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You Can Lead a Horse to Water but You Can't Make Him Edit: Varied Effects of Feedback on Grammar across Upper-Division Business Students

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Employers have expressed dissatisfaction with business students' basic writing skills, so techniques for improving students' grammar skills should be critically examined. This study investigated the efficacy of using written feedback in a multidraft context as a method of decreasing grammar errors in subsequent submissions. Business students in a principles of marketing class were given the option to receive feedback on drafts. Written feedback on grammar issues was successful in reducing grammar error rates on final submissions only for highly motivated students with multiple drafts. A discussion of the faculty time commitment necessary to see improvement in students' grammar skills recommends reflection on this technique.

INTRODUCTION

The value of good written communication skills for business students is clear based on feedback from faculty and employers [Enos, 2010; Kellogg and Whiteford, 2009; Parent et al., 2011]. Most college freshmen have confidence in their writing skills [Berrett, 2014]. National data, however, suggest that this confidence is misplaced. High-school graduates often lack the necessary basic writing skills to succeed at the college level [Achieve, 2015]. Historically, colleges have required students to gain and demonstrate competency in English grammar through standard freshman composition classes. Even so, employers are concerned about the writing skills of college graduates. Kleckner and Marshall [2014] found that employers rated basic writing mechanics as second in importance among communication skills for business college graduates, yet found that the employers' satisfaction level for this skill among business college graduates was the lowest among all communication skills.

In order to correct mistakes in basic writing mechanics, the mistake has to be apparent to the user. Improvements in grammar and spell checking provide visual cues to aid in editing at the sentence level. Still, software programs like Microsoft Word are not proofreaders and fail to catch many grammatical errors. An example of this is in the use of possessives. Such gaps leave users of Microsoft Word, for example, vulnerable to errors such as misplaced apostrophes that change the fundamental meaning of a sentence. College business graduates cannot depend on computerized grammar checking to catch all grammatical errors. They must learn to do this for themselves; thus, editing skills are important.

Written feedback is one of the most used methods for improving basic writing skills, yet the time commitment that it takes to give feedback is a problem [Bacon and Anderson, 2004; Bacon et al., 2008; Kellogg and Whiteford, 2009]. Moreover, universities are being asked to hold down educational costs, which has led to fewer resources for providing the individual feedback that is necessary to improve student grammar skills [Crisp, 2007]. The same pressure on universities to hold down costs also means that simply adding additional communication coursework requirements to the business curriculum may not be an option for fixing this problem, and, for students, an increase in required coursework means additional time to graduation. Recent movements toward writing across curricula and within disciplines, however, have shown promise for improving writing skills [Fallahi et al., 2006]. Reframing the view of writing as the responsibility of the whole university rather than the English department pushes students to learn to write across contexts [Bacon et al., 2008]. As most business students are already doing written assignments in their upper-division coursework, can feedback about writing mechanics in this coursework effectively increase business students' skill levels in grammar? That is the subject of this study.

LITERATURE REVIEW

Silverman et al. [2005] identified five individual precursors to accepting feedback: awareness, sense of necessity, confronting change, willingness for feedback, and development orientation. Awareness involves knowing that a problem exists and making the appropriate attributions of its cause. In somewhat of a vicious cycle, lack of awareness leads to a lower level of competence. It also leads to a lower ability to detect problems and subsequently a lower awareness of the value of feedback. Because of this, Silverman et al. [2005] regarded awareness as the most significant of the five individual precursors, which is consistent with earlier findings [Kruger and Dunning, 1999]. The sense of necessity involves the knowledge that a change must occur. This relies on an ability to undergo the unpleasant emotions involved with change. Confronting change similarly involves potentially threatening phenomena that require determination to scrutinize problems in order to resolve them. Willingness for feedback involves an ability to be vulnerable and

the courage to change, even if it involves uncomfortable emotions and cognitions. The final factor is development orientation, which is a positive outlook on growth.

