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The Effect of Direct vs Indirect Corrective Feedback on Writing Assignments Written

by Dutch learners of English

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Abstract

There are various types of corrective feedback (CF) which teachers can use for correcting their pupils' writing assignments. Previous research focused on the effectiveness of various types of CF. Some studies compared the effectiveness of direct CF and indirect CF on pupils' writing, but found conflicting results. Moreover, the effectiveness of direct and indirect CF has not been studied within different educational levels. This study focuses on the effects of direct and indirect CF on the writing proficiency of Dutch VWO and VMBO-tkb pupils,

which are the highest and third-highest levels of education respectively in the Netherlands. Participants were given a writing assignment which was corrected with either direct or indirect CF and then returned to them, after which they were instructed to read the feedback. Between one and two weeks after the first assignment, the pupils were asked to write a second writing assignment and the number and percentage of errors was compared to that in the first assignment. The results of this study suggest that there is a difference in the effectiveness of direct and indirect CF in general, since it seems that more VWO benefit from direct CF compared to indirect CF and compared to VMBO-tkb pupils, whereas more pupils in the latter group seem to make relatively fewer errors after being given indirect CF.

1. Introduction

Corrective feedback (CF) is thought to be essential for learning (Race, 2001). There are multiple ways of correcting errors in pupils' writing, but school policies often lack explicit instructions on using them. As a result, teachers can mostly use any type of feedback which they want and do not have to be consistent in using them. This may lead to teachers using various types of feedback on their pupils' writing assignments without being aware of what type is most effective for the pupils' writing skills. It is crucial to investigate which type works best, since "CF can only have an impact if students attend to it" (Ellis, 2008). This bachelor's thesis focuses on two types of corrective feedback: direct and indirect corrective feedback. Direct CF is described as providing the correct form by teachers (Ellis, 2008), whereas indirect CF means that "the teacher indicates that an error exists but does not provide the correction" (Ellis, 2008). When using indirect CF, teachers can either choose to indicate that something is wrong and locate the error, or to give only an indication that an error occurred; the pupil then has to find out on his or her own what is erroneous in the specific sentence or phrase which has been underlined or otherwise marked.

The effects of direct and indirect CF are relevant to study, because these are the least time-consuming types of corrective feedback for teachers; the ideal type of CF is required to provoke the best results with the least amount of effort and time for teachers. This research therefore attempts to find the most effective type of corrective feedback on writing assignments by Dutch learners of English. The structure of this paper is as follows: in Section 2, previous studies on different types of corrective feedback and their results are discussed, and various types of CF are further explained; in Section 3, the method used in this experiment is explained, including the selection of participants, the materials used in the experiment, its procedure, and a description of how the data were analysed. The results and a brief interpretation of the results are given in Section 4; Section 5 includes a thorough discussion and explanation of the results, and their relation to those of previous studies such as those by Lalande (1982), Ferris & Roberts (2001), and Sheen (2007). Possible implications are noted here as well. Finally, in the last section, a summary of the main research findings is given, after which drawbacks of the approach and limitations of the findings are indicated. Moreover, the conclusion proposes some directions for future research based on the drawbacks and limitations of the present study.

2. Theoretical background

Previous studies on different types of corrective feedback have found conflicting results with regard to their effects on pupils' improvement of their writing skills. Much research has been done on the following types of corrective feedback: direct CF (Lalande, 1982; Robb et al., 1986; Ferris & Roberts, 2001; Sheen, 2007; Ellis, 2008), indirect CF (Lalande, 1982; Robb et al., 1986; Ferris & Roberts, 2001; Chandler, 2003), metalinguistic CF (Lalande, 1982; Ferris & Roberts, 2001; Chandler, 2003; Sheen, 2007), electronic feedback (Milton, 2006), and reformulation (Sachs & Polio, 2007). It should be noted that more ways of giving feedback on

writing assignments might exist, but the types mentioned here are probably the most common; Ellis's study is "a typology of teacher options for correcting linguistic errors in pupils' written work" (Ellis, 2008, p. 97). As noted above, this paper will only study the effectiveness of direct and indirect corrective feedback, not the impact the other three types might have on pupils' improvement. However, before moving on to direct and indirect CF, the other three types of CF are briefly explained here in order to clarify why this paper focuses primarily on direct and indirect CF.

First of all, metalinguistic CF is providing metalinguistic cues on pupils' writing assignments. This can have the form of using error codes, or by giving brief grammatical descriptions. Using error codes is not very time-consuming for teachers, but a system which is known to both the pupils and the teachers needs to be set up. Giving brief grammatical descriptions costs teachers more time, even when specific pages in a textbook are referred to, for example; teachers have to find the right page first. Also, a study by Lalande (1982) found no significant differences in accuracy improvement between a group of pupils receiving correction using error codes and a group receiving direct correction; Ellis (2008) even concludes that "there is very limited evidence to show that error codes help writers to achieve greater accuracy over time and it would also seem that they are no more effective than other types of CF in assisting self-editing" (p. 101).

