

The effectiveness of different types of grammatical exercises in Dutch L2 classroom instruction

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1. Introduction

Several researchers in the field of Second Language Acquisition (SLA) have addressed the question as to whether or not classroom instruction can lead to changes in underlying linguistic competence, and what kind of classroom input is necessary for successful SLA (Felix & Weigl 1991, Hulstijn 1993, Jordens 1993 and in press, Lalleman 1995, Pienemann 1987, Schwartz 1993, VanPatten & Cadierno 1993, White 1991, White *et al.* 1991).

In Schwartz' (1993) view, linguistic competence in a second language (L2) can only be affected by natural positive input, not by explicit instruction or error correction. VanPatten & Cadierno (1993), on the other hand, show in their experiment that L2 linguistic competence is affected by explicit instruction, if instruction is such that learners initially process the input for meaning.

Taking the results of VanPatten & Cadierno as a starting point, we were interested in the way in which grammatical exercises, which normally follow explicit instruction, could possibly affect L2 competence. We report on an experiment in which all subjects were explicitly instructed with focus on form only after meaning and functions of the grammatical phenomenon had been adequately treated, but were presented with different types of grammatical exercises following the explicit instruction.

2. The study of VanPatten & Cadierno (1993)

In VanPatten & Cadierno (1993) an experiment in explicit instruction is described that compares form-focused instruction, or 'traditional instruction', with a form of instruction that VanPatten and Cadierno call 'processing instruction'.

Form-focused instruction involves the explanation and productive practice of a grammatical feature. That is, it focuses on the manipulation of learner output, as can be seen in figure (1):

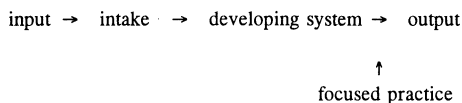


Figure 1: Traditional instruction.

Processing instruction, on the other hand, involves explanation and practice focused on form-meaning connections in comprehension. VanPatten & Cadierno argue that if the intention of grammatical instruction is to alter the nature of the developing system, instruction should try to influence the way input is perceived and processed by the learner. This is depicted in figure 2:

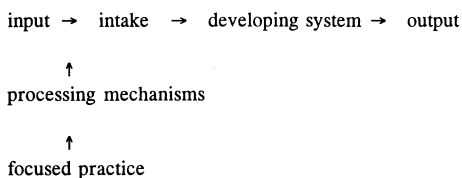


Figure 2: Processing instruction.

According to VanPatten & Cadierno '... intake is that subset of the input that an L2 learner comprehends and from which grammatical information can be made available to the developing system' (1993: 227). That is, in contrast to Schwartz (1993) and Jordens (to appear), they believe that explicit grammatical instruction can influence acquisition, not merely learning.

Interestingly, VanPatten & Cadierno obtain evidence for their hypothesis. They studied the instruction of Spanish object pronouns to American L2 learners, and found that students exposed to processing instruction show gains in both comprehension and production, whereas students exposed to traditional instruction show gains only in production.

3. The present study

One might wonder why students profit from explicit instruction. Is it the explanation of the grammatical feature by the instructor, or the exercises the students do after the instruction? Or is it a combination of both?

In this article we will try to answer this question empirically. Our main research question is the following:

If instruction in a grammatical feature remains the same, do students profit more from exercises in comprehension than from exercises in production, or from mixed exercises?

We have selected the referential functions of the adverb *er* ('there') in order to answer this question. In Dutch, *er* can be used in five different contexts, two of which are purely grammatical.¹ The other three functions of *er* are referential:

- (1) Heb jij echte goede vrienden? Ja, ik heb *er* twee.
Have you really good friends? Yes, I have there two
'Do you have really good friends? Yes, I have two.'
- (2) Woon jij ook in Leiden of werk je *er* alleen?
live you also in Leyden or work you there only
'Do you live in Leyden as well, or do you only work there?'
- (3) Geloof jij dat verhaal van Wim? Ik geloof *er* niets van!
believe you that story of Wim? I believe there nothing of
'Do you believe Wim's story? I do not believe one word of it!'

These three types of *er* have in common that they share their form, position in the sentence and referential meaning; students have to learn both formal and semantic aspects. For instance, they have to learn to search for possible referents of *er*, to place the referential *er* in the correct position (which differs from the position of grammatical *er*, see note 1) and they have to learn that *er* may be part of a prepositional phrase (such as *er* *van* in (3)).