The literature on improving students' writing echoes the importance of using feedback to establish awareness of grammatical errors to stimulate the learning process. Kellogg and Whiteford [2009] argue that feedback is an essential part of the necessary deliberate practice needed to improve student writing. This practice requires a substantial time commitment by the learner. Jorgensen and Marek [2013, p. 174] state that "students do not become excellent writers overnight." Dealing with the potential emotional distress of change and growth takes time. In addition, business college graduates need to be able to perform on the job, so they need to have the rituals of good writing mechanics in their long-term memory. Long-term student retention of correct grammar and sentence structure is much more likely when practice is done repeatedly over time, especially because serious writing puts substantial strain on cognitive abilities [Kellogg and Whiteford, 2009]. Students need to mindfully apply themselves to a practice with feedback from an instructor to improve and excel.

While convention holds that writing be taught in an English class, multiple empirical studies have shown that the integration of writing feedback into courses with other content can be effective (e.g., marketing [Bacon et al., 2008] and psychology [Jorgensen and Marek, 2013; Stellmack et al., 2012]). Kellogg and Whiteford [2009] argue that this method is actually preferable, as it distributes the practice of writing and thus encourages long-term retention of writing mechanics. Without this practice, skills begin to deteriorate. By the time college students graduate, they may no longer possess the skill level they did at the end of freshman composition classes [Parent et al., 2011].

Past research on the use of written feedback for improving the basic writing mechanics of college students shows mixed results [Ferris, 1995; Price et al., 2010]. A closer examination of the results suggests that there are some factors that may increase subsequent student writing improvement after receiving written feedback. These include the timing of the feedback [Fallahi et al., 2006; Ferris, 1995; Jorgensen and Marek, 2013], the motivation of students [Bacon and Anderson, 2004; Bacon et al., 2008], the specificity of the feedback [Quible, 2006a; Shintani et al., 2013], and the student's confidence in his or her ability to respond to the feedback [Crisp, 2007; Shintani et al., 2013].

While some have found that feedback on final submissions alone provides modest gains in writing mechanics when followed systematically over time (e.g., Fallahi et al., 2006; Jorgensen and Marek, 2013), others have seen no significant improvement, largely because students always have a choice about whether they are going to use the feedback or not [Crisp, 2007; Price et al., 2010]. Ferris [1995] reported that students spent less time reading and focusing on feedback when it came on final submissions than they did when a system of writing and revising multiple drafts was in place. Students reported rereading feedback many times in the latter case. Students may be more likely to be motivated in a system of

reviewing, revising, and resubmitting, especially when it relates to writing mistakes that are relatively easy to fix, such as errors in writing mechanics [Vardi, 2012]. They are able to see the immediate impact of responding to the feedback [Stellmack et al., 2012]. Finally, Shintani et al. [2012] note that revision after feedback may enable students to consolidate their knowledge into action, which reinforces the learning. All of this implies that a review, revise, and resubmit drafting system is likely to increase the positive effect of written feedback.

The incorporation of drafting is not necessarily sufficient by itself to improve basic writing skills in courses not solely focused on writing. Bacon and Anderson [2004] found that business students needed a grade incentive of 5% to show significant improvement in basic writing skills when mixed with evaluation of other aspects of the assignment. They argue that students need to be incentivized to perform on grammar, or they may not pay sufficient attention to that part of the task. In their study, even with the opportunity to revise and resubmit over multiple assignments, students without a significant grade incentive to pay attention to writing mechanics showed no significant improvement.

Improvement in basic writing skills in courses not specifically designed for that task means that feedback must point out student errors in basic writing skills while still integrating it into the discipline-specific content [Bacon et al., 2008; Kellogg and Whiteford, 2008]. It is important that students receive specific feedback on the basic writing errors they are making and the grammar issues involved, even if faculty perceive them to be minor in comparison with content issues. Bacon and Anderson [2004, p. 443] state, "Without feedback on minor errors, students may not feel motivated to improve their writing skills." Empirical evidence suggests that specific written feedback that gives an understanding of the grammatical error made decreases the error rate in subsequent work [Quible, 2006b; Shintani et al., 2012; Vardi, 2012], while holistic types of feedback are ineffective [Kellogg and Whiteford, 2009]. More specific feedback gives quality information that adds clarity to the writing standard. In the case of upper-division business students, most have been through the freshman composition English classes that require attention to grammar issues. Professors may assume that college students know standard conventions for grammar and sentence structure by the time that they are juniors and seniors. At this point, students should not need the kind of support they might have needed when first learning how to construct sentences. Instead, what they need is to develop editing skills to find and correct errors. Feedback about certain errors, while still allowing students to find and fix those errors themselves, gives guidance toward meeting a standard without operating as the students' proofreader.

