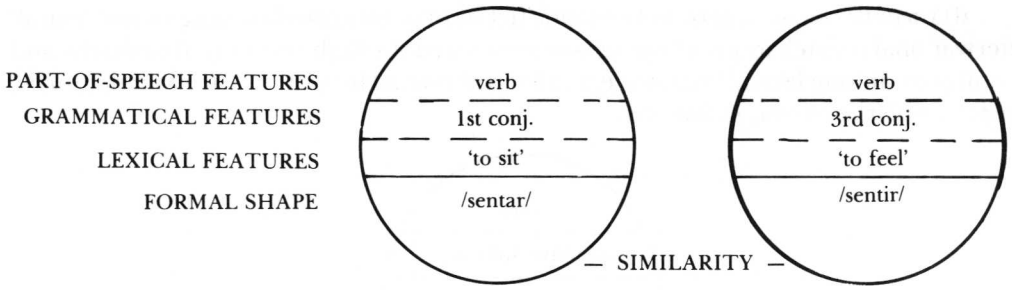

Figure 1.0 Graphic representation of formal partners

b) *grammatical paradigms*: those signs which constitute a grammatical category and are related primarily through similarity[7] relations of markedness among grammatical features in the *signata* of different signs, e.g., the morpheme indicating number in the determiners *los* and *las*. Similarity of form may or may not obtain among these signs.

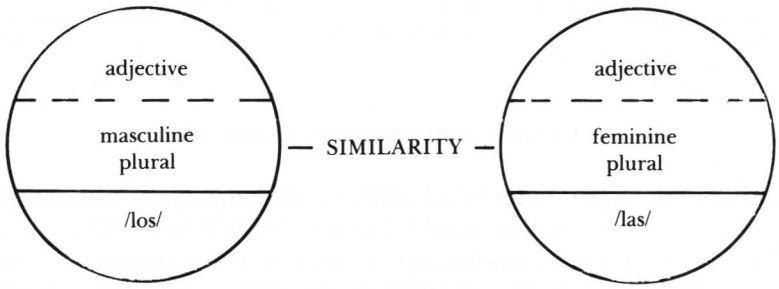

Figure 2.0 Graphic representation of grammatical paradigms

c) *lexical/derivation constellations*: those signs related by similarity relations among the *signantia* and among lexical features in the *signata* (Bybee's 'morphological' relations, 1985). The part-of-speech and grammatical features may or may not be the same, e.g., *universitaria/universidad*.

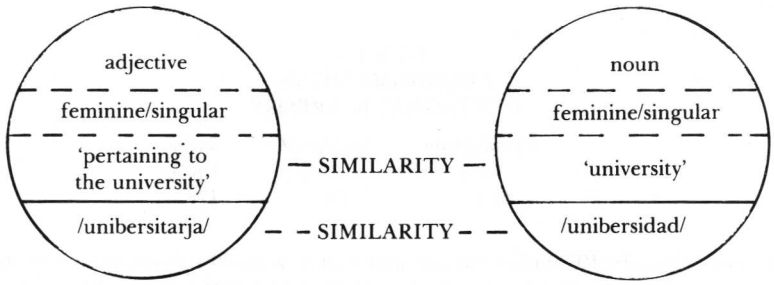

Figure 3.0 Graphic representation of lexical/derivation constellations

[7]Similarity relations also connect signs of "opposite" (dissimilar) meaning, e.g., masculine/feminine in *los* and *las*.

d) *semantic schemata*: groups (semantic fields) of grammatical paradigms and lexical/derivational constellations whose *signata* are related through relations of similarity and contiguity among lexical features, e.g., all terms related to 'writing' such as *carta, pluma, papel, escribir, escritura, escribo*, etc.

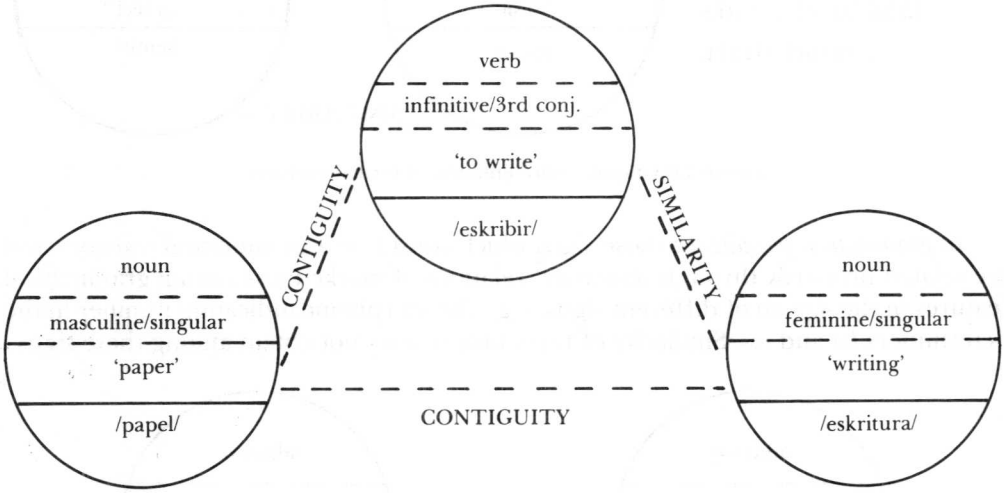

Figure 4.0 Graphic representation of semantic schemata

The notion of the importance of schemata in the language acquisition process has been recognized by other scholars, notably Carrell (1984), Bybee (1985) and Bybee and Slobin (1982). Schema theory studies the retrieval or construction of meaning from structures of previously acquired knowledge (schemata). This paper assumes that as the student acquires more vocabulary his/her schemata adjust to the new additions by accommodating[8] the new forms into existing constellations and paradigms.

3.2 *Paradigmatic vs. syntagmatic errors*

Table 1.0 presents the result of the paradigmatic (selection) syntagmatic (combination) categorization.