Second, there is electronic feedback, which can only be given on writing assignments written in a text processor, not those on paper. Errors are indicated, and teachers provide a hyperlink to a concordance file that provides examples of correct usage (Ellis, 2008). This type of CF is rather similar to metalinguistic CF in the sense that teachers have to find pages in a book or file in which more information about a specific error made in a writing assignment can be traced back; this takes teachers much effort and time. On the other hand, an important advantage of this option is that "it allows the learners to locate the corrections that

are most appropriate for their own textual intentions and so encourages student independence"
(Ellis, 2008, p. 103), and electronic feedback is therefore regarded as more effective than
metalinguistic CF.

Finally, reformulation is another way of giving corrective feedback. The pupils' entire
text is reworked with the errors corrected. This can be done either by teachers or by native
speakers of the language in which the text has been written. A major difference between
electronic feedback and reformulation is that in the former, the text can be rewritten by the
pupil who has written the text, and in the latter this is done by someone else. As a result, in
reformulation, the pupils' intentions might become lost, because the writer's ideas are
expressed in someone else's own words to make the text seem native-like (Cohen, 1989).

In a way, the three types of CF mentioned above are all forms of indirect feedback.
However, they involve much effort from teachers and in the last case even from native
speakers. "Normal" indirect CF, on the other hand, requires only little time. Direct CF takes
teachers a little more time, but that might be negligible if it is found to be more effective.

Ferris & Roberts (2001) argue that direct CF is more effective than indirect CF for less
proficient students; Sheen (2007) argues that it can help acquire grammar. However, direct CF
"requires minimal processing on the part of the learner and thus [. . .] it may not contribute to
long-term learning" (Ellis, 2008, p. 99). Indirect CF, on the other hand, caters to "guided
learning and problem solving" (Lalande, 1982) and "encourages students to reflect about
linguistic forms" (Ellis, 2008, p. 100). Lalande (1982) found that indirect feedback is more
effective than direct feedback, whereas Ferris & Roberts (2001) found no difference. With
regard to the two types of indirect feedback (indication that an error has been made with
location of the error, vs indication only), they claim that the latter type might be more
effective, because "students would have to engage in deeper processing" (Ellis, 2008, p. 100);
another study found the opposite result but did not consider long-term gains (Lee, 1997). In

Ellis's (2008) work, long-term refers to a period of around two weeks; it is only relatively long-term. Besides, there are no recent studies focusing on whether the two indirect types of CF "have any effect on accuracy in new pieces of writing" (Ellis, 2008).

3. Research question

The research question which this bachelor's thesis tries to answer is the following: Which corrective feedback method helps to improve the writing skills of Dutch learners of English best: direct corrective feedback, or indirect corrective feedback? The hypothesis is that Dutch learners of English are more likely to improve their writing skills after they have read the indirect corrective feedback on their previous writing assignment than after seeing direct CF, supporting Lalande (1982), Ferris & Roberts (2001) and Ellis (2008), who have suggested that indirect CF might lead to more long-term learning than direct CF. Only the first type of indirect corrective feedback, i.e. indicating that an error has been made and locating the error, is taken into account in this study, since Lee (1997) found that errors that are indicated and located are more often corrected, hence have a larger effect on the short-term than errors that are only indicated. Moreover, this study focuses on the most efficient way of giving feedback, and the first type of indirect CF requires less time than the second type of indirect CF because only the erroneous word is underlined, not a whole phrase or sentence; indicating and locating an error is also closest to direct CF in that only the locations of errors are added. Another question which this paper attempts to provide an answer to is if there are any differences in the numbers of VMBO-tkb and VWO pupils who improve after either direct or indirect CF. The hypothesis is that VWO pupils benefit more from indirect corrective feedback than VMBO-tkb pupils, because their level of education requires more independence and self-sufficiency. Therefore, it is assumed that the latter group of pupils have more advantage of direct corrective feedback on writing assignments in a foreign language.

4. Methodology

4.1 Subjects

In total, 53 Dutch speaking first-year pupils from O.R.S. Lek en Linge in Culemborg, the Netherlands (age 11 to 14) participated in this experiment. There were 62 pupils at the start of the study, but 9 of them could not participate due to their absence during either the first or second round, or during the lesson in which the students' corrected assignments were returned. Pupils were divided into groups. One group is a VMBO-tkb (*Voorbereidend Middelbaar Beroeps Onderwijs – Theoretisch*/Kader/Basis; freely translated as *preparatory middle-level vocational education*) group, whereas the other is a VWO (*Voorbereidend Wetenschappelijk Onderwijs*; freely translated as *pre-university education*) group. The former school track is one of the lowest level variants in the secondary educational system of the Netherlands, whereas the latter is the highest and is similar to grammar school in the United Kingdom. Because the VMBO-tkb groups at Lek en Linge contain significantly fewer pupils than any other groups at the same school (e.g. 17 compared to 28), it was decided to conduct the experiment in two VMBO-tkb groups, counted as one single group, and one VWO group. One requirement was that both groups contain a similar number of both sexes. For the selection process, the participants' average marks for English had been checked before the students made the writing assignment and before these were marked and given feedback on. The groups could then be divided into two subgroups with a similar spread of marks. For instance, group 1A consisted of seven students with a 7.0, two with an 8.0, three with a 6.0 and two with a mark lower than 6.0, and this should be about the same in group 1B. The list of participants and their marks can be found in the appendix. To sum up, this results in the following groups: VMBO-tkb & direct CF, VMBO-tkb & indirect CF, VWO & direct CF and VWO & indirect CF.

