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Effects of Focused Feedback on the Acquisition of Two English Articles

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Abstract

It has been debated whether teachers should treat students' grammatical errors in second language writing instruction (Truscott, 1996, 1999, 2010; Ferris, 1999, 2004, 2010). Several meta-analyses have investigated correction effects (e.g., Russell & Spada, 2006; Truscott, 2007). Their findings, however, have been conflicting. A recent trend to distinguish specific grammar error types from one another to evaluate correction effects has attracted much attention in written feedback literature (Bitchener & Knoch, 2010ab; Sheen, Wright & Moldawa, 2009). The present meta-analysis, following the recent trend, attempts to assess different types of focused direct correction effects on learners' acquisition of the English article system. Based on Truscott's (2007) inclusion and exclusion criteria, six and five effect sizes are extracted for direct correction type and metalinguistic explanation type separately from seven focused feedback studies. Both direct correction and metalinguistic explanation have large positive effects on learners' ability to accurately use English articles in their writings in terms of long-term learning. This suggests that direct correction may be sufficient for students' acquisition of English articles. Studies to correct other error types should be conducted in the future.

Keywords: Written corrective feedback (WCF); Focused feedback; English article; Direct correction; Meta-analysis

Introduction

Whether teachers should correct errors produced by learners in their foreign/second language has been an issue for years. Attention given to the effect of corrective feedback has increased since Truscott (1996, 1999) reviewed several studies, claiming that error correction plays no facilitative role in improving learner writing. He indicated that there is no clear evidence proving benefit from correction because previous researchers considered revisions of written drafts as improvement with some studies even lacking a control group for comparison. In addition, Truscott pointed out harmful effects of correction, including decreasing fluency in writing, increasing anxiety, and lowering confidence. However, Ferris (1999, 2004) argues that error correction is still necessary and useful because most students prefer, need and trust teachers' feedback. She considers it premature to conclude that error correction does not work simply because previous studies were not designed well. Russell and Spada (2006) conducted a meta-analysis to explore the effectiveness of corrective feedback on second language

grammar. Their meta-analysis included oral and written feedback studies. They found a large effect size (1.16), concluding that corrective feedback is effective for L2 grammar learning. Truscott (2007) in the following year conducted a meta-analysis on written feedback studies, indicating that correction has a small negative effect on students' ability to write accurately, adding that even if it is beneficial to students, the effect is small. He argues that Russell and Spada's (2006) findings are consistent with his because most of the studies in their meta-analysis examined learners' performance on grammar tests and revision tasks, which cannot investigate whether correction affects learners' ability to write accurately. It has, however, been criticized that Truscott reiterates the same evidence against written correction from his review in 1996 to his meta-analysis in 2007 (Bruton, 2010). In an attempt to settle this issue, Truscott and Hsu (2008) carried out an empirical study reconfirming that error correction should be abandoned. They showed that students, having given the opportunity to revise their writing after receiving teachers' feedback, did not perform better in a subsequent writing task. Still, another recent study yielded a result countering Truscott and Hsu's claim (2008), showing not only short- but also long-term learning effects of error correction on students' written accuracy (Van Beuningen, De Jong & Kuiken, 2011). It is obvious that the effectiveness of error feedback in previous studies is still rather conflicting.

Since several studies have recently addressed Truscott's argument, it is necessary to include these studies in a meta-analysis to increase our understanding of feedback effectiveness. In recent written feedback literature, there is a trend to distinguish focused from unfocused feedback. The former is concerned with on one or a few specific error types to target for corrections, whereas the latter does not specify specific error types but corrects grammar errors of all sorts (Ellis, 2009; Ellis, Sheen, Murakami & Takashima, 2008). Since recent research has suggested that specific grammar error types should be distinguished from one another to evaluate correction effects (Bitchener, Young & Cameron, 2005; Bruton, 2009), and because previous meta-analysis researchers fail to do so, the researcher attempts to explore correction effects on two functional uses of the English article system, including the referential indefinite article "a" and the referential definite article "the", which learners of English have experienced difficulty in mastering (Crompton, 2011; Ferris, 2002, 2006; Master, 1995).