Table 1.0
PARADIGMATIC VS.
SYNTAGMATIC ERRORS

	Paradigmatic	*Syntagmatic*	*Total*
%	67%	33%	100%
N	522	256	778

[8]According to Edmonds (1976) the term 'accommodation' is used by Piaget to refer to "the alteration of... established organizations to incorporate more adequately aspects of the environment which are assimilated." In this paper, this term refers to the process by which a new L2 form (sign) is bound to other already acquired L2 forms in formal partnerships, grammatical paradigms, lexical/derivations constellations and semantic schemata. The existing system must accommodate the new sign into its structure and make necessary adjustments in the range of application of existing partially bound signs in order to complete this process.

The data show that two-thirds of the 778 errors were those of initial *selection* of the correct lexical or grammatical morphemes in the discourse. These results corroborate informal observations by these authors that at the advanced level, the basic syntactic patterns of the L2 (Spanish) have been acquired (perhaps in this case partly due to their general resemblance to L1 [English] syntactic matrices, e.g., both are essentially SVO languages) and that most errors occur at the word level involving substitutions of one form for another or the creation of neologisms.

3.3 *Paradigmatic errors: lexical vs. grammatical*

Table 2.0 presents the percentages of paradigmatic lexical and grammatical morpheme errors in the data.

Table 2.0
LEXICAL VS.
GRAMMATICAL MORPHEMES

	Para-lex	*Para-gram*	*Total*
%	62%	38%	100%
N	324	198	522

The data show that two thirds of the errors of selection were monomorphemic lexical morphemes while only a third of the paradigmatic errors dealt with grammatical morphemes.

However, it must be noted that the open-ended nature of the interview did not force the students to attempt any particular grammatical structure such as past tense, subjunctives, etc. The students were free to answer the interview questions in any way they deemed appropriate so they could use avoidance strategies to get around some difficult grammatical morphemes[9].

Therefore, these figures are interesting only from the perspective that they note a very high number of tokens involving lexical substitutions, errors not considered worthy of analysis until recently (Terrell 1986).

3.31 *Paradigmatic lexical errors: a detailed analysis*

Figure 5.0 shows the breakdown of the most common lexical errors. Those categories with less than five tokens each were discarded from the analysis.

[9]Schachter (1974) and Schachter and Celce-Murcia (1977) have pointed out some problems involved in interpreting data from error analyses due to the possibility that the students merely avoid difficult structures while trying to communicate.

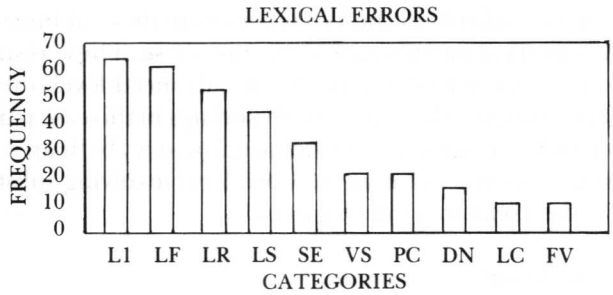

Figure 5.0 Most frequent lexical errors

Table 3.0 presents the same data showing the percentage of all lexical errors each category claims.

Table 3.0
TYPES OF LEXICAL ERRORS
BY PERCENTAGE OF TOTAL

	N	%
L1	63	19
LF	61	19
LR	51	16
LS	42	13
SE	29	9
VS	16	5
PC	16	5
DN	8	3
LC	7	2
FV	7	2
other	24	7
total	324	100

The data imply that lexical errors tend to fall naturally into four categories:

3.311 *Category 1 (most frequent errors-60/63 tokens)*

3.3111 *L1 = use of other language items in the discourse; e.g.,* well/pues; *63 tokens (19% of total-324)*

The most frequent lexical substitution errors seem to be the insertion of items from L1 (or from other languages) into L2 discourse. However, almost half (31) of the 63 errors came from *one* student who nervously sprinkled her L2 speech with the L1 phrase "you know" during the interview. Taking this into account we can still see that uses of L1 items are fairly prevalent in the data, but they should be considered under the *second* most prevalent group of errors (29-42).

3.3112 *LF = neologisms, e.g.,* *escribido/escrito; *61 tokens (19% of total-324)*

It is not at all surprising to find a very high number of neologisms in intermediate/

advanced third year speakers. At this stage, the students have a variety of related forms floating in their heads as well as several 'holes' in their interlanguage system. When a sign is required for which they have no form, students create new words based on patterns found in their own L1 or in the target language itself.

The neologisms in the data can be classified into four categories (*X/Y* should be read as 'incorrect/non-existent *X* was said instead of *Y*'):[10]

a) those based on incorret assumptions about the internal vowel alternations e-ie, o-ue, e-i, o-u, e.g., **pierdio/perdió* and **podo/puedo*.

b) analogical regularization: those attempting to portray the sex of the animate modified element through the use of the 'o' ending to indicate masculine, e.g., **tristo/triste*, **alemano/alemán*, etc. or those which extend a pattern by regularization, e.g., **estes/estos* based on *esta-estas*.

c) approximations of the sound shape by natural processes like those found in normal linguistic change, e.g., **subconcia/subconciencia* (sincope), **debebe/debe* (epenthesis), **perjuicios/prejuicios* (metathesis), etc.

d) those which seemed to be based on L1 interference, e.g., **fundos/fondos* for 'funds', **cachar/recoger* for 'catch', **pictura/cuadro* for 'picture' and **serioso/serio* for 'serious'.

Table 4.0 shows the percentage breakdown of these types of neologisms:

Table 4.0
TYPES OF NEOLOGISMS

Type	*N*	%
a	15	25
b	15	25
c	15	25
d	16	25
Total	61	100

These data would seem to indicate that 75% (45/61) of the neologisms at the intermediate/advanced level stem from acquired patterns of L2 (a,b,c) while only 25% (15/61) can be tentatively traced to L1 interference or transfer (d). We would predict that at lower levels of acquisition more L1 influence would be apparent since those students would not have acquired sufficient L2 patterns on which to base neologisms.

