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Dialogue

Evidence and conjecture on the effects of correction: A response to Chandler

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The efficacy of error correction is a central issue for the theory and practice of writing instruction. Particularly important is evidence regarding what can be called the Big Questions: whether correcting is better for the development of accuracy than not correcting and whether teachers should use correction. The latter question includes the issue of possible harmful effects on fluency and other aspects of writing.

Evidence on these questions comes from comparisons between the writing of students who have received correction and others who have received little or none. It cannot come from research that compares one type of correction to another without showing how either compares to the lack of correction. Nor can it come from findings that corrected students improved in accuracy over the course of a study. Such gains could also result from other factors, such as writing practice, input obtained in the class, or outside exposure. Researchers who wish to attribute observed gains to correction must show that the other factors can be ruled out—by including a comparison group that received little or no correction.

Chandler (2003) presents two studies on the effects of correction, neither of which included such a group. This research may provide evidence about the relative effects of different types of correction but not about the effects of correcting relative to not correcting. This crucial distinction is sometimes overlooked in the article, as in the claims that Study One directly addresses “the question of whether error correction can be an effective way to improve the accuracy of L2 writing” (p. 268) and that it “shows that to increase accuracy in student writing teachers should give error feedback and require students to make corrections” (p. 290). In fact, it does not address these issues at all. The same problem occurs with claims that correction in the studies did not harm fluency or overall writing quality. Claims of this sort are conjectures, not research findings.

In the first section, I consider the findings and the conjectures about them and offer what I consider more plausible lines of conjecture, leading to the conclusion that correction in

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the studies was ineffective or harmful. I then discuss the literature review, arguing that previous research also points to negative conclusions.

The findings and the conjectures

Regarding accuracy, I will focus on Study One, the subject of the strong claims quoted above. For overall writing quality, only Study Two looked at the issue. For fluency, both are relevant. On each of these topics, I will suggest alternatives to Chandler's interpretations in order to show that plausible alternatives exist. But it should be borne in mind throughout that my interpretations, like Chandler's, are conjecture. The main point is that, contrary to the claims quoted above, these two studies do not provide evidence regarding the Big Questions.

Accuracy

Study One found that a feedback plus revision group outperformed a control group that received feedback but did not revise their work. But it does not follow that either treatment was better than, or even as good as, not correcting at all. The experimental group also showed significant absolute gains. But, again, one cannot infer that correction was responsible; other likely factors cannot be excluded. Chandler, in fact, implicitly acknowledges that other factors can bring about significant improvements. In discussing Semke (1984) and Polio, Fleck, and Leder (1998), she says uncorrected students were equal to or better than corrected students because they got more writing practice.

With this as background, I will consider two possible explanations for the findings. Option (a), Chandler's account, is that correction plus revision was beneficial and that correction by itself was more or less neutral; the role of other factors is left unclear (see below). Alternative (b) is that correction was ineffective or harmful in both conditions; apparent improvements were due to other, uncontrolled variables.

Previous research offers no support for (a). The claim that correction alone is neutral (i.e., ineffective) is not unreasonable, though it may well be too optimistic (see Truscott, 1996). But the central claim, that the addition of revision makes it effective, is not consistent with previous findings. Of the controlled studies that have tested this combination, none found that it helped students write more accurately in future work, and several found it unhelpful and even harmful (Polio et al., 1998; Robb, Ross, & Shortreed, 1986; Semke, 1984; Sheppard, 1992). Of Lalande's (1982) two correction plus revision groups, one showed negligible absolute gains, and the other had substantial declines.

Alternative (b), on the other hand, fits well with previous research, which has not only found correction ineffective or harmful but has also shown absolute gains in the absence of correction (Polio et al., 1998; Sheppard, 1992; the information was not provided by Kepner, 1991, or Semke, 1984), confirming that other factors can bring about significant improvement over the period of one term or less. The remaining issue for (b) is the difference between experimental and control groups, which has a ready explanation in the form of avoidance.

Students in both groups could have learned to avoid some constructions on which they were likely to be corrected, thereby reducing their total errors without improving their writing ability. This idea fits with findings that corrected students tend to shorten and simplify their writing (Kepner, 1991; Semke, 1984; Sheppard, 1992), apparently to avoid contexts in which they might make mistakes. The greater attention given to errors in the experimental condition of this study should have made the effect stronger for those students than it was for the control group. These students were also required to do additional work for every error found in their writing, creating an additional incentive for avoidance not shared by the control group. In the following section, I will discuss Chandler's argument that avoidance did not occur.

