

# Dutch teenagers' SLA of English *any*

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## 1. Introduction

Experimental research on adult L2 acquisition suggests that a number of universal syntactic constraints which guide the child in L1 acquisition may in principle also guide the adult in L2 acquisition, long after the critical period for L1 acquisition and bilingualism has passed. Though there is great individual variation as to the degree to which this occurs, and though transfer, fossilization and the absence of universal ultimate attainment, remain the major, unexplained, phenomena of adult L2 acquisition (see, e.g. Gass and Selinker 2001), the general empirical question in research on adult L2 acquisition in the theoretical linguistic tradition is no longer whether or not UG remains active as an LAD in adult cognition, but rather which aspects of it remain active and to what degree (see, e.g. Hawkins 2001). In this regard, it is also worth considering whether any universal semantic constraints may be seen to guide the adult L2 learner. This paper addresses one small piece of this larger question by examining acquisition of the meaning and licensing principle of English *any* by teenage native speakers of Dutch. As we will see below, Dutch does include morphemes which have a similar semantic function. However, there is no simple relationship between these Dutch morphemes and English *any*. In fact, the mapping problem would seem to be far too complex for any UG-ignorant general learning mechanism to discover. Yet, Dutch teenagers do apparently learn the correct function and distribution of *any*.

According to Ladusaw's (1979) classic analysis of it, English *any* is licensed by being in the scope of a monotone decreasing operator. The quantifier *every* has this property for its first, but not its second, logical argument, as shown by the valid and invalid entailments in (1) and (2), respectively. As predicted, *every* licenses *any* within its first, but not its second, logical argument, as shown by the contrast between (3a) and (3b).

- (1) *Every student received a degree* →  
*Every student of linguistics received a degree.*

- (2) *Every student received a degree →  
Every student received a degree in Linguistics.*
- (3) a. *Every student of any subject received a degree.*  
b. *\*Every student received a degree in any subject.*

In contrast, the quantifier *no* is monotone decreasing on both of its logical arguments, as seen by (5) and (6), and licenses *any* within either, as seen by (7).

- (5) *No student received a degree →  
No student of linguistics received a degree.*
- (6) *No student received a degree →  
No student received a degree in Linguistics.*
- (7) a. *No student of any subject received a degree.*  
b. *No student received a degree in any subject.*

As successful and insightful as Ladusaw's analysis appears to be, it encounters a major empirical difficulty when confronted with the so-called "free choice" uses of *any*, such as illustrated in (9). Here *any* does not occur within the scope of a monotone decreasing operator.

- (9) a. *Take any train you want.*  
(cf. *Take whichever/whatever train you want.*)  
b. *A cat can catch any mouse.*  
c. *Any cat that catches a mouse will eat it.*

Kadmon and Landman (1993) propose a unified account of the so-called "negative-polarity" uses of *any* illustrated in (3a) and (7) and its free choice uses illustrated in (9). Under their analysis, *any* has exactly the same semantic content as *a/an* and as such is systematically ambiguous between an existential and a generic interpretation. However, *any* differs from the indefinite article in that it also carries a pragmatic signal that the normal contextual restriction of the domain of quantification is to be maximally increased along some contextually relevant parameter. The underlined DPs in (10a) and (10b) both lexically restrict the domain of quantification to the set represented in (11a). In the case of (10a), however, normal pragmatic rules of accommodation further restrict this to the subset represented in (11b), since inedible apples are normally taken to be irrelevant to the intended proposition. What *any* does in (10b), then, is signal that the normal rules of accommodation do not apply and that, rather, the domain of quantification must be "widened" to, say, (11c). In other words, *any* signals that even apples which would normally be considered irrelevant must be taken into account when determining a truth value for (10b).

- (10) a. *If he finds an apple, he'll eat it.*  
b. *If he finds any apple, he'll eat it.*

- (11) a. {ripe apples, green apples, rotten apples, glass apples, plastic apples, imaginary apples, ... etc.}  
 b. {ripe apples}  
 c. {ripe apples, green apples, rotten apples}

Given this analysis of its function as a pragmatic domain of quantification “widen-er”, *any* is licensed, according to Kadmon and Landman, by a pragmatic principle they call “strengthening”, which may informally be stated as in (12).

(12) **Strengthening Principle**

*Any* is licensed in a sentence *S* if the proposition expressed by *S* entails the proposition expressed by a sentence *S'* which is identical to *S* except that it contains *a/an* instead of *any* and pragmatic restriction is normal.

That the strengthening principle in (12) licenses *any* in (10b) is shown by the entailment in (13), since the DP *an apple* in *S'* is normally pragmatically restricted in reference to only ripe apples.