Level	Direct CF	Indirect CF	Total
VWO	12 (6M, 6F)	13 (6M, 7F)	25 (12M, 13F)
VMBO-tkb	14 (11M, 3F)	14 (11M, 3F)	28 (22M, 6F)
	26 (17M, 9F)	27 (17M, 10F)	53 (34M, 19F)

Table 1: number of pupils (male, female) per educational level per type of feedback

As shown in Table 1, there are 25 participants in the VWO group, out of which 12 are male and 13 are female. There are 12 VWO pupils who were given direct CF (6 males, 6 females) and 13 who were given indirect CF (6 males, 7 females). There are 28 participants in the VMBO-tkb group: 22 males and 6 females. Both VMBO-tkb groups contain 14 subjects (11 males, 3 females). In total, 26 pupils were given direct CF (17 males, 9 females), and 27 were given indirect CF (17 males and 10 females). There are more males than females in the VMBO-tkb groups at Lek en Linge, which results in the VMBO-tkb groups also having more male than female participants in this experiment.

4.2 Materials

Two different writing assignments were made especially for this experiment. The topics were rather similar in order to elicit similar phrases, grammatical structures, and words in both assignments. Participants were asked to write a short letter in which they had to introduce themselves (assignment I) and in which they had to talk about school, their hobbies, pets, and friends (assignment II). These topics were chosen because all pupils learned sentences with regard to these situations at the beginning of the school year, and writing and speaking exercises after the first period of year 1 often dealt with this kind of sentences. Moreover, the topics of the writing assignments should not be too hard, because this research is not truly about the pupils' ability to apply complex grammatical structures or to use difficult words, but

about the improvement pupils might make with regard to the type of feedback given on their errors. Both writing assignments can be found in the appendices.

4.3 Procedure

During one of their regular English lessons, all the pupils made the same writing assignment (assignment I) individually in silence without any materials such as a dictionary or a computer. The VWO pupils and half of the VMBO-tkb pupils made this assignment on the same day; the other half of the VMBO-tkb pupils made the first assignment one and a half weeks later, due to their teacher's schedule and a one-week break. The instruction was that they should write down their full names and group number, and then do the assignment. In all classes, the researcher was present and gave the instructions. The subjects had not been acquainted with the goal of the experiment, but they knew that they were taking part in an experiment; when the researcher was asked about it, the participants were told that the research goal would later be explained. The assignments were collected afterwards by the researcher. Feedback was given to these assignments by the researcher, either direct (for groups A) or indirect (for groups B), depending on which group the pupil was in.

Two weeks later, the assignments, including feedback, were returned to the pupils, with the explicit instruction to read the corrected errors or underlined phrases. The researcher was present during these lessons and gave the instruction. Pupils were allowed to use their text book or a dictionary, and encouraged to discuss their assignments with their classmates for five minutes, to make sure that they paid explicit attention to the feedback. Not all three classes received their assignments on the same day or in the same week, again due to their teachers' schedules; the VWO pupils reviewed their feedback exactly two weeks after they wrote the letter, the VMBO-tkb pupils (two groups) did so one week, and one and a half weeks respectively after the first meeting. Because the assignments needed to be returned,

copies were made for the researcher to be able to compare them to the second assignment of the same pupil later on. Pupils were asked to take home their writing assignment and review it on the day of the second assignment.

In the same week and the week after, the pupils did another writing assignment (assignment II) about a similar topic, in order to elicit similar sentence structures and vocabulary. The first VMBO-tkb group did the second writing assignment only two days after receiving feedback; for the second VMBO-tkb group, the time between the review and the next assignment was exactly one week, and for the VWO group this was precisely two weeks. The instruction was the same as above. These were also corrected with the same type of feedback as the first assignment. It was not necessary to make any copies of the assignments this time, because the letters would not be given back to the pupils.