*3.1. The experiment: general lay-out.*² Our experiment was carried out in five phases. The first phase consisted of a pretest, in which it was established what knowledge the subjects had of *er* before instruction. In the second phase instruction took place. The third phase is our main point of interest: in this phase the subjects were divided into three experimental groups, each being set different

¹ Examples of grammatical *er* are the following:

- (1) Er loopt een meisje op straat.
there walks a girl on street
'A girl is walking on the street'
- (2) Er wordt gezegd dat zij een beetje gek is.
there is said that she a little crazy is
'It is said that she is a little crazy'.

² We thank the teachers who were willing to participate in our study, either in the study itself or in the matching of the tests before the experiment took place: Erna van Bekhoven, Camille Krone, Marjan Meijboom, Lotty van Minnen, Adriaan Norbart, Jan de Vries, Marjolein Wesselo en René de Zeeuw.

types of exercises for the grammatical feature. The fourth and fifth phase consisted of posttests, the latter carried out one month after phase four. Schematically:

Table 1: General lay-out of the experiment.

phase 1	pretest (20 minutes)
phase 2	instruction (20 min)
phase 3	exercises 3 experimental groups apart (30 min)
phase 4	immediate posttest (20 min)
phase 5	delayed posttest after a month (20 min)

3.3. Subjects. Three first year university-level Dutch classes at the university of Leiden and the university of Amsterdam were selected for inclusion in the present study (N=88). The classes were each divided equally among the three treatment groups: these groups were given exercises in comprehension only, exercises in production only, or exercises in both comprehension and production. The regular teachers of the classes were asked to classify their students into three levels: good, average and weak, and we assigned them accordingly to the three treatment groups, so that all groups contained the same number of good, average and weak students. The native language of the subjects varied: we had students with a Germanic language background (Swedish, German, Norwegian, English, Danish), with a Romanic language background (French, Spanish and Italian), with a different Indo-European language background (Greek, Servo-croatian, Polish) and with a non-western language background (Arabic, Turkish, Japanese, Chinese, Farsi, Persian, Indonesian). The three treatment groups contained approximately the same number of subjects from each of these three groups.

3.4. Instruction, exercises and tests. The instruction was given by the regular teachers of the students, but was very similar for all students, because the teachers were provided with a handout, which they had to follow step by step (a shortened version, partially translated, has been included in the appendix). The referential meaning of *er* was explained by means of examples, before the students were instructed with respect to the position of *er* in the sentence. The time spent on the instruction was the same for all subjects (20 minutes).

The exercises of the first group, the *comprehension group*, focused on the understanding of the referential meaning and the position of *er* in the sentence, by asking for the referent of various occurrences of *er* in a text, and by asking students to indicate the correct position of *er* in a multiple choice task. At no point did these exercises involve the production of *er* by the subjects.

The exercises of the second group, the *production group*, focused on the correct production of *er*. Students were asked to answer questions such as 'Hoeveel romans van Reve heb je gelezen?' ('How many novels of Reve did you read?'), where the use of *er* in the answer is obligatory, e.g. 'Ik heb *er* twee/geen enkele gelezen' ('I read two/none of them'). The other exercise of this group consisted of a replacement task, in which an italicized constituent had to be replaced by *er*. In this exercise, students merely had to place *er* in the correct position of the sentence; in fact they could perform this task without fully understanding the referential possibilities of *er*.

The third group, the *mixed group*, did exercises in both comprehension and production: in one exercise they were asked to name the correct referent of *er* in a text, and in a second exercise they had to replace an italicized constituent by *er*.

The pretest and both posttests were similar in form; they consisted of a comprehension test and a production test. In the comprehension test the students were asked to read a short story, and answer seven multiple choice questions about that story afterwards, e.g.:

(.....) Achter haar liep een jonge man die zei: 'Goedendag, beste heren! Ik ben prins Willem en ik ga met Sneeuwwitje trouwen. Ik wil graag dat jullie ons komen bezoeken op mijn kasteel'.
'Daar zeggen we niet direct ja op. We moeten er (2) eerst eens over nadenken,' antwoordden de dwergen. 'Het is vast ver weg, en het zal wel erg koud zijn in uw kasteel.' (...)

'.... Behind her a young man entered the room, saying: 'Good day, folks! I am prince William and I plan to marry Snowwhite. I would like you to come and visit us in my castle'.
'We cannot accept that invitation right now. We have to think about it first', the dwarves answered.
'It is probably very cold in your castle'. (....)'

er (2) refers to:

- a that Snowwhite is planning to marry the Prince
- b the visit to the castle
- c the situation in the castle

Answer (b) is correct.