- (13) *If he finds a rotten or a green or a ripe apple, he will eat it.* →  
*If he finds a ripe apple, he will eat it.*

Similarly, if we assume that the domain of quantification of *every* in *every student* is normally pragmatically restricted to some rather specific set, say (15), but is widened to (14) in the case of (3a), then the licensing of *any* in (3a) follows from the validity of the inference in (16).

- (14) {x|x studies Literature or Linguistics or History or Physics or ... etc.}  
 (15) {x|x studies English Literature or Linguistics in our department}  
 (16) *Every student of Lit. or History or ... (etc.) received a degree.* →  
*Every student of English Literature or Linguistics received a degree.*

In contrast, given that the normal pragmatically restricted domain of quantification of *a degree* is, say, (18), but is widened to (17) in the case of *a degree in any subject*, then the ungrammaticality of (3b) follows from the invalidity of the inference in (19).

- (17) {x|x is a degree in Literature or Ling. or History or Physics or ... etc.}  
 (18) {x|x is our degree in English Literature or English Linguistics}  
 (19) *Every student received a degree in Literature or Linguistics or History or Physics or Computer Science or Law or ... (etc.)* →  
*Every student received a degree in English Literature or Linguistics.*

One particularly appealing aspect of Kadmon and Landman's analysis is that it can easily be extended to offer a principled explanation of the contrasts observed in (20). In (20a–b), we see that epistemic possibility and deontic permission both readily license *any*. (20c–d) show that epistemic necessity and deontic obligation do not license *any*.

- (20) a. *They might have taken any train.*  
b. *The princess may marry any nobleman.*  
c. *\*They must have taken any train.*  
d. *\*The princess must marry any nobleman.*

The assertion of a necessary or obligatory proposition already refers to maximally widened pragmatic domain of quantification. For example, (21a) implies that all kinds of trains are relevant, express trains as well as locals, and (21b) implies that all men of noble birth are relevant, fat ugly stupid ones as well as slender handsome smart ones.

- (21) a. *They must have taken a train.*  
b. *The princess must marry a nobleman.*

Thus, (20c–d) are ill-formed because *any* has no effect. This can be captured by revising (12) slightly as (22) (modification underlined).

(22) **Slightly Revised Strengthening Principle**

*Any* is licensed in a sentence *S* if the proposition expressed by *S* entails but is not identical to the proposition expressed by a sentence *S'* which is identical to *S* except that it contains a DP headed by *a/an*, instead of *any*, with normal pragmatic restriction of reference.

In contrast, *any* has the same semantic effect with possibility and permission modals as it has in non-modal sentences such as (7), or as it has with other modalities, such as imperative mood, as in (9a), capability *can*, as in (9b), or probability *will*, as in (9c).

Adopting Kadmon and Landman's analysis, then, together with the revision in (22), the L2 acquisition question we are going to address in the experiment presented below is whether or not teenage Dutch L2ers of English who know the meanings of the English modal auxiliaries and who are aware of contrasts such as (23) will automatically know that *any* is licensed in contexts such as (20a–b), but not in contexts such as (20c–d).

- (23) a. *John does not know any students in his class.*  
b. *\*John knows any students in his class.*

If this proves to be the case, the success in identifying the correct function and distribution of *any* can plausibly be attributed to the availability in adult cognition of an aspect of UG functioning as an LAD for L2 acquisition.

On the other hand, it must be recognized that Dutch has determiners that can have the same widening function as *any* — as one would expect, if the widener is a semantic universal — and they are licensed in the same way as English *any*, i.e. by the strengthening principle.<sup>1</sup> This raises the possibility that the Dutch L2er of English might acquire correct knowledge of English *any* by means of indirect transfer from their L1, rather than by means of UG. However, the task would not be

simple because there is no single Dutch morpheme which corresponds exactly to English *any* and the correct mapping from Dutch to English is a complicated many-to-many relation. Consider the representative examples in (24) through (36), which have been obtained from Dutch newspapers and books and native speaker informants (NSI).