4.4 Analysis

The errors made by pupils were categorised into four types: grammar (e.g. *he like* instead of *he likes*), lexicon (e.g. *Netherlands* instead of *Dutch*), spelling (e.g. *favourit* instead of *favourite*), and punctuation (e.g. no full stop after a sentence). Grammatical errors contain mistakes in word order, tense, prepositions, pronouns, singular versus plural form, and verb inflection. Lexical errors are about word choice; using Dutch words in an English letter was also regarded as lexical mistakes. The category of spelling involves the misspelling of words. The final category, punctuation, contains full stops, commas, question marks, apostrophes, (semi) colons, and capitalization. It was noted exactly how many mistakes were made in each category per pupil. Also, the number of words per assignment was counted in order to express the errors in percentages. Assignments I and II written by the same pupil were then compared to see if he or she made relatively fewer errors of the same type, or fewer errors in total in the second assignment than in the first. Afterwards, the A and B assignments were compared to

see if there were any differences in the pupils' writing improvement with regard to the type of feedback given to their assignments. This would show which type of corrective feedback is most effective in general, to answer the main research question. Finally, the assignments of group 1 were compared with those of group 2 in order to find out whether any differences exist in the pupils' improvement between the two educational levels, and to answer the second research question. Both their improvement in a specific type of error and their overall improvement were taken into account.

5. Results

	Total errors	M	Total words	M	M %	M% DCF	M% ICF
VWO-1	211	8	1593	64	13.3	14.3	14.8
VWO-2	247	10	2074	83	11.9	12.3	11.6
VMBO-1	304	11	1153	41	26.4	26.7	26.0
VMBO-2	383	14	1556	56	24.6	25.5	23.7

Table 2: total number of errors and words and mean percentage of errors per words per version, level, and type of CF

Table 2 shows the total number of errors which were made by both VWO and VMBO-tkb pupils per version, as well as the mean number of errors per version and per educational level. It can be seen here that, on average, the VWO pupils who participated in this experiment made fewer errors than the VMBO-tkb pupils. Moreover, the mean number of errors was higher in the second assignment compared to the first for both educational levels. The table also shows the total number of words which were written per version and per educational level, as well as the mean number of words per version and educational level and the mean percentages of errors made per type of CF. On average, the VWO pupils used more words in

their letters than the VMBO-tkb pupils. Also, similar to the mean number of errors, the mean number of words was higher for the second assignment than for the first assignment for both educational levels. The total number of words was divided by the total number of errors per version per educational level and multiplied by a hundred in order to calculate the mean percentage of errors per total number of words for both version and both educational levels. Table 2 shows that the mean percentages of errors per number of words is only half as high for the VWO pupils compared to the VMBO-tkb pupils in both the first and the second assignment. However, for both educational levels there is a percentage decrease in mean number of errors for the second assignment compared to the first. The average percentage of errors per version and educational level can be seen to have decreased for both types of feedback. Moreover, this decrease is highest for those pupils who were given indirect CF.

	N of pupils improved (%)			N of pupils not improved (%)		
	DCF	**ICF**	**%**	**DCF**	**ICF**	**%**
VWO	8 (66.7)	6 (46.2)	56.0	4 (33.3)	7 (53.8)	44.0
VMBO	6 (42.9)	9 (64.3)	53.6	8 (57.1)	5 (35.7)	46.4
%	53.8	55.6		46.2	44.4	

Table 3: total number and percentage of pupils who improved and did not improve per level and type of CF

As shown in Table 3, 8 out of 12 VWO pupils improved and 4 did not improve after being given direct corrective feedback. 6 out of 13 VWO pupils improved after being given indirect CF, whereas 7 did not. 6 out of 14 VMBO-tkb pupils improved after being given direct CF, and 9 out of 14 improved after being given indirect CF. However, 8 VMBO-tkb pupils did not improve their writing after being given direct CF, and 5 did not after being

given indirect CF. Also taking Table 1 in section 4.1 into account, 14 out of 26 (53.8%) pupils who were given direct CF improved their writing, and 12 did not improve (46.2%). 15 out of 27 (55.6%) pupils who were given indirect CF improved their writing, whereas 12 did not (44.4%). Besides, the two tables show that 14 out of 25 (56.0%) VWO pupils improved their writing regardless of the type of feedback they had been given, and 11 did not (44.0%), and 15 out of 28 (53.6%) VMBO-tkb improved their writing, whereas 13 did not (46.4%).

	GR%		LX%		SP%		PU%	
	DCF	ICF	DCF	ICF	DCF	ICF	DCF	ICF
VWO-1	3.3	3.7	1.7	1.2	2.4	2.0	6.4	5.8
VWO-2	4.7	4.9	1.1	1.7	1.4	1.1	5.0	3.9
VMBO-1	5.2	6,1	3.5	1.8	3.7	2.7	14.3	15.4
VMBO-2	4.4	6.1	3.1	1.9	4.0	4.1	12.6	12.9

Table 4: percentages of errors per total number of words per error category, educational level, version, and type of CF

Table 4 shows the percentages of errors which were made relative to the total number of words, per error category and type of CF, per educational level and version. It can be seen here that the VWO pupils made relatively more grammatical errors in their second writing assignment than in the first, regardless of the type of corrective feedback which they had been given. The VMBO-tkb pupils who had received direct CF, on the other hand, made relatively fewer grammatical errors in the second version, whereas there seems to be no difference in the percentages of grammar errors for those who had been given indirect CF. With regard to lexical errors, both the VWO and VMBO-tkb pupils with DCF made, on average, fewer mistake in the second assignment, whereas those with ICF made either slightly more or an

equal number of errors. The percentage of spelling errors decreased with (nearly) one percentage point for the VWO pupils, regardless of the type of CF. The VMBO-tkb pupils, on the contrary, made more errors in the second assignment in both conditions; the increase was highest for those who had received ICF. Both the VWO and VMBO-tkb pupils seems to have made fewer punctuation errors in the second version compared to the first, and this decrease was highest for those who had received ICF.