The article system in English is complicated because the choice of <u>the</u> or <u>a</u> or <u>Ø</u> in expressing one's idea about a noun in English is ambiguous and can only be disambiguated in context (Kambou, 1997). Huebner (1983) proposed features of referentiality: ([+/- Specific Referent i.e. +/- SR] and [+/- Assumed Known to the Hearer, i.e. +/- HK]) to examine the acquisition of the article system. Based on the features of referentiality, the use of the English articles can be classified into four semantic categories as follows.

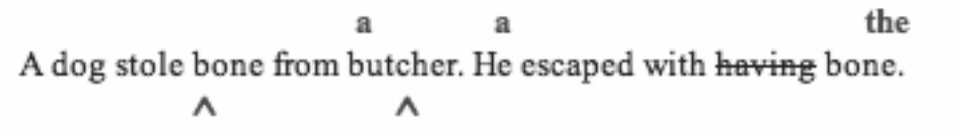
Table 1. Reported problems with the implementation of the exit requirement

Generic	Referential	Referential	Nonreferential
[-SR +HK]	Definite	Indefinite	[-SR -HK]
	[+SR +HK]	[+SR -HK]	
the, a, Ø	The	a, Ø	a, Ø

Among the four semantic categories, most focused feedback researchers have particularly targeted the two semantic categories of English article usages for corrections, including referential indefinite article "a" and the referential definite article "the". The researcher, therefore, focuses on studies that correct the two semantic error types of English articles in evaluating feedback effectiveness.

Although several studies have investigated the direct feedback effects on second language acquisition (Petchprasert, 2012), little attention has been paid to comparing different direct correction types (Bitchener & Knoch, 2009). Direct correction and metalinguistic explanations have commonly been found in previous focused feedback studies. The following examples of two correction types are provided by Ellis, et al. (2008) and Bitchener (2008), respectively.

Direct correction



Metalinguistic explanations

1. Use "a" when referring to something for the first time.
2. Use "the" when referring to something that has already been mentioned.

Example:

A man and **a** woman were sitting opposite me. **The** man was British but I think **the** woman was Australian.

Recent studies that compare the effects of direct correction and metalinguistic explanations yield conflicting results. The purpose of the current paper is to synthesize selected empirical feedback studies and to investigate relative effectiveness of different types of direct correction.

Why meta-analysis and its use

The decision to use an intervention could not be based on a single study's statistical significance, because results typically vary from one study to the next, and, in general, variables across studies are slightly different (Norris & Ortega, 2007). A meta-analysis

is a systematic review to synthesize similar variables across studies to objectively decide whether a certain treatment or intervention is effective or not. In the procedure of such analysis, the first step is to calculate effect sizes from each study. Effect size quantifies the difference between experimental and control groups. Three statistical data are commonly extracted to calculate effect sizes: mean scores, standard deviations and sample sizes. Since more than one effect size in a single study inflates sample sizes, loses independence of data points and causes distortion of standard error, only one effect size per study can be included for a meta-analysis (Borenstein, Hedges, Higgins & Rothstein, 2009; Lipsey & Wilson, 2001).

In addition, previous meta-analysis researchers (e.g., Li, 2010; Russell & Spada, 2006) who investigate the effectiveness of corrective feedback all follow the principle of "one study, one effect size". The current study also adheres to this principle. It is therefore necessary to decide which comparison in each study to include in the meta-analysis. Since the aim is to explore the effectiveness of direct and metalinguistic feedback, the comparison between the control group and the feedback treatment group in each study is extracted. The following widely used guideline of Cohen's *d* (1992) is adopted to interpret effect sizes in the meta-analysis: small effect = 0.2-0.5; medium effect = 0.5-0.8; large effect = 0.8 and up. As to how to produce average effect sizes from several comparisons between control and experimental groups, previous researchers have proposed some methods (e.g., Li, 2010; Russell & Spada, 2006; Truscott, 2007). Since variations exist among different studies, we need to take variations into consideration when extracting an effect size across studies.

