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The Effects of Explicit Training on the Production of the Word Order for Adverbs of

Place and Time in English by Dutch Learners of English

BA Thesis

Utrecht University

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Acknowledgements

Abstract

This study aims to investigate whether Dutch pupils learning English as a second language (L2) will improve in their production of the word order for adverbs of place and time in written English after having been exposed to various kinds of explicit training. While formal education nowadays focusses more on implicit instruction (II) and a communicative approach, many studies have shown that explicit instruction (EI) is effective and beneficial for L2 learners. The goal of this research is to determine whether receiving various kinds of explicit training with regard to the word order for adverbs of place and time in written English has a positive effect on learning for Dutch learners of English, and if so, which kind of training is more effective. The experiment contained two types of training – contrastive analysis-based training and English-grammar-based training. In the contrastive analysis-based training, based on the Contrastive Analysis Hypothesis (CAH), the participants received training on the differences and similarities between Dutch and English rules regarding the word order for adverbs of place and time. In the English-grammar-based training, however, participants only received training about these rules in English. This research attempts to test whether the weak version of the CAH can be useful in formal education, compared to EI on English rules only, and no training at all. The CAH posits that L2 difficulties can be explained by differences between the first language (L1) and the L2. The strong version of this hypothesis has been criticised and subsequently rejected by many researchers. However, there is little research about the use of the CAH in the context of formal L2 teaching (McManus & Marsden, 2019). The participants in the experiment were twenty-nine pupils, aged twelve to fourteen, from the Dr.-Knippenbergcollege in Helmond. They were all enrolled at HAVO level and were in their second year. In the experiment, one group of participants received contrastive analysis-based training, a second group received English-grammar-based training, and a third group received no training. Through a between-groups controlled pre-test / post-

test design, we assessed whether the pupils had improved in their production of the word order regarding adverbs of place and time in written English in the post-test, compared to their performance in the pre-test. The pre-test and the post-test both consisted of a Sentence Order Task, in which the participants had to rearrange sentence chunks into the right order. Each test item contained one adverb of place and one adverb of time. The participants scored correctly if all parts were in the right order, and incorrectly if one or more parts were not in the right order. The results showed that pupils who received training were significantly more likely to score correctly in the post-test compared to pupils who received no training. However, results also showed that there was no significant difference in learning between the contrastive analysis-based training group and the English-grammar-based training group. The results thus show that while EI is beneficial for pupils, the type of training that pupils undergo does not matter for this grammatical feature.

Theoretical Background

Second Language Acquisition

Second Language Acquisition (SLA) can be defined as "attempts by L2 learners in acquiring/learning an additional language that is not their first in formal and informal settings" (Saengboon, 2004, p. 12). There are various ways in which L2s are taught in formal education, with possibly the biggest distinction between implicit instruction (II) and explicit instruction (EI). Whereas EI used to be favoured in formal education, especially for the teaching of grammar, II has gained a lot of attention in recent years, with the communicative approach to teaching becoming increasingly popular (Başöz, 2014). Başöz (2014) found that many prospective English language teachers favour II over EI, because they feel that pupils should experience authentic situations in order to correctly learn the grammar of an L2 and be able to actually use this knowledge. This is in line with the communicative approach, which states that the teaching of an L2 should focus more on use rather than meaning (Swan, 1985).

With this approach gaining interest, EI shifted to being perceived as boring and unfruitful. However, this research aims to find out whether EI is still a useful and beneficial way of teaching the grammar of an L2. Moreover, it attempts to test whether a certain type of EI is more effective than another type.

Explicit Instruction

Van Daele (2005) defines EI as "the provision of metalinguistic descriptions and explanations of grammatical features" (p. 236). This entails that a teacher explicitly states the rules of grammatical topics to make the L2 learners aware of these rules. When receiving EI, L2 learners become more attentive of the rules of the language and they will learn them consciously. This conscious awareness includes noticing ungrammaticality, using pedagogical grammatical descriptions and analogical reasoning, acquiring metalinguistic insights in language, and obtaining automized skill resulting from guided practice (Ellis, 2006). These skills result in a higher level of attainment in the L2 and more metalinguistic knowledge. According to Roehr and Gánem-Gutiérrez (2009), metalinguistic knowledge about the L2 is "a learner's explicit knowledge about the syntactic, morphological, lexical, phonological, and pragmatic features of the L2" (p. 165).

A way of instruction that distinctively differs from EI is implicit instruction (II), which occurs when the rules of a grammatical feature are present during an exercise but are not overtly explained and paid attention to (Hulstijn, 2005). Besides either an exclusively explicit or implicit way of teaching, there are also types of instruction that include both II and EI, such as Focus on Form Instruction (FFI) (Radwan, 2005). FFI is a type of EI that "attempts to draw learners' attention to the formal features of the target language as they arise incidentally in lessons whose overriding focus is on meaning, or communication" (Radwan, 2005, p. 71). Ellis (2006) claims that this type of instruction, one where II and EI is mixed, is the best way to teach grammar.