3.312 *Category 2 (29-51 tokens)*

3.3121 *LR-confusion among prepositions, e.g.,* a/para; *51 tokens (16% of total-324)*

Table 5.0 provides data which categorize the type of substitution errors made among the prepositions by the informants.

[10]These categorizations are somewhat arbitrary because many neologisms are the result of a combination of processes simultaneously at work, e.g., **mistirioso* for *misterioso* could be due to L1 interference from "mysterious" /mistiyriəs/ (group d) and/or assimilation of the second vowel /e/ to the other two vowels in the word /i/ (group b).

Table 5.0
SUBSTITUTIONS OF
CERTAIN PREPOSITIONS FOR OTHERS

Prep. used	*Prep. required*	*Total*	%
en	por, de, con, a	17	34
por	para	14	27
a	en, por, para, de, con	9	18
de	por, en, con	6	12
para	de, a, por (2)	5	9
	total	51	100

There are several reasons why the choice of prepositions for a given situation may still be problematic at advanced levels.

In the first place, prepositions are deictic adverbs, function words whose essential purpose is to allow their object(s) to modify in some way (given by the lexical meaning of the prepositions) some other elements(s) in the sentence (Waugh 1976). As *function* rather than content words they are not extremely salient[11] in the input; consequently they may not be focussed on as intently by students of L2 and therefore may be acquired at fairly late stages.

Among themselves, the prepositions form a closed set, opposed to each other by markedness relations through the use of lexical features. Beale (1978) posits that *a* is the unmarked preposition, it gives the least amount of information about the modification relationship obtaining between the modifier and modified, e.g., "Estoy *a* la puerta". "Voy *a* Madrid". On the other hand, Beale posits *en* as only having the feature [dimensionality], i.e., the modified *in* seen in terms of the dimensions of the modifier, e.g., "El gato está *en* la casa".

It is interesting to note that 52% (26/51 tokens) of the time errors were made, the two most unmarked members of the prepositional system (*a* and *en*) were used to substitute for other prepositions. This notion of the acquisition of unmarked forms before marked ones in both L1 and L2 acquisition has been discussed in the literature at great length (Jakobson 1972; Eckman 1977; Rutherford 1982; Pavesi 1986)[12].

Even though the markedness relations that obtain among the lexical features of the prepositions may indeed influence which ones are chosen more often during the acquisition process[13], the data also show that interference from L1 may also play a role

[11]Terrell (1986) and others have mentioned the notion of salience as an important factor in language acquisition. However, no known technical definition of this term appears in the published literature on second language acquisition. Although we are aware that this is a complex and perhaps very fruitful topic for discussion, it is not the purpose of this paper to define this notion exhaustively. For the purpose of our discussion, therefore, we assume salient signs to be those elements in the discourse which the learner notices (for a variety of reasons) more than others. It is our contention that since salient elements are focussed on more by the learner, they may also be acquired first.

[12]Montes Girardo (1974, 1976) also notes the early acquisition of the forms *a* and *en* by L1 speakers of Spanish relative to other prepositions.

[13]Beale (1978) provides a tentative lexical analysis of several Spanish prepositions using features developed by Van Schooneveld (1978) and the notion of markedness. However, more extensive work will have to be done with these prepositions before the precise markedness relations that obtain among them become evident and able to explain findings from L2 acquisition data.

in the selection of one form for another. For instance, table 5.0 shows a very high incidence (17-27% of total) of the use of *por* (formally similar to English 'for') when *para* is required in the context. It seems only logical that if confusion can occur among formal partners in L2 such substitutions would likely take place among elements in L1 and L2 that are formally (and perhaps semantically) related, e.g., '*por*'/'for'.

This fact brings into question rejection of the Contrastive Analysis Hypothesis for all but phonological data (Brown 1980). These prepositional data and the group (d) neologisms support the notion that L1 interference may indeed play a significant role in the process of L2 acquisition even at intermediate/advanced levels in areas other than phonology.

3.3122 *LS = error in the selection of derivationally related different parts of speech, e.g.,* bien/bueno; *42 tokens (13% of total-324)*

The most common error in this category involves the incorrect selection of a member of a lexical constellation of forms for a given syntactic matrix. For instance in the sentence "Voy a la *universitaria*", the adjective form has been substituted for the desired noun *universidad*[14]. When data in this category are more carefully scrutinized, some interesting patterns evolve (table 6.0).

Table 6.0
PART-OF-SPEECH SUBSTITUTION ERRORS

P.O.S. chosen	*P.O.S. desired*	*N*	*%*
(unmarked)	(marked)		
adjective	noun	13	
verb	noun	5	
adverb	adjective	12	
verb	adjective	5	
	subtotal =	35	= 83
(marked)	(unmarked)		
noun	adjective	4	
adjective	adverb	3	
	subtotal =	7	= 17
	total =	42	= 100

Table 6.0 shows that at the intermediate/advanced level when part-of-speech errors are made, most of the time (83%) the sign chosen from the constellation is the form of the more unmarked part-of-speech, i.e., the modifier form is picked over the modified form. According to Van Schooneveld (1960), adverbs are the least marked part of speech, verbs are marked for one feature, adjectives for another feature and nouns carry

[14]The data were checked for simple imitation of the question form in the student's response, e.g., Q: "Le gusta la vida universitaria?" A: "Sí, voy a la universitaria porque me gusta", and *no* such correlation between Q and A was apparent.

both of these features at the part of speech level (Figure 6.0)[15]. Since Van Schooneveld (1978) considers the feature which marks adjectives to be more deictic (marked) than the one that marks verbs, it is not surprising that the more unmarked verbal forms of the constellation are chosen when trying to access the more marked adjectives.