	GR%		LX%		SP%		PU%	
	DCF	**ICF**	**DCF**	**ICF**	**DCF**	**ICF**	**DCF**	**ICF**
VWO-1	3.5	4.4	2.3	1.7	2.9	1.2	7.5	5.9
VWO-2	4.4	3.9	1.0	1.4	1.6	0.6	3.1	1.0
VMBO-1	7.1	7.1	3.4	2.7	4.2	4.4	18.9	20.3
VMBO-2	4.6	5.5	4.0	2.3	1.7	4.8	12.2	11.0

Table 5: percentages of errors per total number of words per error category, educational level, version, and type of CF of pupils who improved their writing in general

Table 5 shows the percentages of errors which were made relative to the total number of words, per error category and type of CF, per educational level and version, but only for those pupils who improved their writing in general (N=29). The table shows that relatively fewer errors were made in most error categories by both groups and both types of CF; however, there are some increases as well. The VWO pupils who had received DCF seem to have made relatively more grammatical errors in the second assignment than in the first. Also, the number of lexical and spelling errors increased for the VMBO-tkb pupils who had been given DCF and ICF respectively. The largest decreases in the relative number of errors can be found in punctuation; these numbers have nearly halved for both groups and both types of CF.

Version	Grammar	%	Lexicon	%	Spelling	%	Punctuation	%	Total	Words	%
1	18	3.4	12	2.3	15	2.9	39	7.5	84	519	16.2
2	30	4.4	7	1.0	11	1.6	21	3.1	69	676	10.2

Table 6: numbers and percentages of errors per category of VWO pupils who improved after direct CF (N=8)

Table 6 shows the number of errors which were made by the VWO pupils who improved their writing after being given direct corrective feedback (N=8). The percentage of grammatical errors is the only error category which shows an increase instead of a decrease. Looking at the numbers of punctuation errors in both versions and the total numbers of errors and words, the decrease here is the highest; whereas nearly half of all errors lay in punctuation in version 1, this percentage is cut down to only one third in version 2.

Version	Grammar	%	Lexicon	%	Spelling	%	Punctuation	%	Total	Words	%
1	18	4.4	7	1.7	5	1.2	24	5.9	54	405	13.3
2	20	3.9	7	1.4	3	0.6	5	1.0	35	507	6.9

Table 7: numbers and percentages of errors per category of VWO pupils who improved after indirect CF (N=6)

Table 7 shows the number of errors which were made by the VWO pupils who improved their writing after being given indirect corrective feedback (N=6). On average,

these pupils made fewer errors in all four error categories in the second assignment compared to the first; the decrease was again highest for punctuation.

Version	Grammar	%	Lexicon	%	Spelling	%	Punctuation	%	Total	Words	%
1	7	3.0	1	0.4	3	1.3	9	3.9	20	232	8.6
2	17	5.4	4	1.3	3	0.9	29	9.1	53	317	16.7

Table 8: numbers and percentages of errors per category of VWO pupils who did not improve after direct CF (N=4)

With regard to the VWO pupils who did not improve after being given direct CF (N=4), Table 8 shows that these pupils made relatively more errors in three error categories, but fewer errors were made in spelling. The relative increase of errors is highest in punctuation and lowest in the lexical error category.

Version	Grammar	%	Lexicon	%	Spelling	%	Punctuation	%	Total	Words	%
1	10	2.5	2	0.5	10	2.5	24	6.1	46	395	11.6
2	29	5.6	11	2.1	9	1.7	29	5.6	78	515	15.1

Table 9: numbers and percentages of errors per category of VWO pupils who did not improve after indirect CF (N=6)

There were six VWO pupils who did not improve their writing after being given

indirect CF. As shown in Table 9, they made relatively more grammatical and lexical errors, whereas the number of spelling and punctuation errors actually decreased.

Version	Grammar	%	Lexicon	%	Spelling	%	Punctuation	%	Total	Words	%
1	17	7.1	8	3.3	10	4.2	45	18.9	80	238	33.6
2	14	4.6	12	4.0	5	1.7	37	12.2	68	303	22.4

Table 10: numbers and percentages of errors per category of VMBO-tkb pupils who improved after direct CF (N=6)

Table 10 shows the number of errors per category of the VMBO-tkb pupils who were given direct CF and improved their writing in the second assignment compared to the first (N=6). As shown in this table, they made, on average, fewer errors in grammar, spelling, and punctuation. The percentage of lexical errors was actually increased in the second version. It seems that the relative decrease of errors is highest for spelling.