Several studies have shown results in favour of EI. Radwan (2005) showed that pupils who received EI performed better than pupils who only received II. Furthermore, Radwan (2005) found that a high level of consciousness and awareness benefited language development greatly. Ellis (1989) also compared EI to II, and found that pupils who received EI achieved a higher level of communicative ability in a shorter amount of time compared to pupils who received II. Lastly, Robinson (1995) found that pupils who received EI scored slightly higher than pupils who only received II. Based on the results of studies comparing EI and II, Fernández (2008) suggests that while EI may not be necessary, it may accelerate the speed in which certain structures are processed by L2 learners.

The current research intends to contribute to the debate on the effectiveness of EI, compared to II, by focussing on a contrastive analysis-based type of EI and comparing it to an English-grammar-based type of EI. In the contrastive analysis-based type, the rules of the L1 and the L2 are compared and contrasted, in order to make these rules, and especially the discrepancy between the L1 and the L2 in these rules, more visible and attainable for L2 learners (Rustipa, 2011). This type of EI originated from the belief that L1 transfer greatly influences L2 learning (Rustipa, 2011).

First-Language Transfer

Odlin (1989) defines L1 transfer as "the influence resulting from similarity and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired" (p. 27). There have been many theories regarding the exact influence of the L1 on the acquisition of an L2. One of these is the Processability Theory (PT), which proposes that L1 transfer only happens when the required processing procedures for a given structure are available for the learner (Pienemann, 2005). A study by Pienemann (2005) showed that participants with related L1s and L2s did not transfer structures in the beginning, but only did so once their interlanguage had developed further and contained the

required procedures in order to transfer those structures. This provides evidence that L2 learners first need to acquire certain processing procedures before being able to transfer structures and forms from the L1 to the L2. Another theory of L1 transfer is the Competition Model, which presumes that anyone learning an L2 needs to detect the specific relationship between certain linguistic forms in a language and their communicative functions (Bates & MacWhinney, 1987). This model assumes that a large part of the L1 is transferred when learning an L2, especially in areas such as phonology and lexicon (MacWhinney, 2005). This kind of transfer has short-term gains, as it allows for acceptable communication in the L2. However, it becomes counterproductive in the long term, since it inhibits the realisation of a correct L2 lexicon. MacWhinney (2005) claims that the Competition Model explains the difficulty that adults face when learning an L2, since they already have a full L1 system in place that constrains the fulfilment of a complete and accurate L2 system.

Overall, several conclusions can be drawn from previous research about the exact role of the L1 in SLA. Firstly, it is clear that L1 knowledge can influence L2 use (MacWhinney, 2012). Furthermore, differences between the L1 and the L2 can affect the rate, as well as the route, with which the L2 is acquired (Avery & Marsden, 2019). Despite this knowledge of L1 transfer and the extensive research that has been done on it, there is little research that has actually looked at the role of L1 transfer in formal L2 teaching (McManus & Marsden, 2019). A hypothesis that attempts to account for L2 learning difficulties and shows how it can be used in L2 acquisition is the Contrastive Analysis Hypothesis (CAH). This hypothesis is the main focus of this research and the experiment, as the experiment attempts to explore the effectiveness of the CAH in L2 learning.

Contrastive Analysis

When teaching grammar explicitly, it is possible to do this through comparison with the L1 of the learners. Spada, Lightbown, and White (2005) gave explicit instruction about

French (L1) and English (L2), hoping to improve the use of possessive determiners in the L2. Their results showed that their participants were increasingly more accurate in the use of possessive determiners in writing as well as speaking. Moreover, they reported better verbalisation of rules about when and how to use possessive determiners in English (Spada, Lightbown, & White, 2005). McManus and Marsden (2019) did a similar study, adding a second post-test six weeks after the training to observe if the training had long-lasting benefits. Their results indicated that the learners' improvement was shown both in the immediate post-test and in the subsequent post-test.

Comparing the L1 and the L2 in instruction originated in the Contrastive Analysis Hypothesis (CAH). This hypothesis assumes that difficulties in L2 learning arise from divergence between the rules of the L1 and the L2 (Rustipa, 2011). Moreover, it attempts to predict these difficulties according to the differences (Grami & Alzughaibi, 2012). There are two versions of this hypothesis, the first one being the strong version. This version contains the belief that the differences between the L1 and the L2 can correctly predict difficulties in L2 learning (Wardhaugh, 1970). However, this version was met with critique, as not all the problems that are predicted by the strong version of CAH always appear to be difficult for L2 learners (Rustipa, 2011). Odlin (1989) found that while English students learning Spanish as an L2 had difficulties with the verbs *conocer* and *saber* in Spanish, which correspond to different meanings of the English verb 'to know', this difficulty was not found for Spanish students learning English as an L2. The second version of the CAH, which is generally more accepted, is the weak version. This version only requires that one uses their knowledge of both the L1 and the L2 to account for the difficulties that are observed in learning the L2 (Wardhaugh, 1970). The biggest difference between the two versions is that the weak version only accounts for difficulties, rather than predicting them. In formal education, the weak version of the CAH could be used to account for difficulties that pupils may have. This

information can be used to implement training which includes comparisons of the L1 and the L2 in these areas. Ross (2000) claims that if students consciously know the differences between the L1 and the L2, negative language interference from their L1 is likely to be reduced. When made aware of these differences, pupils will be consciously attentive to these differences and will not automatically transfer information from their L1 to their L2.