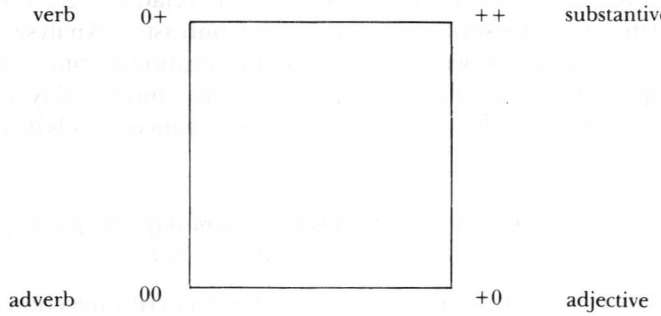

Figure 6.0 Markedness relations among parts of speech
(Van Schooneveld 1960)

3.3123 SE = *confusion of SER and ESTAR; 29 tokens (9% of total-324)*

Table 7.0 shows the breakdown of the confusion of the two copulas.

Table 7.0
CONFUSION OF THE TWO COPULAS *SER* AND *ESTAR*

Copula form chosen	*Copula form desired*	*N*	%
(unmarked)	(marked)		
infinitive-ser	infinitive-estar	5	
soy	estoy	1	
es	está	7	
son	están	3	
fue	estuvimos	3	
eran	estaban	1	
	subtotal =	20	(69)
(marked)	(unmarked)		
estoy	soy	2	
está	es	4	
están	son	3	
	subtotal =	9	(31)
	total =	29	(100)

[15]Van Schooneveld (1960) characterizes the semantic markings which characterize the four cardinal parts of speech as follows:

The data in Table 6.0 are quite supportive of Lafford's study of the copulas (1986) in which she proposes that *ser* is unmarked vs. *estar*. Indeed 69% of the time an error is made in the choice of a copula, a form of the unmarked verb *ser* is chosen to stand for *estar*. It is interesting to note that most of the time confusion occurs in the third person singular form of the verb (also the unmarked member of the paradigm)[16]. The authors are also fully aware that in this case the formal resemblance of the form *es* to the L1 copula form *is* may play a role in the choice of forms.

It is also not surprising that there would be some confusion between two copulas, which have been characterized by Lyons (1968) as 'dummy' verbs void of lexical meaning, serving as the locus for the indication of tense, mood and aspect. While we agree that relative to other verbs the copulas lack lexical substance, we posit that *estar* invariantly carries the feature [dimensionality] (Lafford 1986) and is therefore relatively more lexically marked than *ser*, which does not invariantly carry this quality.

3.313 *Category 3 (16 tokens)*

3.3131 *VS = confusion of verbs which are semantically but not formally related, e.g.,* saber/conocer; *16 (5% of total-324)*

Just as the LS category demonstrated that signs seem to be bound to each other through formal and semantic relations in derivational constellations, the VS category demonstrates that non-formally related verbs are bound to each other semantically (through their signata) in larger schemata which constitute a semantic field. Confusions of the verbs *saber* and *conocer* (both related to the concepts of 'knowing') are typical errors made in this category.

3.3132 *PC = confusion of the correct part of speech among not formally related forms, e.g.,* de/que; *16 (5% of total-324)*

Most of the errors in this category consisted of confusions of prepositions and conjunctions. This type of substitution is not at all surprising since prepositions and conjunctions are functionally similar, i.e., both of these parts of speech are deictic adverbial function words which bring words, phrases or clauses into modification relationships with other elements in the sentence.

...verb and substantive (in contradistinction to their unmarked counterparts, adverb and adjective, respectively) are marked by the fact that they envisage an element of exogenous reality in its entirety, whereas substantive and adjective are marked (in opposition to their unmarked counterparts, verb and adverb, respectively) by the fact that they denote an element of exogenous reality whose existence is ascertainable independently of the time of transmission of the speech message. (41)

[16]See Jakobson (1932) and Waugh (1982) for notion of the third person singular as the unmarked verb form of the paradigm.

3.314 *Category 4 (7-8 tokens)*

3.3141 *DN = confusion of derivationally related nouns, e.g.,* concepción/concepto; *8 (3% of total-324)*

As with the LS category, the confusion of derivationally related nouns in the data testifies to the fact that students at this level are still taking "pot shots at the paradigm". In other words, they have not yet fine-tuned the distinctions among derivationally related forms within the same or different part-of-speech category which constitute a lexical constellation.

3.3142 *LC = confusion of conjunctions, e.g.,* que/como; *6 (2% of total-324)*

Conjunctions, like prepositions, are deictic adverbs which are used as function words to conjoin two elements. Conjunctions join phrases together and are thus less salient in the input the student hears than the content words in less deictic parts of speech (noun, verb, adjective and adverb). As a result of the conjunctions' unobtrusiveness in the input discourse, the student takes a longer time to bind and accommodate these deictic forms.

3.3143 *FV = confusion of two formally (not semantically) related verbs, e.g.,* sentar/sentir; *6 (2% of total-324)*

This last category exemplifies the 'malapropism', the confusion (often made by native speakers) of two formal partners which share no semantic lexical features, e.g., *sentar/sentir*. Other than in verbs there were no incidents of purely formal confusion among members of the same part of speech in the data and only three incidents occurred involving purely formal confusion among different parts of speech.

It is interesting to note that such substitutions among signs which are only formally related are not nearly as common as those which are either only semantically related or semantically and formally (derivationally) related. For instance, Table 9.0 provides a breakdown of errors by the type of relationship that obtains between the target sign and the accessed sign. Target and accessed sign are related:

Table 9.0
BREAKDOWN OF TYPE OF LEXICAL SUBSTITUTION
BY TYPE OF INTERSIGN RELATION

(same P.O.S.)		(different P.O.S.)		Total
Formally only	= 7 (10%)	Formally only	= 3 (5%)	F = 10 (7%)
Seman. only	= 53 (72%)	Seman. only	= 20 (31%)	S = 73 (53%)
Derivationally	= 13 (18%)	Derivationally	= 42 (64%)	D = 55 (40%)
Neither F or S	= 0 (0%)	Neither F or S	= 0 (0%)	X = 0 (0%)
Total	= 73 (100%)	Total	= 65 (100%)	T = 138 (100%)

Within the category of substitutions of signs of the same part-of-speech category only 7 (10%) are the result of purely formal confusion, whereas 53 of the 73 errors (72%) occur when the forms are primarily related only through semantic features. Of these 53 errors, 45 (85%) are the result of confusion among *verbs* (SE = 29; VS = 16) while only 8 (15%) are produced by confusion among nouns (4-7.5%) or adjectives (4-7.5%). The other 3 tokens (18%) in this category are the result of confusion among derivationally related members of the same P.O.S.