Version	Grammar	%	Lexicon	%	Spelling	%	Punctuation	%	Total	Words	%
1	21	7.1	8	2.7	13	4.4	60	20.2	102	296	34.5
2	24	5.5	10	2.3	21	4.8	48	11.0	103	437	23.6

Table 11: numbers and percentages of errors per category of VMBO-tkb pupils who improved after indirect CF (N=9)

As shown in Table 11, the VMBO-tkb pupils who improved their writing in general after they had been given indirect CF, made relatively fewer errors in grammar, lexicon, and punctuation and, on average, slightly more spelling errors. The highest decrease is in punctuation, whereas the lowest decrease is in lexical errors.

Version	Grammar	%	Lexicon	%	Spelling	%	Punctuation	%	Total	Words	%
1	14	3.9	13	3.6	12	3.4	40	11.2	79	357	22.1
2	24	4.6	15	2.9	30	5.7	73	14.0	143	522	27.4

Table 12: numbers and percentages of errors per category of VMBO-tkb pupils who did not improve after DCF (N=8)

8 VMBO-tkb pupils did not improve their writing after being given direct CF. Table 12 shows that they made relatively more errors in grammar, spelling, and punctuation in the second writing assignment compared to the first. However, fewer errors were lexical.

Version	Grammar	%	Lexicon	%	Spelling	%	Punctuation	%	Total	Words	%
1	13	5.0	2	0.8	2	0.8	26	9.9	43	262	16.4
2	18	6.1	3	1.0	7	2.4	42	14.3	70	294	23.8

Table 13: numbers and percentages of errors per category of VMBO-tkb pupils who did not improve after ICF (N=5)

As shown in Table 13, 5 VMBO-tkb pupils did not improve their writing after being given indirect CF. These pupils made, on average, more grammatical, lexical, spelling, and punctuation errors in the second version than in the first. This increase of errors is highest in punctuation and lowest in the category of 'lexicon'.

6. Discussion

Much research has been done on various types of corrective feedback, including direct CF, indirect CF, metalinguistic CF, electronic feedback, and reformulation. However, very little was found in the literature on the question of which type of corrective feedback is both effective for pupils and not very time-consuming for teachers. Also, very little was found on which type of CF works best for pupils with different educational levels.

First of all, the results of this study show that VMBO-tkb pupils make relatively more errors in their writing than VWO pupils. However, on average, relatively fewer errors were made in the second assignment than in the first writing assignment for both educational levels, as shown in Table 2. When taking into account the numbers of pupils who improved their writing in general (i.e. made relatively fewer errors), there are some differences in educational level and type of corrective feedback; 14 out of 25 VWO pupils improved and 11 did not, and 15 out of 28 VMBO-tkb pupils improved and 13 did not. Furthermore, 14 out of 26 pupils who had been given DCF improved their writing, whereas 12 did not, and 15 out of 27 pupils who had received ICF improved, whereas 12 did not. These numbers are all very similar, but when the four groups (i.e. VWO with DCF, VWO with ICF, VMBO with DCF, and VMBO with ICF) are taken into account, Table 3 shows that 8 out of 12 VWO pupils who improved their writing in general, did so after direct CF, whereas only 6 out of 13 improved after ICF. For the VMBO-tkb pupils, however, the contrary is shown: 9 out of 14 pupils who made

relatively fewer errors in the second assignment, did so after they had been given indirect CF, whereas only 6 out of 14 improved after direct CF. Hence, surprisingly, the VWO pupils in this experiment seem to benefit more from direct CF than from indirect CF, whereas the VMBO-tkb pupils in this study made relatively fewer errors after they had been given indirect CF than after direct CF.

Then, when the percentages of errors per total number of words are taken into account per error category (Table 4), it seems to be the case that the relative decrease of punctuation errors is highest for the pupils who had been given indirect corrective feedback. Moreover, VMBO-tkb pupils seem to make relatively fewer grammatical errors only if they are given direct CF.

In contrast to earlier ideas, direct CF does not seem to be more effective than indirect CF for less proficient pupils, but it seems that it does for pupils with a higher language proficiency (Ferris & Roberts, 2001). Moreover, indirect CF is found to be more effective for low proficient VMBO-tkb pupils, which is contrary to what was claimed by Lalande (1982). The present study found a significant difference in general between the two types of feedback. It was previously thought that direct CF requires only minimal processing from learners and would therefore work better for less proficient pupils. The VMBO-tkb pupils in this study who improved their writing in general, however, showed no significant difference between the effectiveness of direct versus indirect CF (from 33.6% errors per total number of words to 22.4% after DCF, and from 34.5% to 23.6% after ICF), although relatively more VMBO-tkb pupils improved after ICF than VWO pupils. The percentage of errors per total number of words went down from 16.2 to 10.2 for the VWO pupils who improved after indirect CF, and from 13.3 to 6.9 for those being given direct CF (Table 6 and 7); however, relatively more VWO pupils improved after DCF than VMBO-tkb pupils. The relative decrease of errors was almost the same for both educational levels and both types of corrective feedback, though. On

