ABSTRACT
This study investigates the relationship between college students' learning of grammar and mechanics and their ability to compose. A random sample of students enrolled in the University of New Mexico's freshman English program was tested during three semesters. Several questions were addressed: Were the courses doing what they purported to do? What were the trends in levels of competence in grammar, mechanics, and writing? What were the connections between the learning of grammar and the ability to write competently? An analysis of test scores and judges' global ratings of students' essays revealed that, past a certain level of instruction, students did not appear to make further progress; this trend manifested itself sooner with the learning of grammar and mechanics than with the actual production of writing. In addition, it was found that the acquisition of grammar and mechanics skills was only weakly correlated with improvement in writing, and then principally at the beginning of the students' college careers. (KS)
Stereotypes Examined: The Relation Between Learning Grammar and Mechanics and the Ability to Write College Compositions

by

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The Question

Some sequences of college Freshman English courses are based on an assumption that if students can be taught to attain some predetermined level of competence in grammar and mechanics, they will write better prose. This seems sensible. Students must learn the tools, forms, and structures of language before they can use these in their writing. Likewise, it could be said that students will appreciate prose fiction and non-fiction better if they understand the author(s)' technical skills. Or, that learning must begin with small pieces and proceed to larger wholes.

It is also possible that this basic assumption is wrong. Perhaps acquiring a formal knowledge of grammar and mechanics doesn't help students to write better--and is consequently a waste of both teachers' and students' effort. As part of a series of research investigations* in English composition at the University of New Mexico, we decided to test this question empirically: What is the relation between learning grammar and mechanics and the ability to write college compositions?

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This paper presents the design and results of a pilot study involving two panels or cohorts of students over a three-semester sequence. (Figure 1 shows the cohorts.)

Nature of the Courses Studied

Freshman English at UNM consists of a sequence of three courses. English 100, "Writing Standard English," is a remedial course required of all students who scored 18 or lower on the ACT test. It aims to teach them to use grammar and mechanics according to the conventions of standard English, and to write coherent, well-developed paragraphs. The self-teaching, programmed text is Joseph Blumenthal's *English 3200* (New York: Harcourt, Brace, Jovanovich, 1972). This is supplemented in class by Perrin and Corder's *Handbook of Current English* (Glendale, Ill.: Scott, Foresman, 1974).

English 101, "Writing with Readings in Exposition," is the only composition course required of nearly all students. Requirements for admission are either an ACT score of 19-25 (students scoring over 25 are exempt) or a grade of C or better in English 100. This course focuses on writing essays of 250-1000 words in various modes, often stimulated by the readings in Eschholz, Rosa, and Clark's *Language Awareness* (New York: St. Martin's Press, 1974). Grammar and mechanics are discussed informally, or with reference to the Handbook.

English 102, "Writing with Readings in Literature," is optional for most students; about three-fifths of those who take 101 continue on in 102. The emphasis here is on an introduction to varied works of imaginative literature of quality, and on critical analyses of literature through the writing of 500-1500 word expository and argumentative essays.

Hereafter we will simply refer to these courses as "English 100," "101," or "102."
Research Design

During the fall of 1975 we selected a random sample of students from the English 100 and 101 classes, and followed them during the subsequent semester or two when they took the next courses in the Freshman English sequence (either 101 or 102 or both). Panel studies enable the researcher to look at the history of a group of persons over time, but also to compare two different groups at equivalent periods in their training. Attrition was high, because many students postpone later courses in the sequence, or drop out of the University. (Of the beginning hundred students from English 100, fewer than a third were taking 102 two semesters later).

We investigated several issues:

1) Are the Freshman English courses doing what they purport to do?

2) What are the general trends in levels of competence in grammar, mechanics, and writing, over time?

3) What, if any, are the connections between the learning of grammar and mechanics and the ability to write competent college compositions?

We used a modified time series design in which we rated the students in each group at several different times over three semesters; this enabled us to compare scores in order to identify patterns of change. We measured both the 100 and 101
cohorts for competence in grammar and mechanics at the beginning and again at the end of the Fall 1975 semester, and once again at the end of the Spring, 1976 semester, so we could compare three time points. (See Fig. 2, comparisons between 1-2, 2-3, 1-3, etc.) We also rated their essays at these times, as well as at the end of the Fall semester, 1976.

Measuring change in knowledge of traditional grammar and mechanics is fairly easy because of the relatively high agreement among experts that a given usage is either "correct" or "incorrect" according to the rules. (Whether or not experts will agree on the rules is a different issue, not pertinent to this study.) Thus, grammar tests may be constructed to sample the domain of rules and thereby to measure how well students understand them intellectually and through application. We used either the tests of grammar and mechanics in *English 3200* or our own variations on them.