The last two questions of the comprehension test focus on the understanding of the placement rules of referential *er*. An example:

In line 3 you read the following sentence 'Gelukkig dat jullie er zijn' ('I am glad that you are here'). This sentence can be replaced by: *Gelukkig dat jullie zijn er*.

- a the italicized sentence is correct, because *er* can be placed immediately after the conjugated verb.
- b the italicized sentence is incorrect, because *er* can never be placed at the end of the sentence.
- c the italicized sentence is incorrect, because *er* should be placed behind the subject in a subordinate clause.

Answer (c) is correct.

The production test consisted of six sentences in which the students were asked to substitute an italicized constituent by *er*, e.g.:

Wil je me zo snel mogelijk over *je besluit* inlichten?

'Would you be so kind as to inform me about your decision as soon as possible?'

correct response: Wil je me *er* zo snel mogelijk over inlichten?

So whereas the comprehension test focuses on the understanding of the referential meaning of *er* and its position in the sentence, the production test focuses on the correct placement of *er* in the sentence.

The three tests were matched before the experiment took place, to be sure that texts and sentences were similar in degree of complexity.

3.5. Scoring procedures. Raw scores for each subject were calculated for both the comprehension tests and the production tests. For the comprehension tests, each correct response to the 7 test items was given a score of 1 point; incorrect responses received no score. Subjects who scored 7 points in the pretest were eliminated from the study, because it would be impossible to gauge the impact of instruction on their knowledge.

With respect to the production tests, each correct response to the 6 test items was given a score of 1 point, and incorrect responses a score of 0 points. As with the comprehension test, subjects were eliminated from the study if they scored 6 points on the pretest.

3.5. Data analysis. Raw scores of the comprehension and the production tests were submitted to two separate 3 x 3 analyses with Group (comprehension, production, comprehension and production) and Time of testing (pretest, immediate posttest and delayed posttest) as the within-subjects factor. Post-hoc *t*-tests were carried out where necessary.

4. Results

After eliminating all subjects who missed a posttest or scored the maximal score on the pretest, the results of 38 comprehension tests and 52 production tests were analysed.

T-tests conducted on the pretests revealed no differences between the groups before instruction ($p \geq .2$ in all cases). Therefore, we may conclude that any comparative effects due to instruction and exercises are not related to prior knowledge of any one group.

4.1. Comprehension test. The analysis of variance conducted on the raw scores of the comprehension tests yielded a significant main effect for Time of testing ($df=2$, $F=15.8$, $p=.000$), no effect for Group ($df=2$, $F=.15$, $p=.86$), and no significant interaction between Time of testing and Group ($df=4$, $F=.88$, $p=.48$). The results are displayed graphically in Figure 3, and the means and standard deviations of the scores in each group are displayed in table 2.

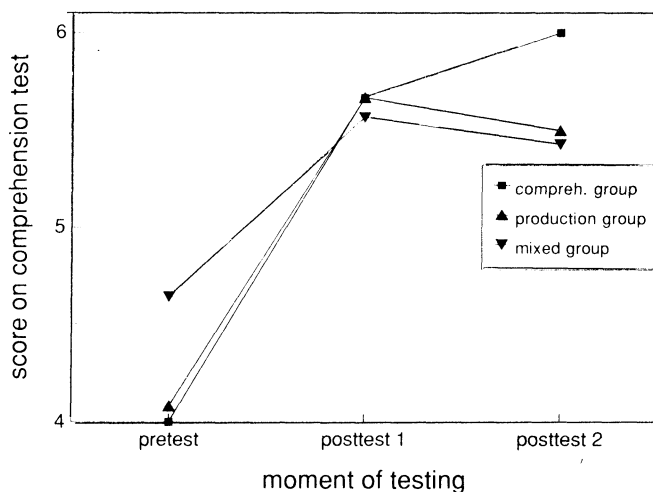


Figure 3: Results of the comprehension tests.

Posthoc *t*-tests revealed that the effect of the Time of testing could be ascribed to the significantly higher scores for the posttests in comparison to the pretest-scores, while the immediate and delayed posttests did not differ significantly from one another.

Table 2: Results of the comprehension tests: means and sd.