Even if incentivized and given specific feedback, in order for students to improve they need to have knowledge of grammar and confidence in their writing abilities. While passing freshman composition may demonstrate that they have sufficient knowledge of the basics of English grammar, student self-confidence (self-efficacy) in writing is not a given. Bandura's [1986] social cognitive theory

suggests that a lack of confidence in one's ability to succeed may have an impact on his or her ability to improve. In social cognitive theory, three elements interact to facilitate learning: self-efficacy, feedback, and environmental support. Students who have self-efficacy toward a behavior, get appropriate feedback when demonstrating behavior, and receive environmental support are more likely to learn. Students may avoid incorporating feedback into a subsequent assignment if they feel that they lack the ability to respond to the feedback or if they do not have sufficient environmental support. Thus, it is important that even students who feel self-efficacy with regard to grammar issues have appropriate support materials to aid them in editing for grammar mistakes if they are to respond to written feedback on subsequent submissions. Price et al. [2011] suggests that access to a writing center with writing tutors is one way to make business students feel more supported as they adjust to the more difficult task of writing in upper-division business classes. Other ways to provide support are to give students in-class review and access to out-of-class materials that explain grammar rules. In summary, previous research supports the following hypothesis.

In summary, previous research supports the following hypothesis.

H1: Where students have confidence in their grammar skills, are grade motivated, and have access to additional environmental support in basic writing mechanics, specific written feedback on grammar errors will decrease the error rate from drafts to a final submission.

METHODOLOGY

Pretreatment Assessment of Student Confidence, Attitudes, Behaviors, and Writing Experience

In order to assess the previous writing experience, attitudes, and writing behaviors of the subject population, an anonymous survey was administered at the beginning of three separate principles of marketing courses conducted over two quarters at a rural, western university. A total of 71 usable surveys were returned out of a total population of 96 for a response rate of 74%. In the survey, students were asked to respond to statements on their attitudes about their writing skills on a Likert scale (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, and 5 = strongly disagree) and to provide demographic data, as well as data about the amount of writing that they had done in previous college courses. There were no significant demographic differences found among the classes. All students were business majors and college juniors or seniors. Eighty-five percent were ages 20 to 25, with the rest being older than 25. Fifty-eight percent were male and 42 percent were female. A clear majority of students (85 percent) transferred to the university as juniors. All of the results in Table 1 were consistent across major and demographics.

Table 1. Student Attitudes and Behaviors about Writing

Statement	Mean*	Standard Deviation
1. I am confident in my ability to write sentences with correct grammar.	2.10	0.99
2. I find it difficult to be clear in my writing.	3.52	1.11
3. I feel confident in my ability to defend my point of view in writing.	2.30	1.05
4. A difficult part of writing sentences is knowing the right words to use.	3.27	1.22
5. I feel confident in my ability to use section headings in my writing.	2.75	1.18
6. I wish I had been forced to do more writing in my previous years of education.	3.29	1.29
7. I tend to write my papers in one sitting.	2.60	1.28
8. The hardest part of writing is getting started.	2.27	1.13
9. If a student gets a bad grade on a paper in college, most instructors will allow the student to rewrite the paper for a better grade.	3.48	1.24

*(1 = strongly agree, 3 = neither agree nor disagree, 5 = strongly disagree).

Generally, students felt neutral to confident in their writing skills. They expressed the highest confidence in their grammar skills, as statement 1 in Table 1 had the strongest support and the lowest standard deviation. Seventy-two percent of students at least agreed with statement 1, and only 9 percent disagreed with that statement at all. Students also tended to agree that they wrote their papers in one sitting and they had a hard time getting started writing. Fifty-three and sixty-five percent of students, respectively, at least agreed with those statements. The majority of students were not counting on being able to rewrite papers for a better grade. Fifty-five percent at least disagreed with statement 9.

Statements 4 and 8 were weakly positively correlated (r = 0.254, p-value = 0.035). There are no other significant correlations between writing attitudes in statements 1 through 6 and statements 7, 8, or 9. The weak, positive correlation between the difficulty in starting writing and the tendency to write papers in one sitting may indicate that the former is a possible contributing factor to the latter as students are forced to write papers in one sitting as a deadline approaches.

