THE EFFECTS OF DIRECT AND HEURISTIC CORRECTION ON FIRST YEAR LEVEL COLLEGE COMPOSITIONS

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ABSTRACT

Many experienced teachers of EFL composition have found that withholding specific information about errors in general is a sound technique. Yet, a review of the literature shows that there is no concensus about the kinds of errors that should be left up to the learner to edit and those errors which are best dealt with by the instructor. This study attempts to estimate the efficiency of a direct correction approach compared with a discovery method which requires the learners to edit their own papers with a minimum of guidance from the instructor. Frequencies of particular types of errors were calculated and a comparison was made between group membership and subsequent numbers of individuals making errors in each error category above or below the total mean. This information provides a general index to the types of mistakes that proved to be correctable and those that were not, thus suggesting a heirarchy for direct as opposed to heuristic feedback.

The effect of feedback is thought to be essential in the initial stages of second language learning. Most teachers assume that some sort of correction is necessary, whether it is in the form of overt detailed explanation or heuristic form of feedback which forces the learner to reformulate his existing hypotheses about the problem in question.

Yet, a review of the literature reveals that there is no concensus about the optimal form feedback should take, or even what should or should not be corrected.

A number of researchers in second language learning endorse an approach to feedback which will assist adult learners to apply conscious rules in production. This is especially important in written performance of foreign language skills. Krashen and Selinker (1975, 181) suggest that overt feedback to adults can help them learn to find the environment in which they can apply the passive knowledge they may already possess. Along the same line, Kulhavy (1977, 224) considers feedback on written performance to be optimal only if the original mistakes are the result of faulty interpretation or performance and not because of a basic lack of comprehension or competence.

One common approach to error correction is based on the belief that not all errors are of equal importance. Hendrickson (1978, 396) believes that error correction techniques should be focused on the cognitive dimension of the learner's ability to process the feedback. For this reason, he suggests different approaches to feedback should be based primarily on the proficiency of the learner. Others (Hanzeli, 1975, 431, Burt and Kiparsky, 1972, 4) establish a general heirarchy of priority for corrections; errors that interfere with meaning and clear interpretation should receive immediate priority. Other types of errors, 'local' errors in Burt and Kiparsky's classification, receive secondary attention.

Most researchers and teachers agree that feedback is essential in improving composition skills. The most common approach endorsed seems to be based on some form of self-correction. Corder (1967, 167) proposed a discovery approach whereby learners are given clues about the errors they make. It is thought that this type of feedback helps the learners to make inferences and generalization about the errors they have made. A stronger version of this self-correction approach predicts that error patterns will not change with only teacher generated feedback. Rivers and Temperly (1978, 323) and Cohen (1975, 419) suggest an approach that appears to be based on peer editing or self-correction as opposed to teacher generated corrections.

Between the cognitive approach, which entails detailed teacher generated feedback, and an approach that relies on the learner's ability to discover errors with a minimum of guidance from the teacher is one, as Wingfield (1975, 312) has noted, that is eclectic in nature. Mistakes that appear to be the result of faulty performance, or failure to apply the 'Monitor' (Krashen, 1977, 153) are best left up to the learner to correct. Errors that are indicative of a lack of competence, i.e. syntactic or lexical errors, are best corrected by the teacher. This approach can be empirically tested to determine which categories are indeed accessible to self-correction and which errors are of particular difficulty for a given population of learners.

The study reported below was designed to estimate what differences, if any, would arise in (1) overall composition quality (2) the ability learners develop to edit their own papers, and (3) the frequencies of particular types of errors associated with placement in a direct or discovery feedback group.

Twenty-six first year students enrolled in an introductory level English composition course at Baika Junior College were randomly assigned to two groups. First year students at B.J.C. are blocked into groups, therefore this group took all other required courses together.

The Composition Correctness Score (Brodkey and Young, 1981, 160), an overall assessment of composition skills in English as a second language, was adapted as the method of deriving scores in this study. Each error is normally weighted one, two or three depending on its severity. In this study, however, particular types of errors were given a constant value in order to reduce variability. The sum of all errors in mechanics, punctuation and syntax was then divided into the total number of words written on five compositions written in class and six written at home. The papers were over two hundred words on the average.

Sample score derivation: $\dfrac{\text{total of words}}{\text{sum of weighted errors}} \dfrac{225}{40} = 5.61$

FEEDBACK

Feedback was given to one group (N = 13) *directly* in the form of alphabetized marks on the original compositions. On an attached sheet corrections corresponding to each letter were given in order to facilitate an at-home rewriting and editing step. All indexed errors were corrected by the instructor.