	COMPREHENSION GROUP (N = 14)		PRODUCTION GROUP (N = 10)		MIXED GROUP (N = 15)	
	means	sd	means	sd	means	sd
pretest	4.0	1.5	4.1	1.1	4.6	1.2
immediate posttest	5.7	1.0	5.7	1.1	5.6	1.0
delayed posttest	6.0	1.5	5.5	1.2	5.4	1.3

In short, all groups show similar gains in their passive knowledge of *er* from instruction and exercises, although the latter were varied systematically between the three groups.

4.2. *Production test.* The ANOVA with repeated measures conducted on the raw scores of the production tests also revealed that the Time of testing significantly affected scores ($df=2$, $F=37.9$, $p=.000$), that no significant effect was obtained for Group ($df=2$, $F=.94$, $p=.91$), and that there was no significant interaction between Time of testing and Group ($df=4$, $F=.65$, $p=.63$). The results are displayed graphically in Figure 4, and the means and standard deviations of the scores in each group are displayed in Table 3.

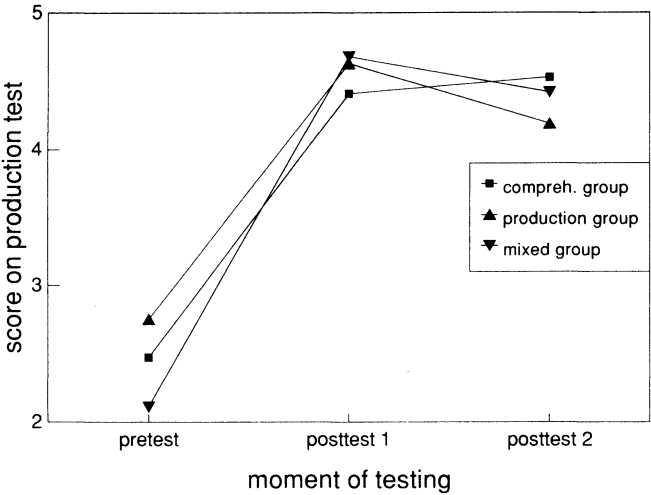


Figure 4: Results of the production tests.

The results of the production tests are to a large extent comparable to those of the comprehension tests, in that the effect of Time of testing could be ascribed to posttest scores being significantly higher than pretest scores, while there was no significant difference between the two posttests.

Table 3: The results of the production tests: means and sd.

	COMPREHENSION GROUP (N=17)		PRODUCTION GROUP (N=16)		MIXED GROUP (N=19)	
	means	sd	means	sd	means	sd
pretest	2.5	1.7	2.8	1.6	2.1	1.2
immediate posttest	4.4	1.8	4.6	1.4	4.7	1.0
delayed posttest	4.5	1.5	4.2	1.2	4.4	0.8

Summarizing, all groups show similar improvement in the students' active use of *er* prompted by instruction and exercises, although the latter were varied systematically between the three groups.

5. Discussion

In discussing their results, VanPatten & Cadierno write:

We (...) believe that (...) traditional grammar presentation and practice do not enhance how learners process input and therefore do not provide intake for the developing system. Instead, traditional instruction results in a different knowledge system. (1993:238)

Note that the term 'traditional' refers to instruction that involves explanation and productive practice of a grammatical feature. VanPatten & Cadierno argue that their data support Krashen's (1982, 1995) ideas, in that traditional instruction results in a different knowledge system than can be used in on-line production. In terms of Schwartz (1993), it means that traditional instruction results in *learned linguistic knowledge*, but not in linguistic competence.

The present experiment was set up to study the acquisition of a grammatical phenomenon in Dutch. We assumed that students do not profit from traditional