On the other hand, when the target sign is a different P.O.S. from the accessed sign, in 42 of the 65 cases (64%) the two forms in question are derivationally (*both* formally and semantically) related. Those signs in this category which are primarily semantically related constitute 20 tokens out of 65 (31%). However, only 3 tokens (5%) occurred involving confusion among signs of different P.O.S. which were only formally related.

It appears, therefore, that *semantic* connections among signs are somehow stronger than purely formal ones since substitutions among signs related through the former are much more common than signs substituted for the latter. The strongest relationships seem to obtain among signs which are either semantically or derivationally connected (see also Bybee 1985: 118). It is also significant that in these data *no* substitutions were made between signs which were related neither by form nor by meaning.

3.32 *Paradigmatic: grammatical*

Table 10.0 and Figure 7.0 present the data for the four most common grammatical errors of selection. Those categories with only five or less errors were discarded from this analysis.

Table 10.0
MOST FREQUENT GRAMMATICAL
ERRORS OF SELECTION

	Gramatical category	*N*	%
(GD)	Gender selection-determiner	101	51
(GM)	Mood selection on verb	41	21
(GT)	Tense selection on verb	15	8
(PV)	Person selection on verb	14	7
	Other (less than 5/category)	27	13
	total =	198	100

As explained in the section on methodology, paradigmatic grammatical errors are those made when the morphemes are *selected* and introduced into the discourse phrase for the first time, e.g., "*El* mujer no viene hoy."

Table 10.0 shows that the overwhelming error of paradigmatic selection is choosing the correct *gender* in the determiner (51% of total grammatical errors of selection). Andersen (1984) has noted the relatively non-essential nature of grammatical gender to the conveyance of vital information. In addition, as a *deictic adjective*, the determiner is a function word which is not particularly salient in the input the learner hears.

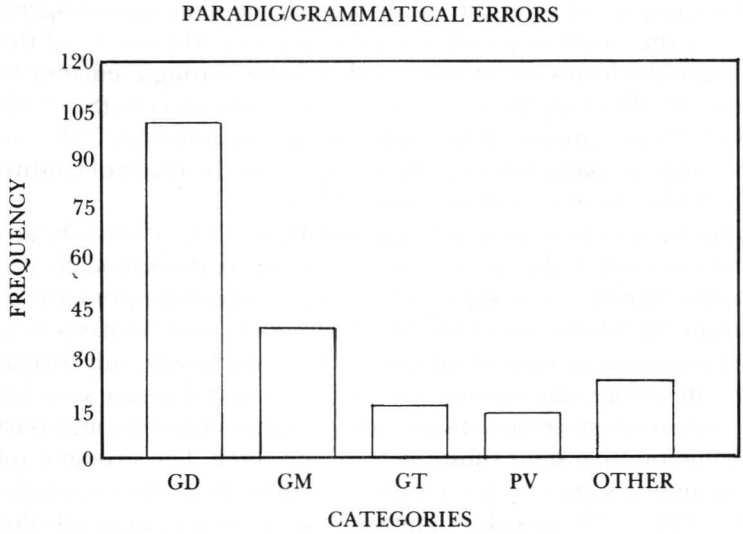

Figure 7.0 Most frequent grammatical errors of selection

Ringbom (1986) proposes that what the learner perceives as salient or redundant in the L2 input is "formed by his L1, and the connections between L1 and L2 items that he makes spring at least partly from his subconscious principle of facilitating the learning task as much as possible by making use of prior relevant knowledge" (159). Ringbom also states "The attainment of receptive competence is clearly facilitated if L1 and L2 have corresponding linguistic categories between which crosslinguistic equivalence can be established. The less there is of such easily perceived, simplified equivalence, the more problems occur at the early stage of learning" (1986: 159).

Since the predominant L1 in question (English) for the most part has no formal indication of gender as a grammatical category in nouns and adjectives (except in the pronoun system to refer to people and animals and occasionally to inanimate objects, e.g., the use of "she" for boats, cars, etc.), it is not surprising that this error should persist well into advanced stages.

The second most prevalent error, that of mood (21% of total grammatical errors), may also be partially attributable to the lack of positive transfer from English, which does not have an elaborated dichotomous system of indicative and subjunctive moods similar to Spanish. Further research should be done on students from different L1 backgrounds learning Spanish as a foreign language to determine if Spanish gender and mood are as hard to acquire by those speakers who have gender and mood as grammatical categories in their native language (e.g., French, German, Russian, etc.).

As mentioned earlier, the data on the deictic shifters of mood, tense and person (all categories of the verb in these data) may be somewhat misleading due to the fact that the interviews were not structured to elicit highly complex tenses, the subjunctive, or certain person endings on verbs (tú, ustedes, usted, nosotros); the students were thus able to avoid more problematic constructions. Given larger samples from each student perhaps a higher number of grammatical errors in these categories would appear.

3.4 *Syntagmatic errors*

Syntagmatic errors may be divided into several large subcategories as shown in Figure 8.0.