The results also suggest that students' confidence in their ability to write with good grammar was high. The students felt more positively about this aspect of their writing than any other. This demonstrates that the population was likely to have high self-efficacy when correcting basic errors in writing mechanics. In addition, students were not counting on getting an opportunity to rewrite a paper

for a better grade. This implies that a final submission grade for which writing was at least 5 percent of the grade would likely suffice as a strong enough incentive for this population based on Bacon and Anderson's [2004] research.

The mean number of individual papers that students had written in previous college courses that were at least five pages in length was 5.6 (standard deviation = 4.040). One-third of the respondents had individually written less than three papers of at least five pages in length in college. Fifteen percent reported that they had written individually no papers of at least five pages in length. On the other hand, one-third of students reported that they had written at least 10 papers of that length individually in college.

The mean number of classes in which students had the option of submitting drafts for instructor feedback was 2.46. Fifteen students (21 percent) reported never having had any class in college in which they had the ability to submit drafts for instructor feedback. The mean number of classes in which students were required to turn in paper drafts for instructor feedback was 1.25. All students in this sample were required to take and pass at least two courses in freshmen composition. The mean number of classes in which students were required to turn in a draft was less than 2, and the mean number of classes in which they had the option of submitting drafts was slightly more than 2, which suggests that a majority of students had little exposure to the use of drafts in their academic writing. This lack of experience, combined with the fact that most students tended to write papers in one sitting, suggests that students were not following an informal drafting system by themselves. This supports the idea that a formal drafting system would provide a structure for revision that they are not providing for themselves.

In summary, these results demonstrate that this population of students has self-efficacy in grammar, would be motivated when writing is at least 5 percent of a written assignment's grade, and has had little exposure to the process of drafting in their academic experience. An examination of the effects of drafting on the rate of student errors in subsequent assignments follows.

Drafting and Student Writing Error Rates

The 96 students previously surveyed were involved in a quasiexperimental design to examine the effect of drafting on basic student writing errors. Each student was required to complete two applied writing assignments based on major concepts in marketing. Each assignment was limited to two pages in length and was worth 15 percent of their final course grade. Writing mechanics were evaluated in each assignment and valued at 20 percent of the assignment's grade.

There is a long list of grammar mistakes that can be made in English. Connors and Lunsford [1988] found 54 general categories of errors in their examination of 300 student papers. In order to focus on those that would be most beneficial to students in their careers, five general categories of errors that are usually not captured by computerized spelling and grammar checks were selected. All of

these categories were among the top nine listed by Connors and Lunsford [1988]. The categories of errors were as follows:

1. Homophone errors—Errors of this type happen when students use an incorrect word that sounds the same but is spelled differently. Examples of errors of this type are incorrect usages of "to," "too," and "two" or "schools" versus "school's".
2. Misspelled word errors that correctly spell another word—An example of this is when a student uses the word "roll" for the word "role" incorrectly.
3. Sentence fragment errors—Errors of this type occur when sentences do not reflect a complete thought.
4. Comma splice errors—This happens when two independent clauses are combined together with only a comma.
5. Comma with coordinating conjunction error—Errors of this type occur when long independent clauses are combined with a simple conjunction and without a comma.

Students were allowed to submit up to two drafts per written assignment. Students were required to submit their drafts at least 48 hours before the assignment was due and received feedback on their drafts within 24 hours. Both the drafts and the feedback were given through a learning management system. The course instructor gave all the feedback on content, and a professional editor gave all the feedback on writing errors. At the end of each submitted draft, students were told how many errors of each of the above types existed in their draft, but they were not told where in the draft those errors were made. The choice was made to use this type of feedback in order to more closely replicate the editing process that the students would need to undertake on the job. In addition to feedback on these errors, students received written feedback on content. Students were given a 15-minute review of the types of grammar errors that they would be required to find and fix for themselves in class a week before the first writing assignment was due. They also had access to an online grammar resource and a free on-campus writing center with writing tutors for additional help.