In most meta-analyses, two statistical models are used to address variation problems: the fixed-effect and the random-effects models (Borenstein, Hedges, Higgins & Rothstein, 2009). Under the fixed-effect model, it is assumed that all studies are identical, and there is only one true effect size. Under the random-effects model, true effects could vary from study to study, and all studies are considered similar. Since it is generally implausible to assume that the true effect size is exactly the same in all the studies, the random-effects model was adopted to produce an average effect size in the meta-analysis. To accurately interpret an average effect size, besides the power of effect sizes decided by Cohen's *d*, a 95% confidence interval is taken into consideration. The 95% confidence interval (CI) expects that about 95% of the CI's constructed from different data sets include real average effect size and about 5% will fail to do so. A confidence interval that does not include zero in the range indicates a 95% confidence in that the true effect size is included within this range. In addition, Q-tests are performed to examine whether different types of direct focused feedback can influence learners' acquisition of two English article usages. In the present paper, professional meta-analysis software, Comprehensive Meta-Analysis (CMA; Borenstein, Hedges, Higgins, & Rothstein, 2005) was employed to obtain statistical data.

A selection of studies to be included

Focused feedback studies in the meta-analysis mainly come from important international journals and monographs for second language teaching and learning. We chose studies published after Truscott's (2007) meta-analysis because after his work, several focused feedback studies have been conducted. Truscott's (2007) selection

criteria are used to decide which studies are appropriately included in the meta-analysis:

(1) Truscott (1996, 1999, 2007) argues against feedback to correct grammatical errors, not spelling errors. Studies reviewed in the current paper must involve grammar corrections.
(2) Since studies without control groups that receive no correction cannot serve as evidence of feedback effects (Ferris, 1999, 2004; Guénette, 2007; Truscott, 1996, 2004, 2007), only studies with control group comparisons are included in this paper. Truscott (2007) terms these studies uncontrolled experiments (e.g., Chandler, 2003; Ferris, 2006; Lalande, 1982) because some did not include control groups and some did not control intervening variables well between control and experimental groups. For example, in Bitchener, Young and Cameron's (2005) study, although they noted that control and experimental groups received the same amount of time on English grammar and writing, each group's classroom exposure was dramatically different. Students' grammatical improvements might have been due to different class hours instead of feedback giving. Thus, such uncontrolled experiments were excluded from the current meta-analysis.
(3) As to measurements to judge students' grammatical improvements via correction, research participants should engage in discourse writing. Multiple-choice or cloze exams to test students' metalinguistic knowledge cannot serve as proper measurements to test students' acquisition of grammatical competence (Truscott, 1996). In addition, revision studies (e.g., Ashwell, 2000; Fathman & Whalley, 1990; Ferris & Roberts, 2001) are excluded because they do not evaluate students' real learning gains in subsequent discourse writings (Truscott, 2007).
(4) Computer assisted language learning (CALL) studies are also excluded because the majority of previous CF studies examine feedback effects in traditional ways (Russell & Spada, 2006).
(5) Since my research purpose is to investigate the role of written correction in second language writing, studies in this review should clearly isolate the written corrective feedback treatment from other forms of treatment.

Results

Seven focused feedback studies were found to satisfy the criteria for this meta-analysis. The focused feedback studies to correct English article errors have attracted much attention recently (from 2007 to 2010). Since the present meta-analysis investigates different types of focused feedback effectiveness, statistical data from different feedback types in pretests, immediate post-tests and delayed post-tests are extracted to observe the change of effect size before and after the treatment. It is found that six effect sizes are extracted to determine the direct correction effects and five effect sizes to show metalinguistic explanation effects. Immediate post-tests assess whether students after receiving focused feedback can increase their accuracy of English article use in their subsequent writings, whereas delayed post-tests evaluate whether or not focused feedback benefits in immediate posttests can be retained after about one month.

Table 2 demonstrates direct correction effect sizes from pretests to delayed post-tests. In pretests, the random-effects model produces a negligible effect size (0.091). Before the correction treatment, the difference between control and experimental groups fails to reach statistical significance, as evidenced by the 95% confidence interval (-0.207 to 0.390). The random-effects model produces a medium positive effect size (0.695), with the 95% confidence interval of 0.273 to 1.117 in immediate post-tests and a large positive effect size (0.814) with the confidence interval of 0.324 to 1.305 in delayed post-tests. Since the confidence levels do not include zero, the observed averaged effect sizes are statistically reliable.