Example:

> . . . There is a cake store^A opposite their.^{B} I often go to the store to buy the^C cake^D there. The cake^E of this store is^F very delicious . . .

Index sheet: A. bakery   D. cakes
                B. there   E. cakes
                C. ∅   F. are

Learners were encouraged to test their ability to recall the corrections in a second at home rewriting step. All students were given an uncorrected copy of their original compositions as a final editing task after turning in the marked original and all revisions at the beginning of the next class meeting. The photocopy editing task involved underlining mistakes and providing the appropriate corrections.

The *discovery* group (N = 13) was given feedback in the form of a color code which corresponded to a list of sample mistakes and corrections. The errors on the original papers were marked over in transparent color pencils. All errors were subsumed into a list of twenty-one colors that represents the most common types of errors first year level Japanese writers make. This group had to refer to the guide exclusively in order to correct their own errors. The at home rewriting steps and subsequent in class copy editing were also included to provide information about the efficacy of this method of correction.

Example:

Correction Code

Color	Error Class
vermillion	definite, indefinite or generic article
yellow	prepositions
cerulean blue	surrogate subject pronouns

RESULTS

Weekly Composition Correctness Scores on papers written in class and at home were summed and mean scores for each group were compared with the use of t tests to determine what differences evolved. Of particular importance were the in-class compositions which were written in a narrative style based on Bryne's (1967) picture composition text.

The results indicate that no significant differences between the two groups arose over the twelve week course. (Fig. 1) This finding supports Hendrickson's (1977, 393) conclusion that teacher generated correction has little short term significance, and also supports the Rivers and Temperly (1978, 323) and Cohen (1975, 419) predictions about the ineffectiveness of teacher corrections alone.

The photocopying editing task was designed to determine the facility and accuracy learners in either group might develop if they are asked to rely on their own memory or ability to apply conscious grammatical knowledge. Here again, t tests were used to measure differences between group means from week to week (Fig. 2). The results indicate that the direct feedback group could establish a significantly higher percent of accurate identification and correction of errors in this task. Unfortunately, this recall skill apparently did not seem to carry over to either at-home or in-class writing, suggesting that they could 'cram' before the editing task to get a high score. Learners in the discovery group were, of course, limited to correction errors which

were the result of surface level performance slips. Other more fundamental errors were frequently supplanted by equally erroneous attempts in the editing task.

The overall comparison of group means and comparisons of the editing task means reveal that short term changes cannot be expected with either method of correction. However, these two approaches were meant to represent the direct and discovery methods in more or less pure forms, and the results of the overall comparisons perhaps obscure whatever other discrete advantages one method may have over the other.

One other measurement was employed to estimate which kinds of errors were amenable to detection and correction by either group over the twelve weeks of the semester. In this comparison a grand mean was calculated from the fourth, ninth and eleventh compositions for the eleven most common categories of errors. Tallies were taken on the frequency of each kind of error on papers written by members of both groups. Individuals either scored lower or higher than the grand mean for all the papers written in the week in question. The Chi Square test of independence was used to determine if direct or discovery group membership is associated with frequency of error in any category. (Fig. 3)

INTERPRETATIONS

The comparison of the frequency of errors suggests that the discovery group appears to gain comparable control over certain categories of errors that are evidently accessible to conscious rule application, i.e. prepositions, object pronouns, tense and plurals. Other categories of errors appear to remain equally distributed between both groups. This finding suggests a heirarchy of the types of mistakes commonly made by a group of learners might be divisable into those which can be edited by the learners and those which are more reflective of the overall competence level of the group and might best be dealt with by the instructor.

Errors which were not readily corrected with only heuristic feedback included spelling, choice of verbs, punctuation,

lexical errors and determiners. The reasoning offered here for direct teacher correction of these types of 'opaque' errors is that self-correction by the students would require considerable dictionary and reference grammar work. In light of the fact that first year EFL composition classes are characteristically very large and meet infrequently, many learners do not find the time to get individual help when they are unsure of their corrections. Conversely, those errors which can be corrected with careful self-editing might best be left up to the learner to reanalyse. This suggests that an approach to correction based on frequency and correctability will be best for different groups of learners.