- (24) *Zij die zaken doen met terroristen zullen geen zaken doen met de VS of enige andere plaats waarop de VS greep hebben.*  
'Whoever does business with terrorists will do no business with the US or with any (\*some) other place where the US has influence.'
- (25) *81 families die al enige dagen en nachten in de openlucht bivakkeerden...*  
'81 families which already (had) camped in the open air for a few (\*any) days and nights...'
- (26) *Ze zijn op geen enkel station uitgestapt.* [NSI]  
'They didn't get off at any (\*some) station.'
- (27) *Enkele honderden meters meer landinwaarts aan Pakistanse kant ligt...*  
'A few (\*any) hundred meters further inland on the Pakistani side lies...'
- (28) *\*Heb je enkel idee? (cf. Heb je enig idee?)* [NSI]  
'Do you have any idea?'
- (29) *Niemand is ook maar ergens heen gegaan.* [NSI]  
'Nobody has gone anywhere (\*somewhere).'
- (30) *\*Ze hadden ook maar ergens kunnen uitstappen.* [NSI]  
'They could have gotten off anywhere.'
- (31) *Ze mogen op welk station dan ook uitstappen.* [NSI]  
'They could have gotten off at any (\*whatever) station.'
- (32) *Welk bedrag u ook kunt missen, alles is welkom.* [NSI]  
'Whatever (any) amount you can afford, that's just fine.'
- (33) *Van Osama bin Laden ontbreekt nog steeds elk spoor.*  
'Still lacking is any (\*every/\*each) trace of Osama bin Laden.'
- (34) *En ze nemen elk een kopje.*  
'And they each (\*any) took a cup.'
- (35) *...dat de samoerai niet zouden aarzelen 'kirisoete' uit te oefenen — hun legale recht iedere boer neer te sabelen en te doden....*  
'that the samurai would not hesitate to exercise 'kirisoete' — their legal right to chop down and kill any (\*every/\*each) peasant...'
- (36) *De dertig soldaten doorzochten ieder huis.*  
'The thirty soldiers searched each (\*any) house.'

Faced with such a complex array of seemingly contradictory facts, it is difficult to see how a general hypothesis testing procedure, whether conscious or unconscious, could ever correctly discern what to transfer from Dutch as the meaning and licensing conditions of *any*. Suppose, for example, that positive evidence such as

(34) and (36) led the learner to hypothesize that the Dutch pair *elk* and *ieder* was in one-to-one correspondence with the English pair *each* and *every* and that, therefore, *each* and *every* had the same potential to function as a widener as *elk* and *ieder*. In this unfortunate circumstance, negative evidence would be required to modify the hypothesis so as to correctly rule out the use of *each* and *every* in contexts such as (33) and (35). Similar but independent learnability problems arise for each of the seven different Dutch expressions in (24) through (36), since each one has another meaning and a distribution quite distinct from that of *any*. In short, the positive evidence is “noisy”. It is loaded with inducements to false overgeneralizations, the correction of each of which would require not only the availability of negative evidence but also its assimilation (uptake) into the IL grammar.<sup>2</sup>

## 2. The experiment

The experiment does not include an independent assessment of the subjects’ knowledge of the meanings of the English modals used in the test sentences, nor of their knowledge of the basic distributional facts represented in (23). We will simply assume that this rudimentary knowledge has already been acquired.

### *Subjects*

The control group for the study consisted of 22 linguistically naive monolingual native speakers of American English (mean age 58 years; age range 13 years to 85 years). The experimental subjects were 96 monolingual Dutch native speaker teenagers (mean age 15 years; age range 14 years to 16 years). The Dutch teenagers had been acquiring English as a foreign language in a classroom context for several years in 2 high schools in the Utrecht area, and before that in various local grammar schools. In the analysis, the teenagers will be divided into 3 concentric groups, “all the students”, “the good students” and “the best students”, on the basis of their percentage of correct grammaticality judgements with six different tokens each of the two control sentence types illustrated in (37). (The surface word order of (37a) is ungrammatical in Dutch, while that of (37b) is grammatical.)

- (37) a. *John sometimes eats pancakes.* (SAV)  
b. *\*John eats sometimes pancakes.* (VAO)

The good students were subjects whose average performance on the control sentences was within two standard deviations of the average of the 22 English native speakers. The best students were subjects whose performance here was within 1 standard deviation of the native speaker average.

### *Design and procedure*

The experimental paradigm was a standard grammaticality judgement task, with special measures taken (i) to reduce a potential confounding effect due to subject uncertainty, (ii) to eliminate a potential confounding effect due to subjects having difficulty imagining appropriate contexts of use, and (iii) to eliminate a potential indeterminacy as to the cause of judgements of ungrammaticality.

First, as is well-known, L2ers often have much less clear judgements than native speakers — in principle possibly no judgement at all — about the grammaticality of a given sentence of the target L2 (Schacter et al. 1976, Chaudron 1983, Gass 1983, Ellis 1991, Gass 1994, Cowan and Hatasa 1994, Davies and Kaplan 1998, Mandell 1999). If a person has no clue as to whether a test sentence is “good” or “bad”, or even if he or she is able to make an “educated guess”, an unknown degree of randomness is introduced into the findings. In an attempt to reduce this sort of confounding effect, the test offered the subjects a three-way response option: “good”, “bad” or “not sure”. However, since the “not sure” response proved to be infrequent, it was later recoded simply as “half correct” (i.e. 0.5, where 0 = incorrect and 1 = correct).

