Matriculation Research Report

English and Math Sources and Outcomes
Fall 1992

Office of Research and Development
ENGLISH AND MATH
SOURCES AND OUTCOMES
Fall 1992

June 1994

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English and Math
Sources and Outcomes
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Summary

A study of Fall 1992 sources and outcomes data was conducted for the purpose of evaluating effectiveness of prerequisites and assessment practices. English and math were evaluated separately examining comparisons of the average percent of students passing, not passing, withdrawing, or receiving an "other" or "no" grade by course level. The mean of all students receiving one of these categories was then compared with those students having taken a prerequisite in the semester prior to the class and those students who were assessed and placed in the class within one semester.

In general, students taking a prerequisite prior to the Fall 1992 level performed better than students not coming from a prerequisite. Students taking the level at which they were placed in assessment also performed better than the average student.

Problems arose during this study that will be addressed in future studies. It was discovered that the category of "new-untested" students were, in fact, a grouping that included students who had been tested previously or received a prerequisite at another campus. This group also may have included students who had tested or taken a prerequisite more than one semester previous to Fall 1992 enrollment. This data is manipulated at the district level and is being corrected.

A problem at the local level involves instructor grading variability. Because the outcomes examined are based on the grades received, any examination must include a caution that the mean ranges of grade point averages in a given class often vary beyond matriculation guidelines. Since this data was collected, both departments have written course descriptions and expectations guidelines for the benefit of students and instructors alike. It is expected that Fall 1994 results will reflect this.
English Sources and Outcomes

Fall 1992

A study of Fall 1992 English sources and outcomes data was conducted. In general, those students taking the course in which they were placed through assessment succeeded most frequently, followed by those students coming from a prerequisite. The results appeared similar to the Fall 1989 data\(^1\), with the exception that English 21 shows a higher percentage of passing grades in the students coming from a prerequisite (Developmental Communications 20-35) than new students-not tested. However, English 28 (Figure 2.) now exhibits the problem that English 21 had in 1989. The rate of passing in students coming from a prerequisite dropped slightly below the new-untested students, but the rate of not passing was less in those coming from a prerequisite.

In addition, English 101 (Figure 1.) and English 21 (Figure 3.) students entering from a prerequisite exhibit a percentage of passing grades higher than the average in the course. English 28 does not show a higher than average percent of passing grades when coming from a prerequisite, but the rate of non-passing grades decreased from 14.3% of English 28 repeaters and 12.7% of new students-not tested to 8.1% for those coming from prerequisites.

Those students placed in Developmental Communications 20 (Figure 4.) and 35 (Figure 5.) also did better than the average student with a greater chance of

\(^1\)In April 1992 a study of Fall 1989 English 21, 28, and 101 grades by sources was conducted. It was found that students completing prerequisite courses, withdrew less frequently and had slightly higher rates of passing grades (A, B, C, or CR) than those not tested or those repeating courses. English 21 was an exception with those coming from Developmental Communications 20 performing at a slightly lower percentage of passing grades when compared with those students who were new and not tested. However, the new-untested students had a much higher rate of not passing (D, F, and NCR). These comparisons may be examined more thoroughly in the Matriculation Research Report titled "English Assessment and Outcomes Study Fall 1989." There were also flaws in the data as discussed in the Summary of this report.
success and lower non-passing grades and withdrawals. Despite problems with reader reliability at that time\(^2\), placement of students was successful.

A problem with any evaluation involving grades, is the grading variability between instructors. In the past, instructor grading variability at Harbor College has been outside matriculation norms. Further study of current grading and a rigorous self-evaluation by the English department of course requirements and goals are likely to show a decrease in variability and an increase in impact of prerequisites and assessment.

A further complication was discovered with regard to the definition of source categories. It was discovered that students who took a course more than one semester after being placed through assessment would not appear as a placed student. In addition, a student who had received a counselor placement based on previous courses or assessment at another campus would not appear as a placed student, but rather as a "new student-not tested", or possibly as "other". These problems are being addressed by notification through the district office of computer screen fields needed and by a form for counselors that will be given to such students and collected at the admissions office for periodic review by the researcher. Ideally, these forms will be instituted through computer input and reported appropriately in the future. Currently, the problem still exists with no definite date of correction at the district level.

**Conclusion**

Despite the problems noted, a comparison of grades by source in English shows that students taking the level of English for which they were assessed or coming from a prerequisite have a higher chance of success in a course than the average of the class. In addition, they will have fewer withdrawals and non-passing grades (with the exception of English 21 which had a high achieving group of English 21 repeaters).

\(^2\)An interrater reliability study discovered a discrepancy in scoring which was corrected in Spring 1994.
Recommended Action

It is recommended that departments continue their careful examination of course descriptions and expectations to encourage continuity between courses and instructor grading. The results from the first effort should be seen in Fall 1994 data and will clarify the need for any additional action. The flow of prerequisites into courses and the effect of assessment placement are encouraging. Any procedures that encourage students to utilize one of these systems in deciding course enrollment should be strengthened and supported.