Table 2. Direct correction effect sizes from pretests to delayed post-tests

	Effect size (*d*)		
	English article acquisition		
	Pretest	Immediate	Delayed
Study		post-test	post-test
Bitchener (2008)	0.312	1.512	1.018
Bitchener & Knoch (2008)	-0.289	0.602	1.024
Bitchener & Knoch (2010a)	-0.025	0.663	1.254
Ellis, Sheen, Murakami & Takashima (2008)	0.826	0.438	1.653
Sheen (2007)	-0.204	0.105	0.047
Sheen, Wright & Moldawa, 2009	0.275	0.960	0.318
Average effect size	0.091	0.695	0.814
95% CI upper	0.39	1.117	1.305
95% CI lower	-0.207	0.273	0.324
SE	0.152	0.215	0.250

Table 3 demonstrates metalinguistic explanation effect sizes from pretests to delayed post-tests. In pretests, the random-effects model produces a negligible effect size (-0.049). Before the correction treatment, the difference between control and experimental groups fails to reach statistical significance, as evidenced by the 95% confidence interval (-0.338 to 0.240). The random-effects model produces a large positive effect size (0.914), with the 95% confidence interval of 0.568 to 1.261 in immediate post-tests and a large positive effect size (0.879) with the confidence interval of 0.576 to 1.182 in delayed post-tests. Since the confidence levels do not include zero, the observed averaged effect sizes are statistically reliable.

Table 3. Metalinguistic explanation effect sizes from pretests to delayed post-tests

	Effect size (*d*)		
	English article acquisition		
	Pretest	Immediate	Delayed
Study		post-test	post-test
Bitchener (2008)	0.048	1.226	0.652
Bitchener & Knoch (2008)	-0.222	0.932	0.972
Bitchener & Knoch (2010a)	-0.258	0.991	1.242
Bitchener & Knoch (2010b)	0.133	1.412	1.166
Sheen (2007)	0.014	0.458	0.725
Average effect size	-0.049	0.914	0.879
95% CI upper	0.240	1.261	1.182
95% CI lower	-0.338	0.568	0.576
SE	0.147	0.177	0.155

Figure 1 presents the changes of effect sizes from pretests to delayed post-tests in terms of different direct correction types. Although direct correction (0.695) yields a smaller effect size than does metalinguistic explanation (0.914) in immediate post-tests, there is no significant difference between direct correction and meta-linguistic explanation (Q=0.619, p=0.431). In addition, the direct correction effect size increases (0.814), similarly to the metalinguistic explanation (0.879) in delayed post-tests. The two feedback types also do not differ substantially in affecting learners' acquisition of two English article usages (Q=0.049, p=0.825).

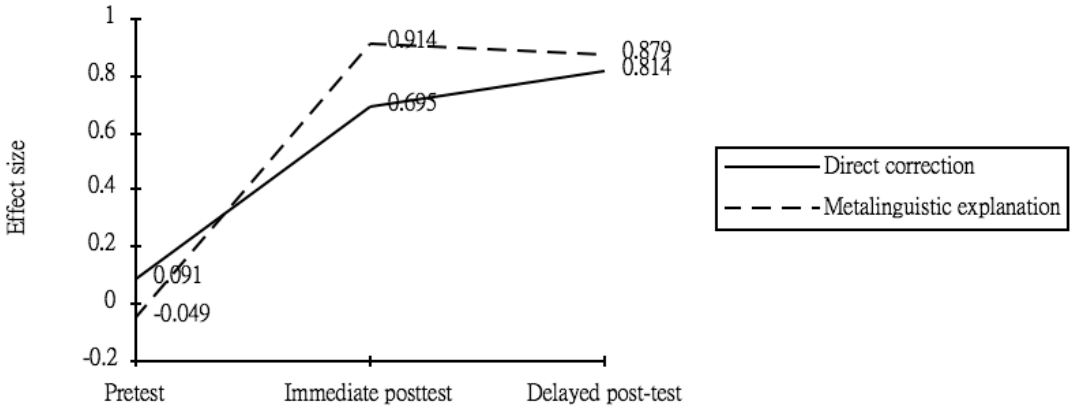


Figure 1. Different types of direct correction effects from pretests to delayed post-tests