RESULTS

First Writing Assignment

For the first assignment, all students had the option of submitting up to two drafts to the instructor for feedback on both writing skills and content. Seventy-two (75 percent) of 96 students submitted at least one draft, while 18 (19 percent) submitted two drafts. It took the professional editor an average of 6.25 minutes to give feedback about the basic writing error categories on each draft. The drafts averaged 565 words in length. The number of errors in each of the five categories mentioned above was recorded and totaled for all drafts and the final submission.

Table 2. Basic Writing Errors in Examined Categories in First Writing Assignment

	N	Mean Writing Errors per 100 Words	Standard Deviation
First drafts	72	0.45	0.53
Second drafts	18	0.33	0.42
Final submission	96	0.33	0.39
Students who did no drafts	24	0.39	0.39
Students who did only one draft	54	0.35	0.40
Students who did two drafts	18	0.21	0.33

Table 2 shows that there was a decrease in the average number of errors per 100 words between the first and second drafts. The mean number of writing errors per 100 words in the final submission decreased as the number of drafts increased. A Levene's test of equality of error variance and the sample size indicated that parametric testing was acceptable. A one-way ANOVA showed that there was no significant effect of drafting in the final submission ($F(2, 94) = 1.08$, p-value $= 0.344$).

An examination of the difference between the submitted drafts and the final versions provided further insight.

Of the students who had writing errors noted in their drafts that they had to fix on their own (N = 58), 31 percent did not fix any of these errors before their final submission, as shown in Table 3. A higher percentage of students who did two drafts fixed all their noted errors by the final submission. A Spearman's rank-order correlation was run to examine the relationship between the different levels of error correction shown in Table 3 and a number of other variables. The results are shown in Table 4.

A strong negative correlation was found between the different levels of error correction and the number of errors per word ($r_s(56) = -0.646$, p-value $= 0.000$). No other significant correlations were found.

Second Writing Assignment

Due to the high percentage of students submitting drafts in the first assignment and the limited resources available, only those students who had not received an "A" on their first assignment were eligible to submit drafts for the second assignment. Other than this change, all other procedures remained the same. Of the 65 students eligible to submit drafts, 34 (52 percent) chose to submit at least one draft, and 15 (23 percent) chose to submit two drafts. It took the professional editor an average of 9.70 minutes to give feedback on each draft. The drafts averaged 573 words in length. Table 5 summarizes the data from the second writing assignment.

Table 3. Student Basic Writing Errors Fixed between Drafts and Final Submission in First Writing Assignment

	Percentage of Students		
	Overall	One Draft	Two Drafts
All errors (100%) noted in drafts fixed	33%	34%	46%
Most errors (50-99%) noted in drafts fixed	18%	18%	15%
Some errors (1-49%) noted in drafts fixed	18%	15%	24%
No errors (0%) noted in drafts fixed	31%	33%	15%

Table 4. Spearman Rank-Order Correlations of Table 3 Levels of Error Correction

	Correlation with Table 3 Categories
Number of words in first assignment	−0.048
Writing errors per word in first assignment	−0.646*
Number of drafts done in first assignment	0.120
Gender	0.113
Final grade in class	0.185

*Correlation is significant at the 0.01 level (two-tailed).

Table 5. Basic Writing Errors in Examined Categories in Second Writing Assignment

	N	Mean Writing Errors per 100 Words	Standard Deviation
First drafts	19	0.55	0.51
Second drafts	15	0.44	0.32
Final submission	96	0.32	0.39
Students not eligible for drafting feedback	31	0.34	0.35
Eligible students who did no drafts	31	0.41	0.35
Eligible students who did one draft	19	0.41	0.36
Eligible students who did two drafts	15	0.16	0.36

The results in Table 5 mirrored the results in the first writing assignment, except that for the second assignment the mean writing error rate between the students who did no drafts and those who did one draft was the same to two digits, although the standard deviations were different. Once again, a Levene's test of equality of error variance and the sample size indicated that parametric testing was acceptable. A one-way ANOVA showed a statistically significant difference

Table 6. Student Basic Writing Errors Fixed between Drafts and Final Submission in Second Writing Assignment

	Percentage of Students		
	Overall	**One Draft**	**Two Drafts**
All errors (100%) noted in drafts fixed	52%	43%	66%
Most errors (50-99%) noted in drafts fixed	19%	21%	17%
Some errors (1-49%) noted in drafts fixed	6%	10%	0%
No errors (0%) noted in drafts fixed	23%	26%	17%

among the groups eligible for drafting ($F(2, 63) = 5.976$, p-value $= 0.004$). A Tukey post-hoc test revealed that the mean writing error rate for doing two drafts was statistically significantly lower than doing no drafts (p-value $= 0.005$) or doing one draft (p-value $= 0.011$). There was no statistically significant result between the groups doing no drafts and those doing one draft (p-value $= 1.000$). This result provides limited support for H1.