Evaluating written paragraphs or essays is more difficult because objective standards of judgment are not agreed upon or uniformly applied. Nevertheless, to assess the writing we adapted the method of Godshalk, Swineford, and Coffman, in which a large number of judges gave global (i.e., overall) ratings to a sample of each student's writings: 1= inadequate, 2= adequate, 3= superior. The sum of the judges' scores divided by the number of judges produces a score that averages the variations in the judges' grading and approximates a "true" score
better than any one judge might do. In this way, we could assign numbers to qualitative judgments of students' writings before and after some education in writing. We could infer that the observed differences in scores reflect the impact of this education (though there are other possible influences on the scores, some positive, some negative).

The procedure for evaluating essays is, in effect, a measure of validity—whether the test score approximates that which it purports to measure. Ideally, an essay's "true" score would be the average rating of all qualified judges. We approximated the ideal by having each essay read by at least five (but as many as ten) qualified judges—teaching fellows and full-time English Department faculty.

Before they began to rate these, we attempted to standardize the ratings (and thereby to make the measurements reliable) by holding a training session. Here, each reader independently evaluated ten essays of diverse qualities, and then compared evaluations and rationales with those of the other judges. These ratings appeared to be reliable, especially on the "inadequate" and "superior" essays, with more variation on "adequate" papers, but still within acceptable limits.
Results

Figure 2 summarizes the data of the two groups of students who began English 100 and 101 in the Fall, 1975, and remained in the Freshman English sequence for the duration of the research. To distinguish between them, we have used numbers to connect the 100 test scores from different times, and letters to connect the 101 scores. The numbers/letters are shown at about the point in each of the two or three semesters when the tests were conducted.

The tests of grammar and mechanics had a possible total of 100 points, while the writing scores had a range of 2.00 points (1.00 to 3.00, or inadequate to superior ratings). The numbers of persons who took each test are indicated in parentheses below the average scores.

Figure 3 summarizes the general trends of these data in a form which helps us to answer the questions we posed earlier. First, are the courses doing what they purport to be doing? Figure 3 identifies the group taking a given course, and discriminates between the two educational goals—the learning of writing, and of grammar and mechanics. Notice that in Figure 3 we distinguish between the two groups of students taking English 101 and 102. We want to study the performance of these classes by comparing students who come directly into 101 with those who come to it from the remedial course, and like-
wise for English 102.

**English 100:** The single group of students who took this course made substantial gains in both writing, and in grammar and mechanics.

**English 101:** In 101, students who had previously taken 100 improved only in writing, but not in grammar and mechanics. The students who went directly into 101 improved substantially in both writing and in grammar and mechanics.

**English 102:** No changes occurred in the writing of 102 students who previously took both 100 and 101. No data were collected on their grammar and mechanics. The 102 students who had previously taken only 101 (or been exempt from it) deteriorated slightly in grammar and mechanics and in writing.

Thus we can make these general statements about the learning that occurred in each of the Freshman English courses studied. English 100 fulfilled its objectives, as did English 101 (though more so for students who went directly into it from high school rather than from English 100). English 102 appears to have accomplished none of its objectives in either writing or in maintaining proficiency in grammar and mechanics.

The second general question we asked concerned the trends in grammar/mechanics and writing over time. In order to present complex data as simply as possible, we offer Figure 4, which graphs the dominant features of trends that appear when scores at one point are linked with scores at later points.
This masks the variations in individual learning as well as relative score levels, but reveals the major trends. First, note that the remedial students reach plateaus in both grammar and writing. That is, it appears that past a certain level of Freshman English, these students do not seem to make any progress. This occurs sooner with grammar and mechanics than with writing. Second, note that the writing levels of the students who tested out of 100 improve in 101, but drop slightly in 102. Likewise, the grammar scores of these regular students seem to deteriorate over time. This is paradoxical and leads to our final question.

What is the connection between the learning of grammar and mechanics and the ability to write effective college compositions? This is a more difficult question to answer, but based on our reading of the pilot data, we must report that learning grammar and mechanics seems to be related only weakly to improvement in writing, and then principally at the beginning of the students' college career. At this time, presumably, instructors are explicitly emphasizing the fundamentals.
Implications

This study is a pilot project that followed the education of a small number of Freshman English students over a three semester period at the University of New Mexico. The research needs to be replicated to determine the soundness of the data.

However, these tentative results provide the impetus for continued assessment of the effectiveness of the curriculum. They reinforce the courses that do appear to improve the students knowledge of grammar and mechanics, or their writing. And they suggest the need for alteration of those courses that don't. This information has been of help in the planning for analogous remedial courses in other subjects in the University.

Too often, the principal index of course effectiveness is student evaluations, rather than some accurate, objective measure of what the students have actually learned. We hope, therefore, that this research design may suggest to teachers of Freshman English other ways in which they might measure the impact of their own courses and curricula.
Footnotes


4We wondered how rating the essays on a five-point scale (equivalent of A-F) would compare with ratings on a three-point scale. Would the more refined rating alter the scores obtained on the less refined scale? The same raters evaluated the last group of 102 (Fall, 1976) papers on both scales, with no appreciable differences in the ratings.