Option (b) is further strengthened relative to (a) by consideration of additional, uncontrolled factors that could influence the development of accuracy. Regarding writing practice, the between-group differences in writing amounts in previous studies, which Chandler considers crucial for their results, were not large (and possibly small) when compared with the total writing done by her control group ("about 25 pages of autobiographical writing in addition to a book review," p. 272). If practice greatly benefited students in previous studies, as she suggests, it should have done the same for the students in this group. But, in fact, they declined in accuracy. The lack of improvement is even more striking because students consistently wrote on the same topic throughout the course. In addition, all were studying at a US university and should have received considerable exposure to English in other classes and in their daily lives.

These factors should have exerted a significant positive influence on the findings, consistent with (b). But if one accepts (a), one must conclude that either their combined effect was negligible or some other factor(s) exerted a strong negative influence. It is not clear what the other factor(s) would be on this view.

Thus, the relative success of the correction plus revision group does not show that the treatment was beneficial. A more plausible alternative, I suggest, is that both groups were harmed by correction, the control group showing these effects more than the experimental group. This interpretation is consistent with the findings and fits better with previous research than the superficially more appealing view that correction helped one group and had little effect on the other. But, again, in the absence of a comparison group, no firm conclusions can be drawn.

Overall writing quality

In Study Two, holistic ratings were done on the first and last assignments, revealing a (nonsignificant) improvement from 2.8 to 3.1 on a 1–6 scale. Chandler offers this improvement as evidence that correction did not have harmful effects on students' overall writing. But in the absence of a suitable comparison group this is, again, conjecture. And, again, reasonable conjecture can produce a very different interpretation.

The average number of errors per hundred words on Assignments One and Five was 10.1 and 8.0. Based on the numbers given for Study One (p. 276), this means an average difference of more than 40 errors, a contrast that should have strongly affected the ratings. The change in ratings should also reflect the effects of extensive writing practice on a consistent topic and the university (ESL) context, which probably provided considerable

additional practice and exposure to English. Thus, if no strong negative influences were present, the gains on the holistic measure probably should have been substantial, even dramatic. Instead, they were quite small. On the other hand, if correction harmed students' writing, these results are expected. This possibility also fits with previous findings, described above, on correction and avoidance.

Chandler suggests that the gains were limited by previous familiarity with the genre. But a movement from 2.8 to 3.1, on a scale with a maximum of 6 and a midpoint of 3.5, was probably not constrained much by initially high levels of ability.

Fluency

Chandler refers to two definitions of fluency. For one, the amount of writing students do, she agrees that corrected students write less (p. 292). Thus, her position seems to be not that correction does not harm fluency but that it only harms it in one of two important respects. Even this weak defense is doubtful. On the alternative definition, fluency is the amount of time taken to write a given number of words, as reported by students. The value of this measure is limited by the accuracy of students' self-reports and by unexplained variations in the sample sizes. For the first experiment, a few students were missing from the fluency measure. On the second, only 21 of the 36 students who participated in the study were used for Assignment One and only 9 for Assignment Five. The issue of avoidance is also relevant. If students simplified their writing to avoid errors, any increased speed might mean only that simple writing is faster than more complex writing. This can directly explain the results in a way consistent with findings that corrected students do simplify their writing (Kepner, 1991; Sheppard, 1992).

Conclusion

This discussion is necessarily speculative, as are the contrary claims that correction had beneficial effects in these studies and did not have harmful effects. I suggest that my own conjectures are the more plausible of the two, particularly as they fit better with previous findings. The essential (nonspeculative) point, though, is that the studies offer no basis for claims that correction is helpful or that the harmful effects found elsewhere did not occur here as well.

The big picture: Correction does not work

The article includes a substantial literature review, presenting largely skeptical accounts of previous findings, both for and against correction. I will be mainly concerned with the efforts at refuting the case against correction.

The lack of evidence in favor of correction

Chandler points out that evidence presented in favor of correction is very weak because the relevant studies were descriptive rather than experimental or lacked a control group or

did not look at effects on actual writing beyond the assignment on which the corrections occurred. I agree, and therefore, have little to say on this part of the review. One puzzling comment is noteworthy, though. In discussing [Fathman and Whalley \(1990\)](#), she says that my negative conclusion ([Truscott, 1996](#), p. 339) was “unsupported by the data” (pp. 268–269). This conclusion was that “nothing in this study suggests a positive answer” to the question “will students be better writers in the future” because of the correction. But her own assessment of this and similar studies is virtually identical: “it remains an open question whether students who got error correction would write more accurately on future assignments” (p. 269).

Evidence against correction

Regarding the findings of [Robb, T., Ross, S., & Shortreed, I. \(1986\)](#). Salience of feedback on error and its effect on EFL writing quality. *TESOL Quarterly*, 20, 83–95, [Chandler](#) says again that my negative conclusion ([Truscott, 1996](#)) was “unsupported by the data” (pp. 268–269). But she does not address the argument on which it was based, instead simply noting that all four groups gained in accuracy. But of course gains can be produced by other factors, and in this case they almost certainly were. One of the groups received so little information from correction that the students were unlikely to have gained anything from it; this group can, therefore, be treated as a control group. It showed gains as great as those obtained with types of correction that should have been very helpful—if it can ever be helpful. The natural conclusion, then, is that the gains resulted from factors other than correction, such as the writing practice that [Chandler](#) identified as a crucial factor in other studies.