Compared to the first writing assignment, a higher percentage of students in all categories fixed the basic writing errors noted in their drafts (N $= 30$), as shown in Table 6. In this case, only 23 percent of students overall did not fix any of the errors noted in their drafts.

Table 7 shows the Spearman rank-order correlations between the different levels of error correction shown in Table 6 and a number of other variables. As in the first writing assignment, a strong negative correlation was found between the different levels of error correction and the number of errors per word in the second assignment ($r_s(28) = -0.712$, p-value $= 0.000$). A weak positive correlation occurred between the number of drafts done in the second assignment and the level of error correction in the second assignment ($r_s(28) = 0.384$, p-value $= 0.036$). A moderate positive correlation was found between the number of drafts done in the first assignment and the level of error correction from drafts to final submission in the second assignment ($r_s(28) = 0.491$, p-value $= 0.006$).

DISCUSSION

The quasiexperimental design of this research should have predisposed the results to support the hypothesis that written feedback on specific basic writing errors in drafts would lead to a lower rate of those errors in the final version. The vast majority of students were confident in their ability to write with good grammar, so they should have felt capable to fix the errors. While students were not told exactly where their writing errors were, they were given plenty of free, easily accessible resources to get help to find and fix their errors, and as the assignment was limited to two pages, it was not an overwhelming task. They were motivated to pay attention to these errors by making writing worth 20 percent of

Table 7. Spearman Rank-Order Correlations of Table 6 Levels of Error Correction

	Correlation with Table 6 Categories
Number of words in second assignment	0.218
Writing errors per word in second assignment	−0.675*
Number of drafts done in second assignment	0.384**
Gender	0.096
Final grade in class	0.914
Writing errors per word in first assignment	−0.085
Number of drafts done in first assignment	0.491*

*Correlation is significant at the 0.01 level (two-tailed).
**Correlation is significant at the 0.05 level (two-tailed).

the grade in the assignment. This was a much higher percentage than previous research had found to be efficacious. Students were given the option of submitting a draft but were not required to do so. This selection option should have biased the results in favor of supporting H1. Presumably, students who went to the trouble of composing a draft were already motivated to want to get feedback and incorporate it into their final submission. Indeed, if the results had shown that statistically significant improvement in the noted writing errors was made between drafts and the final version, it would not have been surprising. Instead, the results showed that only students on the second writing assignment who submitted two drafts showed significant improvement in error rates. Consistent with Crisp [2007], H1 was shown to have limited support.

In both assignments, a substantial number of students who did only one draft failed to fix any of the noted writing errors. Given that the students' confidence in their grammar skills was high to begin with, they may have been lulled into the expectation that they had good writing skills and neglected to pay attention to information that contradicted this belief in the first writing assignment. Other students may not have paid attention to the high value placed on good writing mechanics in the evaluation of the first assignment. However, this does not completely explain the results of the second writing assignment. A necessary, but not sufficient, condition for getting an "A" on the first assignment was to have good basic writing skills. Students who did not meet this standard were the only ones eligible to submit drafts for the second written assignment. Thus, these students should have been even more strongly motivated to improve their writing on the second assignment since they had already received feedback that writing was important in the grading of their final submission. Substantially more errors were fixed in all categories in Table 4. Yet, even in the second writing assignment, 26 percent of students who did one draft did not fix any noted errors at all.