5Compare Campbell and Stanley's discussion of alternative explanations to a given result. (pp. 5-6). We should also note that Godshalk's original study considered variations among students' writings at each evaluation point, but we had neither the time nor funds to consider more than a single essay by each student at any given evaluation point in our pilot study.
The numbers of students involved in the later parts of this study diminished considerably. This is because of the high attrition of students from 100 to 101 and to 102, either because of dropping out, terminating the sequence with 101, or voluntarily postponing 102.

We are reminded of Albert Kitzhaber's impressive Dartmouth study which showed that students tend to retrogress throughout their college careers, until by graduation time they are writing worse than they did as entering freshmen. See Themes, Theories, and Therapy: The Teaching of Writing in College, (New York: McGraw-Hill, 1963), p. 111, ff.

My own experience, as Director of Freshman English and reader of several thousand student evaluations during each of the three semesters when we were conducting this research, is that these evaluations, whether eliciting "subjective" or "objective" commentary—are almost uniformly favorable and non-discriminating. The students feel pleased with their teachers and often with the course—and frequently they write their evaluations in unspecific, abominable English, replete with spelling and mechanical errors. In short, identical evaluations are subjective and unreliable; they may reveal the students' state of mind, but not their state of knowledge.
Figure 1

Summary of results of UNM Pilot Study

<table>
<thead>
<tr>
<th>Fall, 1975</th>
<th>Spring, 1976</th>
<th>Fall, 1976</th>
</tr>
</thead>
<tbody>
<tr>
<td>(in English 100)</td>
<td>(in English 101)</td>
<td>(in English 102)</td>
</tr>
</tbody>
</table>

English 100 Cohort

<table>
<thead>
<tr>
<th>Grammar Test Scores</th>
<th>N = 105</th>
<th>N = 109</th>
<th>N = 69</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \bar{x} = 62.3 )</td>
<td>( \bar{x} = 79.8 )</td>
<td>( \bar{x} = 77.5 )</td>
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</tr>
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Writing Scores (\#s and Essays)

<table>
<thead>
<tr>
<th>N = 111</th>
<th>N = 100</th>
<th>N = 107</th>
<th>N = 96</th>
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<tbody>
<tr>
<td>( \bar{x} = 1.33 )</td>
<td>( \bar{x} = 1.48 )</td>
<td>( \bar{x} = 1.46 ) Essay</td>
<td>( \bar{x} = 1.58 ) Essay</td>
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</table>

English 101 Cohort

<table>
<thead>
<tr>
<th>Grammar Test Scores</th>
<th>N = 127</th>
<th>N = 120</th>
<th>N = 80</th>
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<tbody>
<tr>
<td>( \bar{x} = 66.7 )</td>
<td>( \bar{x} = 76.8 )</td>
<td>( \bar{x} = 72.5 )</td>
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</table>

Writing Scores

<table>
<thead>
<tr>
<th>N = 124</th>
<th>N = 106</th>
<th>N = 78</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \bar{x} = 1.57 )</td>
<td>( \bar{x} = 1.75 )</td>
<td>( \bar{x} = 1.75 )</td>
</tr>
</tbody>
</table>
### Summary of Results Presented as General Trends

<table>
<thead>
<tr>
<th>Class and Student Backgrounds</th>
<th>Educational Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grammar</td>
</tr>
<tr>
<td>English 100 (remedial grammar, mechanics, and paragraph writing)</td>
<td>All gains this group achieved were made in this class [see (1)--(2)]</td>
</tr>
<tr>
<td>Taken primarily by students who scored 18 or lower on ACT.</td>
<td></td>
</tr>
<tr>
<td>English 101 (short essay writing; some grammar and mechanics taught informally and intermittently)</td>
<td>Slight deterioration occurred during this class [see (2)--(3)]</td>
</tr>
<tr>
<td>Taken by former English 100 Students</td>
<td></td>
</tr>
<tr>
<td>English 102 (longer essays based on works of literature; no formal study of grammar or mechanics)</td>
<td>All gains this group achieved were made in this class [see (A)--(B)]</td>
</tr>
<tr>
<td>Taken by former English 100 students who also took English 101</td>
<td>(no data collected)</td>
</tr>
<tr>
<td>Taken by students who also took English 101</td>
<td></td>
</tr>
<tr>
<td>who went directly into English 101</td>
<td>Slight deterioration occurred during this class [see (B)--(C)]</td>
</tr>
</tbody>
</table>
*These graphs disregard relative levels on vertical axes so as to emphasize general trends. See data on Figure 2 in order to determine comparative heights.*