The CAH has been extensively researched and has received a lot of critique. However, partly due to this critique, little research has been done to find out how the CAH can be used to facilitate L2 learning in formal education. Ellis and Shintani (2014) state that "there is almost no research that has investigated the actual effects of the classroom use of the L1 on L2 learning" (p. 247). Therefore, This study aims to shed more light on the effects of CAH-based training in formal L2 teaching by examining how it affects the learning of the word order for adverbs of place and time in written English in Dutch learners of English. As the adverbs of place and time in Dutch and English occur in different positions, contrastive analysis could account for the difficulty pupils might have with this grammatical feature. In both Dutch and English, adverbs of place and time appear toward the end of a sentence. However, the order in which the two occur differs between the two languages. In Dutch, adverbs of time are placed before adverbs of place, as can be seen in example (1).

(1) Ik eet mijn ontbijt 's ochtends in de keuken.

time   *place*

In English, adverbs of place are placed before adverbs of time, as seen in example (2).

(2) I eat my breakfast in the kitchen in the morning.

place   *time*

Educating Dutch pupils about this difference through contrastive analysis might improve their production of this topic.

Research Questions

The goal of this research is to determine whether the participants improve when exposed to specific kinds of explicit training. From this goal, the first research question originates.

Research Question 1: *Does Dutch students' production of the word order for adverbs of place and time in written English improve after having been explicitly trained on this?*

Besides aiming to investigate whether an explicit training will improve their written production, a second goal is to find out what kind of training is most effective, a contrastive analysis-based one or an English-grammar-based one. The CAH has received a lot of critique. However, this research attempts to revive the theory and show how it can be beneficial in L2 teaching. From this goal, the second research question originates.

Research Question 2: *Which kind of explicit training – a contrastive analysis-based one or an English-grammar-based one – is more effective in improving Dutch students' production of the word order for adverbs of place and time in written English?*

Hypotheses

For the first research question, the goal is to investigate whether Dutch students' production of the word order for adverbs of place and time improves in written English after having been explicitly trained on this. So far, many studies have shown beneficial effects for EI, with results showing that participants exhibited more metalinguistic awareness and understanding of rules (Radwan, 2005). Furthermore, studies have shown that participants who received EI scored higher than participants who received II (Robinson, 1995). Therefore, the first hypothesis is that the participants' production will improve as a result of explicit training.

Hypothesis 1: *The production of the word order for adverbs of place and time in written English in Dutch students learning English as an L2 will improve after having received explicit training on this.*

The goal of the second research question is to investigate whether one certain kind of explicit training – either a contrastive analysis-based or an English-grammar-based one – will have a more positive effect on learning than the other. Several studies have shown that a contrastive analysis-based training is effective and shows immediate as well as long-lasting improvement (McManus & Marsden, 2019). This research hypothesises that contrastive analysis-based training will have the most positive effect on L2 learning in the participants.

Hypothesis 2: *The participants who received contrastive analysis-based training will improve more in their production of the word order for adverbs of place and time in written English than the participants who received English-grammar-based training.*

Methodology

Participants

There were twenty-nine participants in this research, split into three groups. All participants were secondary school pupils, all second-years at HAVO level from the Dr.-Knippenbergcollege in Helmond, The Netherlands. There were fifteen male participants and fourteen female participants. The ages ranged from twelve to fourteen years of age. Group 1 and Group 2 both consisted of ten participants, while Group 3 consisted of nine participants. The participants were randomly assigned to one of the groups by their English teacher. It was not clear whether all participants were monolingual native speakers of Dutch, as this information was not obtained.

Design

       This research used a quantitative method, which consisted of a between-groups controlled pre-test / post-test design. Of the three groups, Group 1 and Group 2 received a pre-test, a post-test, and training, whereas Group 3 only received a pre-test and a post-test. The independent variables were training condition (contrastive analysis-based training, English-grammar-based training, and no training), and the test phase (pre-test and post-test). The dependent variable was the score on the tests, which was categorical (correct or incorrect). It was decided to judge the sentences as either 'correct' or 'incorrect', without the possibility of scoring half points. This was done because the adverbs of place and time comprise one rule, and they are placed in a sentence in relation to each other. Therefore, the participants had to place both adverbs in the correct place in a sentence in order to score a point.

       The results were collected through a binary logistic regression in the statistical programme SPSS. The analysis was run twice with different reference categories, once to determine if explicit training had any effect on learning, and once to determine if one of the training types had more effect than the other.