[Sheppard \(1992\)](#) found that corrected students were no better than uncorrected students on accuracy of verb forms or on a measure of the complexity of their writing and were significantly weaker in accurately marking sentence boundaries. [Chandler's](#) only response is that “the only measure on which there was a statistically significant difference between the gain of the two groups was on percentage of correct punctuation” (p. 269). In other words, she does not challenge the conclusion that [Sheppard](#) found correction ineffective on two measures and harmful on the third.

Her critique of [Kepner's \(1991\)](#) study is that it did not involve revision. But previous research has consistently found correction plus revision unhelpful and even harmful, as described above. Her own findings show, at most, that correction can be more effective with revision than without, not that it is better than no correction at all. And even this limited finding is cast in doubt by the question of avoidance (see above).

The response to [Semke \(1984\)](#) and [Polio et al. \(1998\)](#) is that the uncorrected students equaled or surpassed the corrected students because they did more writing. As noted above, this speculative claim raises questions about the proper interpretation of her own findings. And, if the point is accepted, the overall implication for correction is quite negative. Some studies have found no absolute gains, even losses, for corrected groups ([Fazio, 2001](#); [Hendrickson, 1981](#); [Lalande, 1982](#); and two of the three measures of [Sheppard, 1992](#); again, [Kepner, 1991](#), and [Semke, 1984](#), did not provide the information). If this failure occurred despite the presence of a strong additional factor helping accuracy, this is a very serious indictment of correction.

Even without this indictment, Chandler's discussion of the effects of writing practice suggests that correcting is a bad idea. Classes in which time is not allocated to dealing with correction will of course have more time available for other activities, such as additional writing practice. If this alternative use of time produces effects on accuracy that equal or surpass those of correction, then correction is at best a waste of time. And the alternatives might well have benefits that extend well beyond accuracy.

Conclusion

Chandler's review appears to acknowledge the weakness of the case for benefits. It offers no coherent challenge to the evidence of ineffectiveness and of harmful effects. Nor does it challenge arguments that this failure should be expected (Truscott, 1996). Thus, it does not alter the conclusion that correction is at best ineffective.

Conclusion

To this point I have followed Chandler in glossing over an important distinction. She introduces her study by referring to a debate between Truscott (1996) and Ferris (1999), saying that I rejected "all forms of error correction" (p. 267). In fact, the claim (and the debate) was specifically about *grammar* correction (see Truscott, 1999). Of the many error categories Chandler used, about half were not grammar errors. If they all benefited from correction, this would not affect the case against grammar correction.

The debate contains no disagreement over the value of continuing research. The issue is the proper interpretation of its findings. I have argued that Chandler's studies do not offer evidence on the Big Questions, only conjectures. And more plausible lines of conjecture, I have suggested, point to the conclusion that correction was ineffective or harmful in these studies, fitting with previous research, and may very well have harmed students' fluency (by both definitions) and their overall writing quality. Thus, the state of the evidence, especially regarding grammar errors, points to a clear conclusion: Correction is a bad idea.

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The effect of conscious learning fades with time. Just how long it takes for learned rules to be forgotten appears to depend on the rule and the amount of training, but studies have shown a weakening of the impact of learning after three months (Krashen, 2002). It is widely accepted that language learners differ a great deal in their ability to learn rules and their interest in learning rules. Some are extremely sophisticated learners, with a keen interest in the structure of language and a belief that conscious learning is important. At the other extreme are second language students with little. Our conjecture is also strongly supported by the neural network analyses in BKZ, which estimated and revealed the nonlinearities and massive interactions directly, and by the new analyses in Lagazio and Russett (2002). dGG's model also unambiguously reveals their estimated relationships to be much weaker or nonexistent among the low ex ante probability of war dyads, just as our approach predicts. Of course, logistic regression is a much more limited procedure in terms of the types of empirical results that are possible for it to produce. In fact, the effect of an explanatory variable in the evidence and conjecture on the effects of correction: A response to Chandler. *Journal of second language writing*, 13, 337-343. [14]. Truscott, J. (2007). The effect of error correction on learners' ability to write accurately. *Journal of second language writing*, 16, 255-272. [15]. Truscott, J. (2010). Further thoughts on Anthony Bruton's critique of the correction debate. *System*, 38, 626-633. [16]. Chandler, J. (2003). The efficacy of various kinds of error feedback for improvement in the accuracy and fluency of L2 students' writing. *Journal of second language writing*, 12, 267-296.