A possible explanation for this effect is that even though most students expressed confidence in their writing abilities, the difficulty in responding to both content and basic writing issues in the drafting process may have caused cognitive overload. Kellogg and Whiteford [2009] explain that "revision is constrained or even nonexistent in developing writers because of working memory." There was a strong negative correlation between the number of errors and the levels of errors fixed on both assignments. The more errors that the students had to fix, the less likely they were to get all the errors fixed. If students were overwhelmed with responding to the content issues in their drafts, then they may not have had the cognitive capacity to address basic writing errors as well. This effect would be even more pronounced for students whose belief in their writing abilities did not match their actual abilities. If students struggle with sentence generation to begin with and then have to apply discipline-related content on top of that, they are more likely to be incapable of responding to formative feedback, however specific it may be. Writing, like athletics and music, takes practice, and more complex tasks require a mastery of the basics. There is a danger of overcorrecting when giving feedback in writing [Shintani et al., 2013], but in this case students were given feedback on only five different types of basic writing mistakes. The students had all been exposed to these grammar issues in previous coursework. It is unlikely that overcorrecting was the problem here. The survey data on previous writing experience seem to suggest a different source of possible overload. As juniors and seniors in college, one-third of these students had written less than three papers of at least five pages in length. Fifteen percent reported writing no papers of this length individually. Quible and Griffen [2007] also note that, in the past 25 years, English teachers have increasingly stopped providing sentence-level correction and grammar instruction. This implies that a large percentage of these students have had little practice in transforming knowledge into applied compositions to begin with and have not been as exposed to sentence-level error correction as in generations past. Asking students to use feedback to improve grammar in addition to responding to content issues may have been more than some students were capable of handling given their past educational experience.

Another source for a possible explanation of the variance of our results comes from studies on millennials and management. Our study concentrates on largely millennial-aged cohorts (i.e., students born between 1980 and 2000). Millennials are described as having a strong need for feedback on their performance [Meister and Willyerd, 2010], but Alexander and Sysko [2012] hold that an environment of abundance and shifts in parenting styles have led this generation to have expectations of a future with more abundance, even when missing performance expectations. Compared to other generations, they tend to be optimistic and confident in themselves and their abilities [Blaine, 2008]. This generational tendency is a reflection of the positive psychology movement that emerged in the 1990s. In this movement, psychologists advocated an attributional style that explains positive events as a reflection of personal and permanent causes, while

negative events should be seen as external and temporary [Seligman, 1991]. Thus, a recurring theme in the literature of the millennial generation is the use of fundamental attributional error (FAE). FAE is the tendency for individuals to attribute their own success to their own internal characteristics and their failures to external phenomena, while conversely seeing others' successes as consequences of external phenomena and their failures due to characteristics of the actor [Ross, 1977]. This bias makes it more difficult for some millennial students to respond to negative feedback.

Like educators, managers have long observed variations in an individual's willingness and ability to accept feedback on his or her performance. Silverman et al. [2005]'s research suggested that awareness was the most important precursor to utilizing feedback. Awareness means both knowing the existence of a problem and being able to accurately attribute the cause of the problem. An inability to attribute the cause of the problem correctly will lower a person's ability to use feedback. Millennial students who are given a higher level of criticism than they were expecting will be faced with feedback that is inconsistent to their sense of self. Not only are they less able to appraise the magnitude of their deviation from the expected standard, the inconsistency is also contrary to their overestimated sense of efficacy. Unwilling to endure the potential cognitive difficulty and preferring to avoid the emotional labor of investigating the depth of their problems, they will resort to externalizing the errors and undervalue the use of feedback to avoid future mistakes. Millennial students who have incorporated the optimism of fundamental attribution error into their psychological makeup will thus demonstrate a stronger tendency to ignore the negative feedback that they are given on a draft, as they see it as an external, short-term problem that they do not have to address. On the other hand, students who receive feedback consistent with their sense of self will incorporate this information into better performance. They will have the insight to respond to the feedback in their future work and will be able to absorb the emotional and cognitive distress involved in making changes, given that the changes needed are relatively modest. The strong negative correlation between the error rate per word and the level of error correction in both assignments provides support for this explanation.

A final explanation for the variation in response to written feedback on grammar is that repeated exposure over time to a drafting system was necessary to increase the level of error correction. Although the number of drafts in the first writing assignment was not correlated with the levels of error correction in the first assignment, by the second writing assignment there was a significant, albeit weak, positive correlation between the number of drafts and the level of error correction. There was a stronger positive association between the number of drafts done in the first writing assignment and the level of error correction in the second writing assignment. These results tend to support the notion that students were learning to respond to the feedback and correct their grammar mistakes as they had more exposure to a drafting system. The study suggests that more than one

exposure to drafting is necessary to see significant effects of written feedback on grammar. If millennial generational tendencies are pervasive in a student body, then it may be that repeated exposure to negative feedback on grammar helps to break through FAE.