Conclusion and discussion

Since it is quite possible that the precise content of the feedback and the precise error type targeted for that feedback could be decisive in determining its effectiveness, different types of direct correction effects are investigated in this meta-analysis. When examining direct correction effects on learners' ability to accurately use English articles, the researcher can be 95% confident that direct correction has a medium positive effect on learners' written accuracy in their subsequent writings and a large effect after one month. In terms of metalinguistic explanations, a large positive effect has been found in immediate and delayed post-tests. Furthermore, no statistically significant difference between direct correction effect size and meta-linguistic explanation effect size is found. The provision of direct correction is sufficient for students' accurate use of English articles. Contrary to Truscott's (2007) conclusion that correction has a small harmful effect on students' ability to write accurately, We can state that when correction is targeted at a specified error type, correction has a large beneficial effect on students' long-term learning. Most importantly, the feedback is concerned with just two instances of article use, where simple rules can be applied. The result obtained in this paper is different from Truscott's because the question of whether feedback affects learning has been narrowed down to whether focused feedback affects learning.

Focused feedback has been found effective for the English article errors. Specifically, focused feedback is effective for article errors of first mention of a noun phrase in a discourse as well as article errors of referent previously mentioned in the discourse. According to Bickerton's (1981) features of referentiality, the difference between the two semantics error types is whether or not learners can identify the noun phrase assumed to be known to readers. In other words, focused feedback can help learners perceive the binary division between the noun phrase assumed known to readers and the noun phrase not assumed known to readers. The reason that focused feedback is effective might be that the feedback is systematically given to correct the binary division between indefinite and definite article errors. Since there are several binary divisions in the English article system (Master, 1990), other errors of binary divisions of

English articles should be targeted for corrections to advance our understanding of focused feedback effectiveness.

Previous researchers have queried how and what error types should be selected for corrections (Truscott, 1996, 2001; Xu, 2009), whether focusing on one or two error types leads to a Present-Practice-Produce exercise (Bruton, 2009), and whether focused feedback may be less practical in the classroom (Evans, Hartshorn & Strong-Krause, 2011; Ferris, 2010; Hartshorn, Evans, Merrill, Sudweeks, Strong-Krause & Anderson, 2010). Focused feedback studies in this meta-analysis corrected the same error type in similar writing tasks, English article errors in picture descriptions. Since certain objects need to be repeatedly described in pictures, the uses of definite and indefinite articles are necessary for successful task completion. Picture description tasks generally belong to a narrative mode where uses of grammatical articles have communicative values and are naturally embedded (Tarone & Parrish, 1988). The pedagogical implication is that when specific language features to be focused for corrections have communicative values, and are naturally embedded in writing tasks, correction improves not only students' written accuracy but also their communication.

Direct correction is beneficial to learners' acquisition of English article use. Some pedagogical issues regarding focused feedback are raised and addressed as well. There are, however, some limitations that should be considered. More studies on focused feedback are thus needed. The current study has been conducted to look at two types of corrective feedback effects on learners' acquisition of English articles, particularly the two functional uses of the article system: the referential indefinite article "a" and the referential definite article "the". Since the two uses of articles are conflated in previous studies and in the current meta-analysis, it remains unclear what specific article usage benefits most from error correction. Consequently, it is hoped that this paper will provoke more research on how to help L2 writing instructors in offering focused feedback not only to increase written accuracy and but also to improve written communication. Hence, the question of "How effective is feedback?" should be narrowed down to "How effective is focused feedback?"

About the Author

Mr. **Chian-Wen Kao** received his MA in Applied Foreign Languages from National Pingtung Institute of Commerce in Taiwan. He is a PhD candidate at the Graduate Institute of Learning and Instruction, National Central University, Taiwan. He has presented many studies related to second language writing development in international conferences, including the Annual Conference of the American Association of Applied Linguistics (AAAL), the Annual Meeting of the British Association of Applied Linguistics (BAAL) and Second Language Research Forum (SLRF). He currently serves as a lecturer of English in Language Center of De Lin Institute of Technology and of Department of Applied Foreign Languages of National Taipei College of Business in Taiwan. His research interests include written corrective feedback, digital game based learning and second language learning strategies.