the other hand, the VWO pupils who did not improve their writing in general, made relatively more errors after they had been given direct CF than after indirect CF (from 8.6% to 16.7% compared to 11.6% - 15.1%). The VMBO-tkb pupils who did not improve, made relatively more errors after they had received indirect CF compared to direct CF (from 22.1% to 27.4% compared to 16.4% - 23.8%). This finding does not only suggest that the relative improvement differs significantly between the two educational levels and the two types of CF, but also that the VWO pupils who did not improve, did worst after DCF, and the VMBO-tkb pupils who did not improve did worst after ICF.

There is a possible explanation for the conflicting results of this study, compared to that of previous studies. This study found a difference between the percentages and numbers of pupils who made fewer errors, relative to the total number of words, after they had been given either direct or indirect CF on their first writing assignments. One possible explanation is that the number of participants was too low in this experiment. An experiment in which more subjects participated would probably lead to more reliability and to even more contrast between the two types of corrective feedback. Also, it is possible that the data contained outliers which might have influenced the results and could therefore have caused the significant differences. Moreover, indirect CF is thought to require that pupils engage in deeper processing and might therefore be more effective for pupils with a higher language proficiency, which is expected from VWO pupils more than from VMBO-tkb pupils (Lalande, 1982; Ellis, 2008). However, the contrary seems to have been found in this study, perhaps as a consequence of the unequal gender distribution, as shown in section 4.1.

The results need to be interpreted with caution, because the period of time between the first assignment, the review of the first assignment, and the moment of doing the second assignment was not the same for each group. The VMBO-tkb pupils did not have as much time to process their feedback as the VWO pupils, which is a potential confound. Also, some

pupils might not have taken the assignments and the review of the first assignment seriously, and might have made errors deliberately or did not critically pay attention to their feedback. Another important note to make here is that dyslexia was not taken into account. Spelling errors might therefore be overrepresented in this study because it was unknown if and which pupils suffered from dyslexia and had related difficulties in spelling. It should also be noted that there were pupils who did not improve their writing in the second assignment compared to the first writing assignment. Out of the 25 VWO pupils who participated, 14 actually made relatively fewer errors and 11 stayed the same or even worsened. Out of the 28 VMBO-tkb pupils, 15 improved and 13 did not change or made more errors in the second assignment. This study mainly focused on the number of pupils who improved their writing after one of the two types of corrective feedback described above, and paid only little attention to the type of feedback which was given to pupils who did not improve their writing. Nothing was included in the research questions about the pupils who made relatively more errors in the second assignment than in the first, but only interesting patterns were pointed out, due to the limited time which was available for this research.

In general, it seems that both direct and indirect corrective feedback are effective after the feedback is reviewed by pupils and when a follow-up assignment about a similar subject is given to them. However, the type of corrective feedback which teachers use might be chosen according to the educational level of the pupils, because it seems that VWO pupils are more likely to benefit from direct CF compared to indirect CF and compared to VMBO-tkb pupils. More VMBO-tkb pupils, on the other hand, seem to make fewer errors in a follow-up assignment after they have been given indirect feedback. This finding has important implications for all teachers of English in secondary or Grammar school in correcting their pupils' writing assignments.

7. Conclusion

The present study found a difference in the numbers of pupils who improved after being given either direct or indirect corrective feedback, and suggests that direct CF leads to more VWO pupils improving particular aspects of their writing proficiency, whereas indirect CF is more effective for VMBO-tkb pupils. This answers both the first and the second research question: the two types of feedback do not seem to be equally effective for pupils, and there certainly are differences in which type works best for different educational levels.

A number of methodological issues have influenced this study. The most important drawback is the circumstances in which the pupils made the assignments and reviewed their first assignment. Most groups were able to do the assignment individually in silence, but it was difficult to monitor if and when pupils communicated with their classmates. Moreover, during the lesson in which the pupils were asked to read the feedback on their first writing assignments, it was difficult to control if they only discussed their feedback with their classmates, or if they perhaps also talked about irrelevant topics. Another drawback is the variation in timespan between the first assignment, the review, and the second assignment. As mentioned in section 4.2, the timespan varied from two days to two weeks.

A different approach to this topic could lead to new results. For example, future research could consist of more participants from more educational levels, to see if there are also differences in which type of corrective feedback is most effective between VMBO-tkb and any levels in between that and VWO. The participants could be asked to do the assignment individually in another room than their classmates, to assure that assignments are taken seriously and done without any help from others. The researcher should still be present in all cases to prevent pupils from using tools such as text books or the Internet while writing the assignment. However, it is also a possibility to have multiple pupils doing the assignment in a separate room at a time, using screens in between them to make sure they cannot help

each other. It is also important that the time between the first assignment and the review moment of the feedback on that assignment is the same for each participant. This should also be the case for the time between the review moment and the second assignment.