Crisp [2007, p. 572] notes that ". . . there is an implicit assumption that the provision of feedback will necessarily lead to improvements in subsequent pieces of submitted work." Faculty should give written feedback on grammar with the knowledge that it will not necessarily result in lower error rates in subsequent assignments unless they are prepared for a substantial time commitment. In this study, providing feedback on just five basic writing errors over two drafts took a professional editor approximately two minutes per 100 written words. This is roughly in line with the estimation of 10 minutes per 100 words that Connors and Lunsford [1988] gave when they had a group of college English teachers count 20 different errors over 3,000 papers. Thus, to give even a limited amount of writing feedback for a one-page, double-spaced written assignment of approximately 250 words would require at least five minutes. For a class size of 25 students, that is more than two hours of work for each round of drafts. This research suggests that even when students are highly motivated, it takes two rounds of drafts over two assignments before the writing error rate drops significantly on the final submission. That is eight hours of grading for a one-page assignment before faculty even get to grade a final submission. The eight-hour estimate is a conservative one because most upper-division faculty members are not professional editors. A faculty member without an editing background would be expected to spend even more time on the task. It may be more reasonable to spread out these efforts over a number of courses and instructors to distribute this burden more evenly.

RECOMMENDATIONS

Recommendations for Future Research

This research was conducted in one upper-division principles of marketing class. It would be beneficial to see if these same results were found over multiple functional areas of business. Also, only five different types of basic writing errors were examined in this study. Connors and Lunsford [1988] identify 54 types of basic writing errors in their analysis. It may be that the results in this study are a function of the errors studied. Future research that includes a broader range of basic writing errors may yield different results. Another limitation of this study was that it did not test the students' proficiency in correcting basic writing errors prior to the treatment. Linking proficiency to final results would determine if the limited success of written feedback in drafting is because students lack the ability to fix the writing errors noted in a draft. While this study found limited support for H1, it is only a pilot study. The number of students in the study restricted the analysis that could be done. It may be that a bigger sample with a coordinated plan of drafting and written feedback over a series of upper-division classes would

yield a better result. Related research into the use of peer review [Stellmack et al., 2012] and automated editing practices [Bacon et al., 2008] in conjunction with drafting may yield useful ways to cut down on the number of hours of faculty time required to give written feedback. Additional research in these areas would be helpful.

Recommendations for Practice

In the right circumstances, a multidraft system was found to be effective at reducing grammar error rates in the final submission. It is apparent that some students respond well to written feedback when it comes to grammar issues. This study seems to suggest that this group becomes a larger percentage of students when they are motivated and submit an increasing number of drafts. There were always some students who completely avoided responding to the written feedback on grammar. Despite grade motivation and resource availability, these students did not appear to act on this feedback at all.

The research suggests that increasing students' response to written feedback on grammar requires the commitment of faculty to give specific, regular, and formative feedback over time. This is a daunting task for many college faculty. Virtually all of the research on written feedback cites the time required to provide it and the resource constraints faced by college faculty. Kellogg and Whiteford [2009, p. 260] state, "Although there are probably many reasons why more writing is not routinely assigned, the time and effort required by instructors to provide useful feedback surely ranks high on the list." In a survey of business professors, the amount of time spent on grading was ranked first among drawbacks to having increased written assignments [Parent et al., 2011]. In addition, "Improving undergraduate writing skills receives relatively meager rewards compared with faculty publication, mentoring of graduate students, and sponsored research" [Kellogg and Whiteford, p. 261]. Finally, there is always the consideration that faculty members are subject to the students' evaluation of their instruction. Students are not likely to complain about an instructor who is not picky enough about grammar. Given the low level of rewards and the enormous investment of time, it is not surprising that individual faculty members reduce the length and number of written assignments, much less go through the increased hassle of reviewing drafts. Administrators in higher education should consider changing the reward system if it wants its faculty members to commit to improving student writing and give this level of written feedback.

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