Material

       The materials designed for this research were a pre-test (Appendix B), a post-test (Appendix D), and two types of training (Appendix C). The pre-test consisted of a Sentence Order Task, in which participants had to rearrange chunks in order to form a correct sentence. There were twenty test items and ten filler items in the task. The filler items were added so as to make the participants unaware of what was actually being tested (Podesva & Sharma, 2014). These filler items did not include adverbs of place and time, but they contained adverbs of manner or frequency. All test items contained one adverb of place and one adverb of time. In the task, the chunks were arranged in such a way that participants were not able to

form a certain bias based on the arrangement of the chunks. The adverb of place appeared in front of the adverb of time in half of the stimuli and after the adverb of time in the other half. Furthermore, there was always at least one chunk in between the adverb of time and the adverb of place. Lastly, collocations such as 'going to the movies' or 'move to + place' were avoided, as these might have created a place-before-time bias, which would not reflect the participants' actual knowledge of the rules. Examples of test items can be found in (3), (4), and (5).

(3) every weekend / my brother / this place / visits

(4) Peter / in the garden / worked / yesterday

(5) today / were not / the pupils / at school

Besides the pre-test, two types of training were created, one contrastive analysis-based training and one English-grammar-based training. They were created through PowerPoint Presentations. The contrastive analysis-based training contained slides with the rules for adverbs of place and time in both Dutch and English. Furthermore, it included example sentences, like (6).

(6) Dutch: Ik vertel het je morgen op school.

time   place

English: I will tell you at school tomorrow.

place   time

Lastly, it included a small exercise, in which the participants saw sentences in Dutch as well as English divided into chunks. They had to correctly order the chunks for both the Dutch and the English sentences. The exercise was designed to be similar to the pre-test and post-test task. An example of a sentence in the exercise can be found in (7).

(7) Dutch: fietsen / naar school / Julia en ik / om 8 uur.

    Answer: Julia en ik fietsen om 8 uur naar school.

                      time   *place*

    English: cycle / to school / Julia and I / at 8 o'clock.

    Answer: Julia and I cycle to school at 8 o'clock.

                      place   *time*

The English-grammar-based training contained slides with the rules for adverbs of place and time solely in English. It included only English example sentences, like (8), and the same exercise as in the contrastive analysis-based training, but merely containing English sentences, such as (9).

(8) We went on a holiday to France last year.

                 place   *time*

(9) in France / lived / my grandma and grandpa / two years ago

    Answer: My grandma and grandpa lived in France two years ago.

                       place   *time*

Finally, a post-test was designed. The post-test contained the same task as the pre-test, with the same number of sentences. The post-test also contained the same test items as the pre-test, as well as the same ten filler items. This was done in order to assure that both the pre-test and the post-test had the same degree of difficulty. The only aspect that was changed in the post-test was the order in which the sentences appeared in the test.

Procedure

Due to the current circumstances concerning COVID-19, the entire experiment was carried out digitally. The pre-test and post-test were both developed in Google Forms. The

participants had access to the Google Form through a link that they received from their English teacher. The link was tested prior to the pre-test by sending it to the participants' teacher and having her try to open it. The participants received instructions about the experiment before being sent the link to the pre-test. They first had to read the instructions carefully. Then they opened the link and took the pre-test. At the beginning of the test, they were asked to fill in their name and which of the tree groups they were in, which they had been informed about by their teacher. They submitted the test via a 'submit' button at the end of the Google Form. All three groups took the pre-test. They had three days to finish it and hand it in. After taking the pre-test, the participants in Group 1 and Group 2 received training during their English class. In the first part of the class, the teacher went through the PowerPoint of the contrastive analysis-based training with Group 1. They went through all of the slides together and did the exercise at the end. Then, during the second part of the class, the teacher went through the PowerPoint of the English-grammar-based training with Group 2. Here, they also went through the slides together and did the exercise. The control group, which received no training, attended regular English classes during this time. After the class in which the participants received training, they were sent the link to the post-test. Again, this link was tested beforehand by sending it to the participants' teacher and having her try to open it. The participants had to open the link, read the instructions, and take the test, before pressing the 'submit' button to hand it in. The participants also had a deadline for the post-test, which was three days after they had received training. This was done in order to assure that the intervals between the pre-test and the training, and between the training and the post-test were kept approximately the same.

Results

The mixed-effect (binary) logistic regression model in SPSS was used to analyse the data. The dependent variable of the model was Judgement, which included two categories

(correct or incorrect). The independent variables were Group, consisting of three categories (contrastive analysis-based training, English-grammar-based training, and control group), and Test-phase, comprising two categories (pre-test and post-test). Besides main effects of the independent variables, a two-way interaction between Group and Test-phase was included. The analysis was run twice with different reference categories, once to see if training in general had an effect, and once to see whether the two types of training differed in effects on learning.

The first research question was: *Does Dutch students' production of the word order for adverbs of place and time in written English improve after having been explicitly trained on this?* To analyse this, the binary logistic regression was run with the control group as the reference group. The training groups were coded as TC (contrastive analysis-based training), TE (English-grammar-based training) and XC (control group).

Table 1

Summary of the results of the (binary) logistic regression model on the prediction that participants improved when exposed to training. The reference category was the control group (XC).