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Appendix A

Descriptive statistical data of pretests from focused feedback studies

Researcher	**Group comparison**	***N***	**Mean**	**S.D.**	**Notes**
Bitchener, 2008	Direct correction	20	59.350	18.390	
	Meta-linguistic explanation	18	53.110	21.730	
	No correction	20	51.900	28.320	
Bitchener & Knoch, 2008	Direct correction	15	59.930	19.430	Data from migrant students are adopted.
	Meta-linguistic explanation	18	61.060	19.940	
	No correction	19	65.160	17.010	
Bitchener & Knoch, 2010a	Direct correction	13	59.690	20.450	
	Meta-linguistic explanation	13	55.310	20.080	
	No correction	13	60.170	17.580	
Bitchener & Knoch, 2010b	Meta-linguistic explanation	12	87.080	13.220	
	No correction	12	85.580	8.890	
Ellis, Sheen, Murakami & Takashima, 2008	Direct correction	11	0.734	0.076	
	No correction	11	0.588	0.238	
Sheen, 2007	Direct correction	31	53.100	19.800	
	Meta-linguistic explanation	32	57.600	21.000	
	No correction	28	57.300	21.400	
Sheen, Wright & Moldawa (2009)	Direct correction	22	60.200	13.100	
	No correction	16	56.400	14.800	

Appendix B

Descriptive statistical data of post-tests from focused feedback studies

Researcher	**Group comparison**	***N***	**Mean**	**S.D.**	**Notes**
Bitchener, 2008	Direct correction	20	81.250	13.000	
	Meta-linguistic explanation	18	77.500	16.070	
	No correction	20	52.750	23.270	
Bitchener & Knoch, 2008	Direct correction	15	76.800	13.510	Data from migrant students are adopted.
	Meta-linguistic explanation	18	83.500	16.670	
	No correction	19	66.320	19.940	
Bitchener & Knoch, 2010a	Direct correction	13	79.150	14.270	
	Meta-linguistic explanation	13	83.770	10.360	
	No correction	13	67.080	21.450	
Bitchener & Knoch, 2010b	Meta-linguistic explanation	12	95.920	5.480	
	No correction	12	86.170	8.080	
Ellis, Sheen, Murakami & Takashima, 2008	Direct correction	11	0.822	0.150	
	No correction	11	0.740	0.218	
Sheen, 2007	Direct correction	31	66.300	21.400	
	Meta-linguistic explanation	32	73.900	19.300	
	No correction	28	63.900	24.400	
Sheen, Wright & Moldawa, 2009	Direct correction	22	77.500	13.600	
	No correction	16	63.300	16.300	

Appendix C

Descriptive statistical data of delayed post-tests from focused feedback studies

Researcher	Group comparison	N	Mean	S.D.	Notes
Bitchener, 2008	Direct correction	20	80.050	12.100	
	Meta-linguistic explanation	18	76.780	20.670	
	No correction	20	63.900	18.900	
Bitchener & Knoch, 2008	Direct correction	15	78.070	14.300	Data from migrant students are adopted.
	Meta-linguistic explanation	18	75.780	11.380	
	No correction	19	59.110	21.210	
Bitchener & Knoch, 2010a	Direct correction	13	79.840	13.740	
	Meta-linguistic explanation	13	78.460	11.040	
	No correction	13	56.620	22.290	
Bitchener & Knoch, 2010b	Meta-linguistic explanation	12	96.250	4.000	
	No correction	12	85.920	11.870	
Ellis, Sheen, Murakami & Takashima, 2008	Direct correction	11	0.899	0.076	
	No correction	11	0.663	0.187	
Sheen, 2007	Direct correction	31	64.900	19.800	
	Meta-linguistic explanation	32	78.800	18.400	
	No correction	28	63.900	22.800	
Sheen, Wright & Moldawa, 2009	Direct correction	22	78.000	13.900	
	No correction	16	73.800	12.200	