Second, since even native speakers can incorrectly judge a perfectly grammatical sentence to be ungrammatical simply because they fail to imagine a sufficiently large, or a sufficiently sophisticated, set of possible contexts of use, each test sentence was presented in a specific fixed context consisting of one or two preceding sentences.

Third, since even very clear and certain judgements of ungrammaticality do not reveal exactly what caused the subject to find a sentence to be ill-formed, the experimental task was carefully defined by the instructions in (38).

- (38) Read the sentences of each numbered item and circle “bad” if the final sentence in square brackets contains a grammatical error which can be corrected by removing, moving or replacing the underlined word. If the presence or position of the underlined word does not make the sentence ungrammatical, then circle “good”. Circle “???” if you are not sure.

The experiment was presented to groups of experimental subjects in a classroom setting (about 20 students per group) during one of their ordinary English classes. First, instructions were given orally in English, and then repeated in Dutch. Next there was a warm-up exercise consisting of 6 easy-to-judge items such as (39).

- (39) *John doesn't have a bike. [So, he walk to school every day.]*

After practice with the six warm-up items, the subjects individually completed the first 27 test items in silence. This took about 15 minutes. The test materials consisted of three different tokens of each of the two test sentence types (see below), three different tokens of each of the two control sentence types exemplified in (37), and 15 filler items. All items were arranged in a single pseudo random order. 12 items

were grammatical and 15 ungrammatical. Approximately one week after completing the first half of the study, the subjects judged a second set of 27 items of the same kind and arrangement as the first set.

Materials

The two test sentence types, labeled MAG and MAU, are illustrated in (40) and (41). For the MAG sentence type, there were two sentences each containing the modal auxiliaries *might have* (possibility), *can* (as capability) and *may* (as permission). For MAU, there were two sentences each containing the modals *must have* (necessity), *must* (as obligation) and *have to* (as obligation).

- (40) **MAG Condition**  
*The children are not allowed to watch videos.*  
[*They may watch any movie that's on TV, though.*]
- (41) **MAU Condition**  
*There's a snake in the chicken coop and it has a big bulge in its belly.*  
[*It must have eaten any egg.*]

Results

The average percentages of correct judgements under the test and control conditions are summarized in Table 1 (standard error in parentheses).

Table 1. Average percentages of correct judgements

Groups	n	SAV	VAO	MAG	MAU
native speakers	22	97% (2)	89% (4)	94% (2)	85% (3)
all the students	96	71% (3)	56% (2)	58% (3)	69% (3)
the good students	31	92% (2)	70% (3)	61% (5)	69% (4)
the best students	13	95% (2)	80% (3)	64% (8)	67% (7)

On the MAG and MAU test sentences, all experimental subject groups performed significantly worse than the English native speaker control group. However, performance was better than chance in all cases, especially with regard to the MAU sentences. Under this test condition, 99% of the 96 Dutch teenagers (all the students) showed average performance on 6 trials that was between 63% and 75% grammatical. Unexpectedly, the so-called “best students” did not show performance that differed very significantly from chance on the test conditions. This is clearly an artifact of the small size of this subgroup (*n*=13). Evidently, the control conditions VAO and SAV did not achieve their objective of isolating sub-groups of learners



with higher general English proficiency. It seems that acquisition of knowledge of English surface word order constraints is completely independently of acquisition of those aspects of grammatical competence which govern the distribution and interpretation of *any*.

### 3. Conclusion

Although hardly conclusive, the results do suggest that the Dutch teenagers who participated in this study are actively constructing an IL grammar of English, rather than attempting to derive one from their L1 by selecting pieces of Dutch to map onto English. Although significantly worse than native speakers, their performance was also significantly better than guessing. They demonstrated partial knowledge of subtle distributional properties of *any* which are not generally known consciously, even by native speakers, and which certainly are never explicitly taught in English language classes. If UG functioning as a LAD is not responsible for this achievement, what are we to suppose is?

### Notes

1. For example, the Dutch analog of (20d) is also ungrammatical: \**De prinses moet trouwen met welk man dan ook van blauw bloed*. 'The princess must marry any man of blue blood.'
2. An anonymous reviewer objects that the Dutch L2er would already have the "basic idea" of *any* from Dutch expressions like *welk ... dan ook, ook maar enig*, etc. This misses the point. Such rudimentary information derived from the L1 is not going to help the learner solve the mapping problem that arises for any transfer hypothesis. In contrast, there is no mapping problem if the learner, guided by UG qua LAD, is constructing an IL grammar purely on the basis of positive evidence of the target language.

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