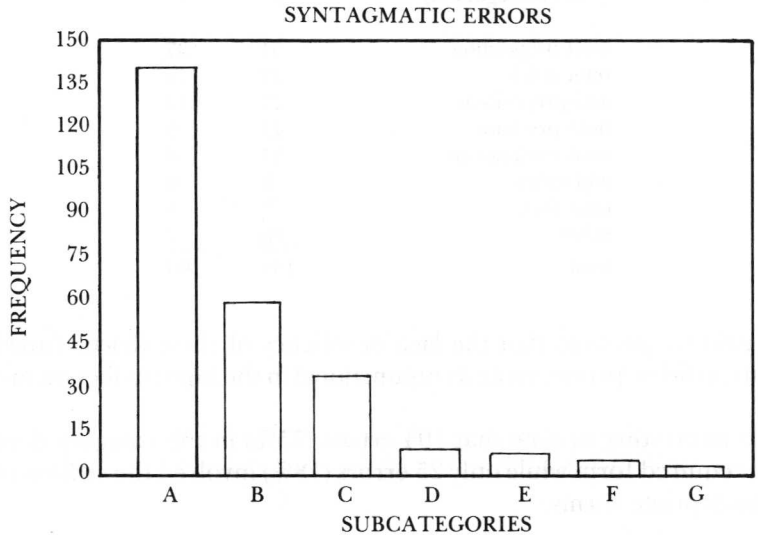

Figure 8.0 Subcategories of syntagmatic errors

Table 11.0 illustrates these data in chart form with percentages:

Table 11.0
SUBCATEGORIES AND PERCENTAGES
OF SYNTAGMATIC ERRORS

Code	*Description*	*N*	*%*
A	omission/addition	139	54
B	number	59	23
C	gender	34	13
D	person	9	4
E	verbal complement	7	3
F	word order	5	2
G	infinitive	3	1
	total	256	100

3.41 *A = omission or addition forms; 139 tokens (54% of data-256)*

Table 11.0 shows that over half (54%) of all syntagmatic errors involved the addition or deletion of forms. The breakdown of category A in Table 12.0 shows that it is comprised mostly of the omission or addition of function words.

Table 12.0
BREAKDOWN OF SYNTAGMATIC
ERRORS - CATEGORY A

Errors (Category A)	*N*	%
omit preposition	51	37
omit article	22	16
add preposition	17	12
omit pronoun	13	9
omit conjunction	11	8
add article	8	6
omit verb	7	5
other	10	7
total	139	100

Once again we propose that the lack of saliency of these deictic function words (prepositions, articles, pronouns and conjunctions) in the input makes them difficult to acquire.

It is also interesting to note that 104 errors (75%) in this category demonstrated *omission* of a required form while only 25 errors (18%) involved the *addition* of unnecessary or inappropriate forms.

3.42 *B/C/D =anaphoric agreement of gender, number and person 102 tokens (40% of total-256)*

Table 13.0 presents data for errors of anaphoric agreement of morphemes involving gender, number and person which refer to other morphemes already introduced in the discourse phrase.

Table 13.0
ANAPHORIC AGREEMENT ERRORS OF GENDER, NUMBER AND PERSON-
CATEGORIES B, C AND D

		md./mfr. (no space)		*md./mfr.* (space)		*total*		
B: Gen.:	N/pro.	0	(0%)	2	(100%)	= 2	(2%)	
Gen.:	N/adj.	6	(19%)	26	(81%)	= 32	(31%)	gen. = 34 (33%)
C: Num.:	N/adj.	2	(12%)	15	(88%)	= 17	(17%)	
Num.:	N/vb.	16	(40%)	24	(60%)	= 40	(39%)	
Num.:	N/pro.	0	(0%)	2	(100%)	= 2	(2%)	num. = 59 (58%)
D: Per.:	N/vb.	2	(22%)	7	(78%)	= 9	(9%)	per. = 9 (9%)
Total		26	(25%)	76	(75%)	= 102		(100%)

Even though there seems to be a higher overall percentage of anaphoric number (58%) errors than gender errors (33%), a closer look at the data willl explicate two different forces at work to produce these results. When looking at gender and number

agreement between nouns and their modifying adjectives, gender (31%) becomes more problematic than number (17%). However, in the context of anaphoric agreement between the verb and its subject, number (39%) seems to be a more difficult grammatical category to encode consistently[17].

Another important part of the data discussion involves the role that syntagmatic proximity of the modifier and modified plays in anaphoric agreement of gender, number and person.

The data clearly show that the greater the amount of space (linguistic material) between the modified (noun) and its following modifier (adjective or verb) or anaphoric referent (pronoun) in the discourse, the more opportunity there is for an error of lack of agreement to occur[18]. For instance, in this study, when there was space (linguistic material) between the modified and its modifier, lack of grammatical agreement was three times more common (76/102-75%) than when the two were contiguous (26/102-26%).

In addition, Table 13.0 demonstrates that of the 32 cases of anaphoric gender disagreement between nouns and adjectives, 26 (81%) of the errors occurred when there were some intervening linguistic elements (space) between the two signs in question, e.g., "La *chica* fue muy *bonito*", while only 6 (19%) gender agreement errors occurred within the same noun phrase, e.g., "la *chica bonito*", with no other words (space) between the modifying adjective and the noun.

Likewise, Table 13.0 illustrates that non-contiguous noun-adjective and noun-verb combinations, e.g., "*Las chaquetas* que compré ayer *es bonita*" show much higher number disagreement (88% and 60% respectively) than when the modifier and modified are next to each other, e.g., "*Las chaquetas son bonita*" and "las *chaquetas bonita*" (12% and 40% respectively).

Finally, Table 13.0 shows that 7 out of the 9 errors (78%) of syntagmatic person agreement between subject nouns and verbs occurred when linguistic material intervened, e.g., "*Los chicos* nunca *venía* a tiempo".