	Coefficient	Std.Error	Sig.	95% C.I. for EXP	
				Lower	Upper
Intercept	0.647	0.361	.073	0.941	3.876
Group=TC	-0.170	0.497	.732	0.318	2.238
Group=TE	0.032	0.498	.949	0.389	2.742
Group=XC					
Test_phase=post	0.452	0.239	.059	0.983	2.510

Test_phase=pre					
Group=TC * Test_phase=post	1.113	0.359	.002	1.505	6.155
Group=TC * Test_phase=pre					
Group=TE * Test_phase=post	0.838	0.352	.018	1.158	4.616
Group=TE * Test_phase=pre					
Group=XC * Test_phase=post					
Group=XC * Test_phase=pre					

The main effects of Group and Test-phase did not reach significance ($p > 0.05$). However, the interaction of Group and Test-phase was statistically significant ($p < 0.05$). As shown by the coefficient estimates in Table 1, compared to the control group in the post-test, both training groups were significantly more likely to place the adverbs of place and time in the right order in the post-test. Every unit of increase in the contrastive analysis-based training led to an increase by 1.113 in the odds of correct ordering of place and time adverbs; every unit of increase in the English-grammar-based training led to an increase by 0.838 in the odds of correct ordering of place and time adverbs. This increase can also be seen in Figure 1.

Figure 1

Significant effects of the two-way interaction between Group and Test-phase, showing that both training groups were significantly more likely to score correctly in the post-test compared to the control group. The label 'Judgement' stands for the likelihood that the participants scored correctly. 'TC' stands for contrastive analysis-based training group, 'TE' stands for English-grammar-based training group, and 'XC' stands for control group.
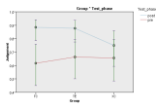
The second research question was: *Which kind of explicit training – a contrastive analysis-based one or an English-grammar-based one – is more effective in improving Dutch students' production of the word order for adverbs of place and time in written English?* To investigate this, the same analysis was run, this time with the English-grammar-based training group (TE) as the reference group. This time, the training groups were coded as TC (contrastive analysis-based training), XTE (English-grammar-based training), and C (control group).

Table 2

Summary of the results of the (binary) logistic regression model on the prediction that participants improved more when exposed to a certain kind of training. The reference category was the English-grammar-based training group (XTE).

	Coefficient	Std.Error	Sig.	Lower	Upper
Intercept	0.679	0.343	.048	1.006	3.865
Group=C	-0.032	0.498	.949	0.356	2.572

Group=TC	-0.202	0.485	.677	0.316	2.114
Group=XTE					
Test_phase=post	1.290	0.259	.000	2.185	6.037
Test_phase=pre					
Group=C * Test_phase=post	-0.838	0.352	.018	0.217	0.863
Group=C * Test_phase=pre					
Group=TC * Test_phase=post	0.275	0.373	.461	0.634	2.734
Group=TC * Test_phase=pre					
Group=XTE * Test_phase=post					
Group=XTE * Test_phase=pre					

As can be seen in Table 2, the difference between the contrastive-analysis based training group and the English-grammar-based training group is not statistically significant ($p > 0.05$). There is thus no evidence that the contrastive analysis-based training group improved more from the pre-test to the post-test than the English-grammar-based training group.

Discussion

This research had two main goals. The first goal was to investigate whether being explicitly trained on the word order for adverbs of place and time in written English would improve Dutch students' production of this grammatical feature. The hypothesis was that their production would improve, based on earlier studies on EI that provided evidence for EI being a beneficial way of instruction that results in more metalinguistic knowledge and better results compared to II (Radwan, 2005). The results of this research showed that both training groups significantly improved from the pre-test to the post-test, meaning that training had a significantly positive effect on the participants' learning process and eventual production.

The second goal of this research was to determine whether there was a difference in effect on learning between a contrastive analysis-based training and an English-grammar-based training. The hypothesis was that the participants receiving contrastive analysis-based training would improve more, based on previous research providing evidence for the effectiveness of a contrastive analysis-based approach. This hypothesis was furthermore anticipated based on the differences between Dutch and English regarding the grammatical feature of word order for adverbs of place and time. The results showed that while both training groups improved from pre-test to post-test, there was no significant difference between the groups. This means that contrastive analysis-based training is not more effective than English-grammar-based training with reference to this specific grammatical feature.

Several aspects in this research could have affected the results of the experiment. Firstly, and this goes for all three groups, it was impossible to monitor whether the participants had any help from either their parents or the internet while taking the pre-test and post-test, since the experiment was carried out digitally. Participants could have asked someone for help or looked the rules of word order up online. This could be a reason to question the validity of the results, as the results might not fully represent the participants' own knowledge. Secondly, there were only twenty-nine participants in total. This number of participants is too small to be able to draw any clear conclusions based on the results. A larger group of participants might yield different results and paint a clearer picture.

An aspect that stuck out was that the results of the pre-test were generally quite good. Only a few participants scored below 50% correctly in the pre-test. This could indicate that this particular grammatical feature was too simple for the English level that the participants are at. This could have also influenced the way they responded to training. If they were already at a level at which they should know the rules of this grammatical feature, training may not have been necessary at all. This might explain that there was no significant difference

in improvement between the contrastive analysis-based training group and the English-grammar-based training group. For future research, it might be better to first test the participants' general level of a grammatical feature, so that it is clear what level they are on and that information can be used to base the experiment on.