FIGURE 1

Weekly comparisons of Composition Correctness Score means

Week #	Direct		Discovery	
1*	13	N	13	t = .272 df = 24
	4.74	mean	4.92	
	1.94	S.D.	1.38	
2	13		13	t = 2.034 df = 24
	6.35		7.64	$p = < .10$
	1.55		1.68	
3	13		13	t = 1.509 df = 24
	6.94		8.90	$p = < .20$
	2.05		4.21	
4*	13		13	t = .987 df = 24
	6.62		7.46	
	2.47		1.84	
5	13		13	t = .986 df = 24
	5.60		5.53	
	2.16		1.37	
6*	13		13	t = 1.327 df = 24
	4.74		4.05	$p = < .20$
	1.61		0.96	
7	13		13	t = 2.091 df = 24
	6.82		4.75	$p = < .05$
	3.32		1.31	
8	13		13	t = .191 df = 24
	6.86		6.66	
	3.01		2.25	
9*	13		12	t = 1.245 df = 23
	5.33		6.47	
	1. 63		2.87	
10	12		.12	t = 2.260 df = 22
	6.11		8.52	$p = < .05$
	1.76		3.23	
11*	13		13	t = 1.785 df = 24
	5.42		6.82	$p = < .10$
	1.37		2.48	

* Indicates compositions written in class under controlled conditions.

FIGURE 2

Photocopy editing task score means

Week #	Direct		Discovery	
1	12	N	13	
	.754	mean	.770	t = .2212 df = 22
	.233	S.D.	.092	
2	12		12	
	.871		.806	t = 1.187 df = 22
	.150		.116	
3	12		13	
	.863		.825	t = .7470 df = 23
	.107		.143	
4	13		13	
	.869		.855	t = .1947 df = 24
	.210		.152	
5	12		12	
	.762		.793	t = .5255 df = 22
	.166		.119	
6	13		13	
	.900		.665	t = 3.779 df = 24
	.070		.213	$p = < .001$
7	11		12	
	.942		.811	t = 4.941 df = 21
	.046		.076	$p = < .001$
8	13		13	
	.935		.783	t = 4.797 df = 24
	.057		.099	$p = < .001$
9	13		13	
	.920		.862	t = 1.640 df = 24
	.094		.086	$p = < .20$

FIGURE 3

Tests of Independence

Prepositions

	Week 4 − mean	+	Week 9 − mean	+	Week 11 − mean	+
Direct	6	7	4	9	6	7
Discovery	8	5	10	3	8	5
	χ^2 .619		χ^2 5.57***		χ^2 .619	

Articles

	−	+	−	+	−	+
Direct	6	7	8	5	6	7
Discovery	6	7	10	3	10	3
	χ^2 .000		χ^2 .722		χ^2 2.60*	

Lexis

	−	+	−	+	−	+
Direct	10	3	3	8	8	5
Discovery	8	5	5	7	5	8
	χ^2 .722		χ^2 .157		χ^2 1.38	

Verb Choice

	−	+	−	+	−	+
Direct	9	4	8	5	9	4
Discovery	7	6	9	3	10	5
	χ^2 .650		χ^2 .519		χ^2 .195	

Punctuation

	−	+	−	+	−	+
Direct	7	6	10	3	7	6
Discovery	8	5	10	3	5	8
	χ^2 .157		χ^2 .000		χ^2 .619	

Spelling

	−	+	−	+	−	+
Direct	7	6	11	2	9	4
Discovery	9	4	7	6	9	4
	χ^2 .650		χ^2 2.88**		χ^2 .000	

Tense

	Week 4			Week 9			Week 11	
	−	mean	+	−	mean	+	−	mean	+
Direct	8		5	9		4	6		7
Discovery	7		6	9		4	10		3
		χ^2 .157			χ^2 .000			χ^2 2.60*	

Object Pronouns

	−	+	−	+	−	+
Direct	5	8	4	9	11	2
Discovery	9	4	10	3	11	2
	χ^2 3.84***		χ^2 3.93***		χ^2 .000	

Syntax

	−	+	−	+	−	+
Direct	10	3	8	5	8	5
Discovery	7	6	8	5	8	5
	χ^2 1.52		χ^2 .000		χ^2 .000	

Subject-Verb Concord

	−	+	−	+	−	+
Direct	10	3	8	5	4	9
Discovery	12	1	6	7	6	7
	χ^2 1.18		χ^2 .619		χ^2 .650	

Plurals

	−	+	−	+	−	+
Direct	7	6	8	5	7	6
Discovery	8	5	7	6	11	2
	χ^2 .157		χ^2 .157		χ^2 2.88**	

*** indicates $p < .05$
** indicates $p < .10$
* indicates $p < .20$

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