grammar presentation, and would be better served with instruction which is focused initially on the functions and meaning of a grammatical feature. We did, however, question VanPatten & Cadierno's conclusion that at no point in grammatical instruction would productive practice lead to L2 competence. In our study, therefore, all subjects were instructed explicitly with focus on form only after meaning and functions had been treated, but were presented with different types of grammatical exercises following the instruction. From the results of the experiment we infer that our reservations were sound: productive practice resulted in an improvement in knowledge of a grammatical phenomenon similar to that observed after interpretation practice and after a mixture of both types of exercises. We therefore claim that any practice, provided that it is preceded by instruction focusing on the meaning, functions and formal aspects of a grammatical phenomenon, improves L2 knowledge. Furthermore, we assume that this knowledge ultimately leads to the *acquisition* of the phenomenon, although the results of our experiment do not provide unequivocal evidence for this view. The assumption is based on the fact that the effect of instruction and exercises was still present a month after the instruction. We have shown that instruction, followed by various types of exercise, leads to comprehension and production under controlled conditions. We have not shown that spontaneous production improves with instruction. This, however, was not our goal. We were interested in the question whether the *competence* of L2 learners improves with instruction, which it clearly does. The referential possibilities and placement rules of *er* are rather complex. Both the comprehension and the production tasks were far from mechanical, and require purely *linguistic* knowledge. Since the progress our subjects made after instruction proved to be rather spectacular, it is simply more logical to assume that this improvement eventually leads to acquisition, rather than to assume it does not lead to acquisition. We do not claim that any grammatical feature can be acquired. It is even probable that parts of the grammar are 'unacquirable'. We do, however, claim that the unmarked situation in the right kind of grammar instruction is that it facilitates and accelerates acquisition. We therefore do not support the ideas of Schwartz (1993) and Jordens (1993), who claim that the knowledge L2 learners gather from formal instruction simply *cannot* result in acquisition, because only natural positive data 'can feed into the language module' (Schwartz 1993: 157). We believe that acquisition might be blocked only in exceptional cases, and then not as a result of the way in which the brain works, but rather because of the interaction of various factors - some linguistic, others non-linguistic - the opposition between a subject's native language and the L2 being one of the most prominent. This hypothesis, and, more crucially, the question *which* parts of the grammar it concerns and why, will be the subject of further research on our part.

6. Conclusion

We reported on a study in which subjects were explicitly instructed with focus on the meaning and functions of a grammatical phenomenon in Dutch — referential *er* — and were presented with different types of grammatical exercises following explicit instruction. We found that productive practice, interpretation practice, as well as a mixture of both types of exercises all result in a marked improvement in the knowledge of referential *er*. We hypothesize that any practice, provided that it is preceded by instruction that focuses on form only after meaning and functions have been adequately treated, will in most cases lead to an improved L2 competence.

Appendix: Instruction³

I Referents of *er*

The adverb *er* has three referential meanings. The referent of *er* can be inferred from the context.

- 1) *er* refers to a location (locative *er*):
Ik houd van Amsterdam, maar ik ben blij dat ik *er* niet meer woon.
er = *in Amsterdam*
- 2) *er* refers to persons or objects in combination with a numeral; it is used to refer to a number of persons or things (partitive *er*):
Don Giovanni heeft in Italië 640 vriendinnen, maar in Spanje heeft hij *er* 1003.
er = *vriendinnen*
- 3) *er* refers to objects or a complete sentence in combination with a preposition (in, on, for, after etc.):
- Heb je al over het voorstel nagedacht?
- Ja, ik heb *er* al over nagedacht.
er = *het voorstel*
Kom je vanavond een kopje koffie bij me drinken?
Sorry, ik heb *er* geen tijd voor.
er = *vanavond een kopje koffie bij me komen drinken*

II Position of *er* in the sentence

a *er* is placed directly after the conjugated verb in main clauses:

Ik reis vaak met de trein. Ik zit *er* meestal te lezen.

exceptions:

- i. *er* is placed after the subject, if the subject appears after the conjugated verb:
Gisteren bezocht ik Rotterdam. Daarvoor was ik *er* heel lang niet geweest.

³ Owing to lack of space, the examples are here given in Dutch only.

- ii. *er* is placed after pronominal (indirect) objects (mij/me, jou/je, hem/'m, haar/d'r, het/'t, ons, jullie, hen, hun, ze):

Ik heb twee exemplaren van de Volkskrant van vandaag. Ik geef je *er* een.

- b *er* appears directly after the subject in subordinate clauses; the conjugated verb appears in sentence-final position.

Ik reis vaak met de trein, omdat je *er* lekker kunt zitten lezen.

exception:

Pronominal (indirect) objects (mij/me, jou/je, hem/'m, haar/d'r, het/'t, ons, jullie, hen, hun, ze) are placed in front of *er*:

- Mag ik een van je exemplaren van de Volkskrant van vandaag?

- Ik heb er nog maar één. Ik dacht dat ik je *er* al één had gegeven.

- c *er* is placed in its usual position in combination with a preposition; the preposition appears at the end of the sentence, but in front of infinitives and past participles.

- Kan jij *tegen* weinig slaap?

- Nee, ik kan er niet goed tegen.

- Ga je mee naar de film vanavond?

- Nee, ik heb er niet zoveel zin in.

- Denk je dat Gerard al met Maarten *over* die kwestie heeft gesproken?

- Ja, ik geloof dat hij er al met hem over heeft gesproken.

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