A last discussion point comes from critique on the CAH. Ellis (2006) critiqued the CAH in teaching contexts, saying that in many classrooms students do not necessarily all have the same L1. Learners often come from mixed language backgrounds, making it impossible to use the CAH in teaching contexts. If students all have different L1s, they will also all have other differences between their L1 and the L2 that they are learning. In this research, it is unknown whether all participants had the same L1, since this information was not obtained from them. This could have had severe effects on the results of the contrastive analysis-based training, since pupils with a different L1 than Dutch would not find contrastive analysis-based training based on Dutch helpful. If it is the case that some participants had a different L1 than Dutch, this could explain why there was no significant difference in learning effect between the two types of training. Furthermore, the L1 of the students might not always be the L1 of the teacher, making it difficult for the teacher to implement contrastive analysis. For future research on how contrastive analysis can be used in formal L2 education, it needs to be ensured that all participants have the same L1, and that the teacher also shares this L1.

Conclusion

The first goal of this research was to find out whether training pupils in their second year at HAVO level on the word order for adverbs of place and time in written English would improve their production of this grammatical feature. The results showed that participants who were trained were more likely to score correctly in the post-test compared to participants who received no training, indicating that training had a significantly positive effect. This illustrates that explicit training is beneficial for pupils learning an L2.

The second goal of this research was to find out whether one of the types of training was more effective. One of the groups received a contrastive analysis-based training, while the other group received an English-grammar-based training. The analysis showed that participants in the contrastive analysis-based training group were not significantly more likely to score correctly in the post-test compared to the English-grammar-based training group. This shows that there is no significant difference in learning when comparing these two groups regarding this grammatical feature.

Several flaws in the execution of the experiment could have led to these results, such as not obtaining the participants' L1, experimenting with a grammatical feature that the participants already know, and having a small group of participants. While this research provided more evidence for the effectiveness of EI, more research needs to be done in order to come to a definite conclusion about the effectiveness of contrastive analysis-based training.

Appendices

Appendix A: Instructions for participants

Instructies onderzoek

Hallo!

Allereerst bedankt voor het deelnemen aan dit onderzoek. Het onderzoek bestaat uit drie delen: een pre-test, een training, en een post-test. Hieronder staat per onderdeel uitgelegd wat er van je verwacht wordt.

1. **Pre-test**

Voor het maken van de pre-test moet je de volgende stappen volgen:

- Je krijgt van je docent een link naar de pre-test doorgestuurd via Magister.
- Klik op de link om hem te openen. Je komt in een Google Form terecht.
- Bovenaan de Form staat uitleg over de pre-test. Lees deze eerst goed door.
- Vul bij vraag 1 je naam in en bij vraag 2 in welke groep je zit. In welke groep je zit heb je te horen gekregen van je docent.
- Maak de test en lever hem in door rechts onderaan in de Google Form op "Submit" te klikken.
- Zorg ervoor dat je de test uiterlijk drie dagen nadat je de link doorgestuurd hebt gekregen gemaakt en ingeleverd hebt.

2. **Training**

Groep 1 en 2 krijgen een training, groep 3 niet. De instructies over de training gelden dus alleen voor groep 1 en 2.

Jullie krijgen door middel van een PowerPoint een training over de woordvolgorde van bijwoorden van plaats en tijd. Groep 1 neemt deze PowerPoint samen met de docent door tijdens het eerste gedeelte van de Engelse les in week 20. Groep 2 neemt de PowerPoint samen met de docent door tijdens het tweede gedeelte van de Engelse les in week 20.

3. **Post-test**

Voor het maken van de post-test moet je de volgende stappen volgen:

- Je krijgt van je docent een link naar de post-test doorgestuurd via Magister.
- Klik op de link om hem te openen. Je komt in een Google Form terecht.
- Bovenaan de Form staat uitleg over de post-test. Lees deze eerst goed door.
- Vul bij vraag 1 je naam in en bij vraag 2 in welke groep je zit. In welke groep je zit heb je te horen gekregen van je docent.
- Maak de test en lever hem in door rechts onderaan in de Google Form op "Submit" te klikken.
- Zorg ervoor dat je de test uiterlijk drie dagen nadat je de link doorgestuurd hebt gekregen gemaakt en ingeleverd hebt.

Appendix B: Pre-test task

Pre-test Word Order

Hallo! Hieronder ga je een korte test maken. Lees alsjeblieft eerst aandachtig de instructies hieronder door:

Vul bij vraag 1 je naam in en bij vraag 2 in welke groep je ingedeeld bent (groep 1, groep 2, of groep 3). In welke groep je zit heb je van je docent te horen gekregen.
Na vraag 1 volgen 30 Engelse zinnen die in stukjes zijn verdeeld. Deze stukjes staan niet op de juiste volgorde. Aan jou de taak om per zin de stukjes op de juiste volgorde te zetten om een correcte Engelse zin te vormen. De correcte zin kun je per vraag invullen in het lege blokje waar 'Your Answer' staat.
Deze test zal 10-15 minuten duren.