3.43 *E* = *incorrect verbal complement, e.g., "sin* perdiendo *la cabeza"/"sin* perder *la cabeza"; 7 tokens (3% of total-256)*

F = *word order, e.g.,* "no tienen casi *dinero*"/"casi no tienen *dinero"; 5 tokens (2% of total-256)*

G = *infinitive for conjugated verb. e.g. "Él* poner *todas las cosas"/ "Él* puso *todas sus cosas"; 3 tokens (1% of total-256)*

Very few errors of selection of the wrong verbal complement, use of the infinitive for a

[17]Since a higher number of gender errors than tense errors could be due to the fact that there were simply more nouns in the data than verbs, we also "spot checked" the data a different way, i.e., counting the total number of obligatory occurrences of a certain grammatical category and the number of correct and incorrect accessing of the forms desired and found the same result: speakers were least accurate with gender, more accurate with number and most accurate with person. Our future studies will use the latter system of analysis.

[18]The same kind of "out-of-sight/out-of mind" omission of redundant information can be seen in normal native speaker interactions such as the omission of final /s/ in redundant positions in certain dialects of Spanish (Lafford, ms.; Cedergren 1973; Terrell 1977, ms.; Poplack 1979).

conjugated verb and word order seem to occur at this level. This corroborates informal observations by the authors that at the 300 level students seem to have a fairly good control of basic syntactic patterns and they do not make large use of the infinitive form for conjugated verbs. We posit, however, that both of these phenomena would be much more prevalent in lower levels of acquisition[19]. The lack of errors in the choice of verbal complement may be due to the lack of opportunity in the interview to elicit that particular structure in the time allotted.

3.5 *Comparison of paradigmatic and syntagmatic grammatical category errors*

To conclude our discussion of the data, paradigmatic and syntagmatic gender, number and person errors will be compared. Table 14.0 and Figure 9.0 present the necessary data.

Table 14.0
COMPARISON OF PARADIGMATIC AND SYNTAGMATIC GRAMMATICAL ERRORS OF GENDER, NUMBER AND PERSON

	Paradigmatic		*Syntagmatic*		*Total*	*%*
Gender	106	(76%)	34	(24%)	= 140	60
Number	13	(18%)	59	(82%)	= 72	30
Person	14	(61%)	9	(39%)	= 23	10
Total	133	(57%)	102	(43%)	= 235	100

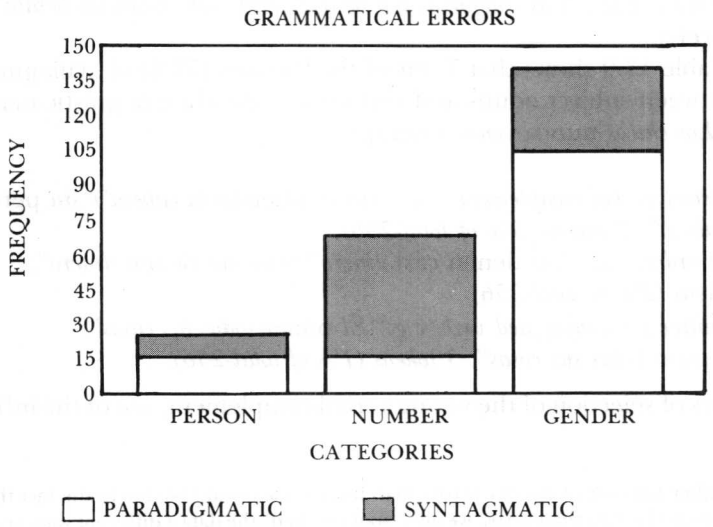

Figure 9.0 Comparison of paradigmatic and syntagmatic grammatical errors of gender, number and person

[19]Informal observation by both Lafford and Collentine of 100 and 200 level speech of native speakers of English learning Spanish as a foreign language at Arizona State University has led us to this conclusion (Collentine, ms.).

Once again the preponderance (60%) of grammatical errors are those involving *gender* (selection and anaphoric agreement)[20]. Paradigmatic errors of gender selection on the determiner and the noun itself (106-75%), far outweigh the incorrect syntagmatic selection of gender in adjectives and pronouns (34-24%) which anaphorically "match" the original selection of gender for the noun in the phrase in question. This again may be due to the opportunities taken by the informants to simply avoid certain adjectives so that they would not be confronted by challenges of syntagmatic agreement. Initial choice of gender on nouns in the discourse situation, however, is more difficult to avoid. Since gender is not a consistent grammatical category in English, such a high number of errors of paradigmatic gender selection in Spanish as an L2 is not surprising.

In the category number, however, the opposite trend obtains, i.e., there are far more errors involving anaphoric agreement (59-82%) than of selection (13-18%). This may be explained by the fact that initial choice of the category number on the chosen noun is not at all problematic for native speakers of English where number is a grammatical category encoded consistently in the noun itself. However, *redundant* number agreement later on in the discourse may be seen (by native speakers of Spanish (see note 18) as well as English speaking learners of Spanish as an L2) as more dispensable vis-à-vis the important information to be conveyed.

In addition, most (40/59 = 68%) of the anaphoric number errors occur when the speakers fail to make the verb forms agree with their subjects. Even if the student uses avoidance strategies to cope with noun-adjective anaphoric number agreement, s/he will *not* be able to communicate by leaving out verbs. Therefore, the speaker is forced to confront this challenge and consequently tends to make more noun-verb anaphoric number errors.

The number of errors made in the initial paradigmatic introduction of the category person into the discourse phrase (on verbs with no previously mentioned subject pronoun or noun) is fairly low (only 14/198 tokens - 7% of total paradigmatic grammatical errors). Since Spanish is a "prodrop" language (no obligatory subject pronoun is required), very often the grammatical morpheme of person is introduced only on the end of the verb; it is consequently considered critical to the understanding of the utterance and may be therefore more likely to be monitored correctly[21].

Thus, one might expect to find more syntagmatic errors of redundant person agreement since the crucial information has already been provided in the utterance. However, when the noun or pronoun previously occurs in the same discourse phrase, only nine anaphoric syntagmatic person agreement errors are made between subject and verb. This may also be due in part to the fact that since Spanish is a "prodrop" language, the overall number of co-occurrences of subject pronouns with their verbs

[20]It is interesting to note that L2 acquisition studies of Spanish by *children* have also shown that gender is mastered after person and number (Boyd 1974; Cathcart 1972; Cohen 1974; Flores 1973; Plann 1976; Ramírez 1976).