There are some future research avenues that could be explored within the field of corrective feedback. First of all, more educational levels should be taken into account to see if there are significant differences between them with regard to the type of corrective feedback which works best for that group of pupils. Second, it might be interesting to compare the effectiveness of direct and indirect corrective feedback on both the short and the long term. The non-improvers could also be taken into account; perhaps one of the two types of CF mentioned in this study elicits more errors relative to the total number of words per letter than the other type and should therefore not be used for a specific group of pupils.

8. References

Chandler, J. (2003). The efficacy of various kinds of error feedback for improvement in the accuracy and fluency of L2 student writing. *Journal of Second Language Writing, 12*, 267-296. doi:10.1016/S1060-3743(03)00038-9

Cohen, A. D. (1989). Reformulation: A technique for providing advanced feedback in writing. *Guidelines: A Periodical for Classroom Language Teachers, 11*(2), 1-9

Ellis, R. (2008). A typology of written corrective feedback types. *English Language Teaching Journal, 63*(2), 97-107. doi:10.1093/elt/ccn023

Ferris, D. R., & Roberts, B. (2001). Error feedback, in L2 writing classes: How explicit does it need to be? *Journal of Second Language Writing, 10*, 161-184. doi:10.1016/S1060-3743(01)00039-X

Lalande, J. F. (1982). Reducing composition errors: An experiment. *Modern Language Journal, 66*, 140-149. doi:10.1111/j.1540-4781.1982.tb06973.x

Lee, I. (1997). ESL learners' performance in error correction in writing. *System, 25*, 465-477. doi:10.1016/S0346-251X(97)00045-6

Milton, J. (2006). Resource-rich Web-based feedback: Helping learners become independent writers. In K. Hyland & F. Hyland (Eds.), *Feedback in Second Language Writing: Contexts and Issues*. Cambridge: Cambridge University Press. doi:10.1017/CBO9781139524742.009

Race, P. (2001). Using feedback to help students to learn. *The Higher Education Academy*. Retrieved from http://wap.rdg.ac.uk/web/FILES/EngageinFeedback/Race_using_feedback_to_help_students_learn.pdf

Sachs, R., & Polio, C. (2007). Learners use of two types of written feedback on an L2 writing task. *Studies in Second Language Acquisition, 29*, 67-100. doi:10.1017/S0272263107070039

Sheen, Y. (2007). The effect of focused written corrective feedback and language aptitude on ESL learners' acquisition of articles. *TESOL Quarterly, 41*, 255-283. doi:10.1002/j.1545-7249.2007.tb00059.x

9. Appendices

Appendix A: list of VMBO-tkb participants and their average marks for English

Group 1A (VMBO-tkb, direct CF)	Mark	Group 1B (VMBO-tkb, indirect CF)	Mark
1	4,9	15	5,5
2	5,1	16	5,1
3	9,2	17	8,6
4	8,4	18	8,5
5	8,3	19	8,5
6	8,2	20	8,2
7	8,0	21	8,1
8	7,6	22	8,0
9	7,6	23	7,3
10	6,6	24	7,1
11	6,7	25	6,5
12	6,3	26	6,3
13	6,3	27	5,8
14	5,5	28	5,4
N=14	**7,05**	**N=14**	**7,06**

Appendix B: list of VWO participants and their average marks for English

Group 2A (VWO, direct CF)	Mark	Group 2B (VWO, indirect CF)	Mark
29	9,1	41	9,0
30	8,8	42	8,8
31	8,4	43	8,7
32	7,7	44	8,2
33	7,7	45	8,2
34	7,6	46	7,6
35	7,1	47	7,5
36	7,1	48	7,2
37	6,5	49	7,0
38	6,4	50	6,6
39	4,9	51	6,3
40	6,1	52	5,4
		53	6,1
N=12	**7,28**	**N=13**	**7,43**

Appendix C: Writing assignment I

Writing exercise 1   Full name: _____
                                           Class: _____

You are looking for an English friend to write emails to, so you can improve your English in school. Write a short letter to introduce yourself, include this:

- Your name
- Your age
- The name of your city or village
- The name of your country
- Your favourite subject at school
- Two of your hobbies
- Two other things you want to tell

Hi everyone!

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Bye! _____

Appendix D: Writing assignment II

Writing exercise 2   Full name: _____

                                         Class: _____

Your grandmother is really interested in you. She wants to know all about you: school, hobbies, friends, etc. Write a short letter in English to your grandmother in which you tell her about these things:

- Your favourite subject at school
- One other subject you like
- One subject you don't like or hate
- Your favourite hobby
- Your pet(s): what sort of animal and name
- Your best friend(s): name and age
- Activities you do with your friend(s)

Write your letter in **full sentences**.

Dear grandma,

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Bye! _____