Wat is je naam? *

Short answer text

In welke groep zit je? *

○ Groep 1

○ Groep 2

○ Groep 3

---

to the movies / go / they / often

Long answer text

---

will be / next year / we / in Thailand

Long answer text

---

my grandmother / all her life / has lived / here

Long answer text

---

can't / apples / eat / I

Long answer text

in 1564 / was born / William Shakespeare / in Stratford-upon-Avon

Long answer text

in the garden / worked / Peter / yesterday

Long answer text

in Seattle / my parents / lived / in 2013

Long answer text

in a hospital / has worked / my mother / for fourteen years

Long answer text

well / did / on the test / you

Long answer text

are staying / for three weeks / they / at their grandparent's house

Long answer text

is giving / the teacher / boring / a / speech

Long answer text

last year / were / all our neighbours / at the barbeque

Long answer text

in the armchair / has been sleeping / for quite some time / the cat

Long answer text

---

usually / cycle / to school / I

Long answer text

---

waited / for twenty minutes / Jane / at the busstop

Long answer text

---

here / arrived / I / last night

Long answer text

---

outside the shop / were waiting / they / at 12 o'clock

Long answer text

---

always / wakes up / she / at 7am

Long answer text

---

today / were not / the pupils / at school

Long answer text

---

brushes his teeth / never / he / in the morning

Long answer text

talked / at the party / they / for an hour

Long answer text

Eric / in the park / plays football / every day

Long answer text

every Tuesday / have maths / I / at school

Long answer text

runs / quickly / the dog

Long answer text

at the cinema / met each other / we / yesterday

Long answer text

in France / had a holiday / our family / last year

Long answer text

put away / he / very slowly / the pan

Long answer text

next year / will be going to school / in New York / my sister

Long answer text

this class / boring / is / very

Long answer text

my brother / every weekend / visits / this place

Long answer text

Appendix C: PowerPoint Presentations

Training 1 (Contrastive analysis-based training)

3. BIJWOORDEN VAN TIJD

Yesterday, I went to the cinema with some friends.

- Welk woord in deze zin geeft een tijd aan?

Yesterday, I went to the cinema with some friends.
  Tijd

- Bijwoorden van tijd geven aan wanneer iets plaatsvindt of plaats heeft gevonden.
- Voorbeelden: tomorrow, next week, last year, this month, in 2002

4. BIJWOORDEN VAN PLAATS EN TIJD IN HET ENGELS

- In het Engels komen bijwoorden van plaats en tijd allebei achteraan in de zin. Hierbij is het belangrijk om te onthouden dat **Plaats VOOR Tijd** komt.
- Let op: Je kunt de Tijd ook helemaal vooraan in de zin zetten. Hier moet dan altijd een komma achter.

I always cycle to school at 8 am.
            Plaats   Tijd

We often go to the movies on Saturdays.
            Plaats   Tijd

We went on a holiday to France last year.
                    Plaats   Tijd

5. BIJWOORDEN VAN PLAATS EN TIJD IN HET NEDERLANDS

- In het Nederlands staan de bijwoorden van plaats en tijd ook vaak achteraan in de zin. Maar, in tegenstelling tot het Engels, komt in het Nederlands **Plaats NA Tijd**.

Ik fiets altijd om 8 uur naar school.
            Tijd   Plaats

We gaan vaak op zaterdag naar de bioscoop.
            Tijd   Plaats

We zijn vorig jaar naar Frankrijk geweest.
        Tijd   Plaats

6. NEDERLANDS VS. ENGELS

NL: Ik eet mijn ontbijt elke ochtend in de keuken.
EN: I have my breakfast in the kitchen every morning.

NL: Ik vertel het je morgen op school.
EN: I will tell you at school tomorrow.

NL: We spelen op zondag in het park.
EN: We play in the park on Sunday.

NL: We zijn gisteren naar de Efteling geweest.
EN: We went to the Efteling yesterday.

7. OEFENEN

Hieronder staan stukjes zinnen, zowel in het Nederlands als in het Engels. Kijk goed naar de stukjes zinnen en bedenk in welke volgorde ze moeten staan om een correcte zin te maken.

NL: in de keuken / ontbijten / wij / morgen.
   Wij ontbijten morgen in de keuken.
EN: in the kitchen / will have breakfast / we / tomorrow.
   We will have breakfast in the kitchen tomorrow.
NL: fietsen / naar school / Julia en ik / om 8 uur
   Julia en ik fietsen om 8 uur naar school.
EN: cycle / to school / Julia and I / at 8 o'clock
   Julia and I cycle to school at 8 o'clock.
NL: in Frankrijk / woonden / mijn opa en oma / twee jaar geleden
   Mijn opa en oma woonden twee jaar geleden in Frankrijk.
EN: in France / lived / my grandpa and grandma / two years ago.
   My grandpa and grandma lived in France two years ago.