[21]As mentioned earlier, the low number of paradigmatic person errors may also be due to the students' ability to avoid much use of the forms *tú, usted, ustedes* and *nosotros* due to the semi-structured nature of the interview which focussed on their own opinions about readings they had done in class. A more comprehensive type of interview might elicit data showing a higher percentage of person errors.

may be relatively scarce. Hence the number of syntagmatic agreement errors would also be reduced.

3.6 *Comparison with other studies*

The only two studies done of oral data taken from adults learning Spanish as a second language with which the present research can be compared are Guntermann's 1978 paper on errors committed by Peace Corps Volunteers in El Salvador who had completed 8-10 weeks of language training while living in the target culture and Van Naerssen's 1980 study of first year university students in the United States learning Spanish as a foreign language.

It is somewhat difficult to compare the present findings with those of the Van Naerssen (1980) study since the data in the latter research were taken from first year students. Nevertheless, Van Naerssen also found a higher number of gender noun-adjective agreement errors than number noun-adjective agreement errors, a good command of noun-adjective word order, a firmer command of *ser* than *estar* and more problems with tense than person in the verb.

On the other hand, the results of the Guntermann (1978) study may more easily be compared with the present analysis since all informants in the Guntermann study had achieved a score of 1+ (currently Intermediate High on the new OPI scale) which is fairly comparable to the level of students in our study.

Table 15.0 reproduces Guntermann's findings and compares them with the data from the present study.

Table 15.0
COMPARISON OF DATA FROM GUNTERMANN (1978)
AND THIS STUDY

	Category	*Guntermann*		*Laf./Col.*	
		N	%	*N*	%
1.	agreement-noun mod. gender/number	232	24.0	155	20.0
2.	agreement-verbs person/number	81	8.4	54	7.0
3.	substitution ser/estar/haber	52	5.4	29	3.7
4.	omission-articles	49	5.1	22	2.8
5.	substitution-preps.	48	5.0	51	6.6
6.	substitution-mode	47	4.9	41	5.3
7.	substitution-tense	43	4.5	15	1.9
8.	substitution-aspect	40	4.1	4	.5
9.	omission-prepositions	31	3.2	51	6.6
10.	substitution-gender noun-pronoun	31	3.2	5	1.0
11.	substitution-infin.	30	3.1	3	.4
12.	omission of *que*	22	2.3	7	.9
13.	substitution tense/mode	16	1.7	—	—
14.	omission-verbs	16	1.7	7	.9
	Total	738	76.6	444	57.6

The similarity in results between the present study and Guntermann's research is striking[22]. In both studies lack of gender and number agreement between a noun and its modifiers were by far the most common errors committed. Both analyses showed that person and number agreement errors between a verb and its subject were the second most common mistakes made. Also fairly frequent in both studies were errors involving mood (mode), confusion of *ser/estar* and the prepositions, and the omission of function words.

The higher percentage of errors involving tense (4.5% vs. 1.9%) and aspect (4.1% vs. 0.5%) in the Guntermann study than in the present study may be due to the more extensive nature of the FSI interview Guntermann used to elicit her data. The other surprising difference between the two studies involves the fairly high number of infinitives (30-3.1%) used for conjugated forms in the Guntermann data compared to the present study (3-4%).

Despite the aforementioned differences in the findings of the two studies, in general, both works found that substitution (paradigmatic selection), syntagmatic agreement and omission of elements were the most frequent types of errors committed by intermediate/advanced level students.

4. Conclusions

The data from this study show that third year university students of Spanish seem to have a fairly good control of the basic syntactic patterns of the language. Most of the errors committed at this level are paradigmatic in nature, i.e., they are errors of *selection* of the correct form from partially bound signs in partially accommodated grammatical paradigms, lexical/derivational constellations and semantic schemata. Neologisms, and confusion of derivationally related forms, the copulas *ser* and *estar*, prepositions, and conjunctions are also common at this level. Errors of initial gender selection are the most common paradigmatic grammatical mistakes, followed by errors of mood, tense and person.

The most common syntagmatic errors are those involving omission or addition of function words and anaphoric agreement of gender, number and person (in that order). The data also show a direct relationship between a lack of syntagmatic contiguity of the modifier and the modified and a high occurrence of anaphoric agreement errors. In general, the above data concur with other studies of the acquisition of Spanish as a second language by Anglo adults carried out by Guntermann (1978) and Van Naerssen (1980).

There is some evidence in these data to support the notion that markedness may play a role in the substitution of certain forms for others, such as the use of *ser* for *estar, a*

[22]Although most of the categories are comparable between the two studies, a few remain asymmetrical. For instance:

1/10: We assume Guntermann included gender and number on the determiner and modifying adjectives in category 1 and only included gender and number on the noun and pronoun themselves in category 10.

3: Guntermann groups together *ser/estar/haber* while this study only studied confusion of *ser* and *estar*.

13: Guntermann posits a combined category tense/mode which the present study does not. In our study, if a form evidenced errors in both categories, e.g., "Es seguro que *tenga* plata en 1959" / "Es seguro que *tenía* plata en 1959", it was analyzed as two separate errors.

and *en* for other prepositions and the use of relatively unmarked parts of speech (e.g., adjectives and verbs) for more marked ones (e.g., nouns).

The data also revive the question of the role that L1 interference may play in the acquisition process, e.g., English based neologisms, the overuse of *por* and *es* (formally similar to "for" and "is", respectively), and the Anglo speaker's difficulty in acquiring the grammatical categories of gender and mood and consequent failure to consistently mark for them correctly in Spanish.

It is hoped that this preliminary study of the interlanguage errors of intermediate/advanced Anglo speakers of Spanish as a second language will serve as an impetus for future research. However, there is still a need for more error analyses at all levels of the second language acquisition process in natural and artificial settings in order to corroborate or dispute the present findings and gain more insight into the complex process of acquiring a second language.

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