Training 2 (English-grammar-based training)

TRAINING GROEP 2

TRAINING ENGELSE WOORDVOLGORDE

1. WAT GA JE LEREN IN DEZE LES?

- Wat zijn bijwoorden van plaats en tijd?
- Waar plaatsen we de bijwoorden van plaats en tijd in het Engels?
- Voorbeeldzinnen
- Oefening

2. BIJWOORDEN VAN PLAATS

I have many friends at school.

- Welk woord in deze zin geeft een plaats aan?

I have very long days at school.
                        Plaats

- Bijwoorden van plaats geven een plaats aan. Ze geven aan waar iets gebeurt, waar iemand zich bevindt enz.
- Voorbeelden: at school, at the movies, at home, in the living room.

3. BIJWOORDEN VAN TIJD

Yesterday, I went to the cinema with some friends.

• Welk woord in deze zin geeft een tijd aan?

Yesterday, I went to the cinema with some friends.
  Tijd

• Bijwoorden van tijd geven aan wanneer iets plaatsvindt of plaats heeft gevonden.
• Voorbeelden: tomorrow, next week, last year, this month, in 2002

4. BIJWOORDEN VAN PLAATS EN TIJD IN HET ENGELS

• In het Engels komen bijwoorden van plaats en tijd allebei achteraan in de zin. Hierbij is het belangrijk om te onthouden dat **Plaats VOOR Tijd** komt.
• Let op: Je kunt de Tijd ook helemaal vooraan in de zin zetten. Hier moet dan altijd een komma achter.

I always cycle to school at 8 am.
              Plaats   Tijd

We often go to the movies on Saturdays.
            Plaats   Tijd

We went on a holiday to France last year.
                        Plaats   Tijd

5. VOORBEELDZINNEN

I have my breakfast in the kitchen every morning.

I will tell you at school tomorrow.

We play in the park on Sunday.

We went to the Efteling yesterday.

6. OEFENEN

Hieronder staan stukjes zinnen. Kijk goed naar de stukjes zinnen en bedenk in welke volgorde ze moeten staan om een correcte zin te maken.

in the kitchen / will have breakfast / we / tomorrow.
We will have breakfast in the kitchen tomorrow.

cycle / to school / Julia and I / at 8 o'clock
Julia and I cycle to school at 8 o'clock.

in France / lived / my grandpa and grandma / two years ago.
My grandpa and grandma lived in France two years ago.

Appendix D: Post-test task

Post-test Word Order

Hallo! Hieronder ga je een korte test maken. Lees alsjeblieft eerst aandachtig de instructies hieronder door:

Vul bij vraag 1 je naam in en bij vraag 2 in welke groep je ingedeeld bent (groep 1, groep 2, of groep 3). In welke groep je zit heb je van je docent te horen gekregen.
Na vraag 1 en 2 volgen 30 Engelse zinnen die in stukjes zijn verdeeld. Deze stukjes staan niet op de juiste volgorde. Aan jou de taak om per zin de stukjes op de juiste volgorde te zetten om een correcte Engelse zin te vormen. De correcte zin kun je per vraag invullen in het lege blokje waar 'Your Answer' staat. Vergeet niet om rechts onderin op de knop 'Submit' te drukken als je alle vragen hebt beantwoord.
Deze test zal 10-15 minuten duren.

Wat is je naam? *

Short answer text

In welke groep zit je? *

◯ Groep 1

◯ Groep 2

◯ Groep 3

my brother / every weekend / visits / this place *

Long answer text

outside the shop / were waiting / they / at 12 o'clock *

Long answer text

talked / at the party / they / for an hour *

Long answer text

to the movies / go / they / often *

Long answer text

in the garden / worked / Peter / yesterday *

Long answer text

well / did / on the test / you *

Long answer text

at the cinema / met each other / we / yesterday *

Long answer text

brushes his teeth / never / he / in the morning *

Long answer text

in the armchair / has been sleeping / for quite some time / the cat

Long answer text

every Tuesday / have maths / I / at school *

Long answer text

in 1564 / was born / William Shakespeare / in Stratford-upon-Avon *

Long answer text

can't / apples / eat / I *

Long answer text

will be / next year / we / in Thailand *

Long answer text

next year / will be going to school / in New York / my sister *

Long answer text

in France / had a holiday / our family / last year *

Long answer text

put away / he / very slowly / the pan *

Long answer text

this class / boring / is / very *

Long answer text

in a hospital / has worked / my mother / for fourteen years *

Long answer text

my grandmother / all her life / has lived / here *

Long answer text

in Seattle / my parents / lived / in 2013 *

Long answer text

usually / cycle / to school / I *

Long answer text

are staying / for three weeks / they / at their grandparent's house *

Long answer text

waited / for twenty minutes / Jane / at the busstop *

Long answer text

always / wakes up / she / at 7am *

Long answer text

Eric / in the park / plays football / every day *

Long answer text

runs / quickly / the dog *

Long answer text

today / were not / the pupils / at school *

Long answer text

last year / were / all our neighbours / at the barbeque *

Long answer text

is giving / the teacher / boring / a / speech *

Long answer text

here / arrived / I / last night *

Long answer text

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