Correction of data collected should also be pursued. Although Management Information Systems staff have agreed to make adjustments to necessary computer fields of input, achievement of this goal will not be soon. Therefore, all data comparing groups that include "new-untested" students should be viewed with full knowledge of the contamination of this data.
Figure 1.
Grades by Source
English 101 (Fall 1992)
Figure 3.
Grades by Source
English 21 (Fall 1992)
Figure 4.
Grades by Source
Developmental Communications 20 (Fall 1992)
Math Sources and Outcomes
Fall 1992

A study of Fall 1992 Math sources and outcomes data was conducted. At the levels of math 125, 120, 115, 114, and 113 students who took the course level in which they were placed through assessment, or came from a prerequisite, had a higher chance of successfully completing the course. In general, they had fewer non-passing grades and fewer withdrawals than new, untested students, students repeating a course, or the class average. (See figures 6, 7, 8, 9, and 10.)

Math 112 (Figure 11.) has a very high success rate for those placed in math 112. The students coming from Math 105 (the prerequisite), however, had a low rate of passing compared to the new, untested students and the class average. This seems to be due to a large group of withdrawals. The students coming from Math 105 showed a very small percentage of non-passing grades. At first glance the prerequisite of Math 105 in the figure is troubling, but the low number of non-passing grades supports the prerequisite.

Math 105 (Figure 12.) is the exception to the rule that prerequisites or placement produce a higher chance of success in a math course. Math 105 does not have a prerequisite. New, untested students and students receiving other placement, brought the class average above the group who were placed in Math 105. Since "other placements" mean a higher placement (this is the lowest level of placement), it appears that a significant number of students who qualified at higher levels, chose for their own reasons, to take Math 105. There was also a large group (over 30%) of the students placed in the course who received "no grade". Nearly 60% of those students repeating Math 105, also received "no grade". These figures are unusual when compared with the other math courses. One of the problems with this data is the small numbers of sample population. Only 5 (2.2%) students repeated Math 105, 12 (5.4%) were placed in Math 105, and 18 (8.0%) were new, untested students. Of the 224
students taking Math 105 in Fall 1992, these are indeed small numbers. The largest
groups were referred to a different math test (76) and came from other sources not
identified by the computer fields (95). Therefore, the evaluation of Math 105 with
regard to placement effectiveness is inconclusive.

Data evaluation for Fall 1992 was hindered by an incorrectly coded printout of
basic data from the district office. Care is being taken with the current 1993 printout to
avoid this problem. Math 265, 260, and 240 data was incorrectly coded and is not
included in this evaluation.

Another problem with reliability of this study, is the low percentage of students
taking the math course in which they were placed within one semester. Students who
were assessed or took a prerequisite earlier or at another campus, were grouped with
new-untested students or "other". As discussed in the English sources section, a form
has been developed and a request made for computer fields to correct this problem.
The percent of students placed through assessment for Fall 1992 and taking that
course in Fall 1992 are shown in the following table.

<table>
<thead>
<tr>
<th>Math Course Number</th>
<th>% Placed</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>2.5</td>
</tr>
<tr>
<td>120</td>
<td>10.5</td>
</tr>
<tr>
<td>115</td>
<td>3.7</td>
</tr>
<tr>
<td>114</td>
<td>0.4</td>
</tr>
<tr>
<td>113</td>
<td>3.3</td>
</tr>
<tr>
<td>112</td>
<td>9.4</td>
</tr>
<tr>
<td>105</td>
<td>5.4</td>
</tr>
</tbody>
</table>

Average percent of class
placed through assessment
5.0

Table 1.
Percent of Students Placed
and Attending Class in Fall 1992
Conclusion

Although it appears that taking a prerequisite or being assessed for the level of enrollment increases a student's chance of success in a course, this data is poor since there were errors in grouping new-untested students with students who were tested or took a prerequisite at another campus. In addition, other district generated data was incorrectly coded. It is expected that corrections of these items will strengthen the relationship between success in a course and prerequisites or assessment.

Recommended Action

It is recommended that future computer printouts be examined carefully for these errors. It is also recommended that changes in the Management Information Systems computer fields be urged as MIS staff has agreed.

The Math Department is encouraged to continue their careful examination of course descriptions and expectations on a regular basis to encourage continuity between courses and instructor grading. The results from the first effort to do so should be observed in Fall 1994 data and will clarify the need for any additional action. The flow of prerequisites into courses and the effect of assessment placement are encouraging. When relationships strengthen with successful outcome, students should be encouraged to utilize one of these systems in deciding course enrollment.
Figure 6.
Grades by Source
Math 125 (Fall 1992)
Figure 7.
Grades by Source
Math 120 (Fall 1992)
Figure 8.
Grades by Source
Math 115 (Fall 1992)
Figure 9.
Grades by Source
Math 114 (Fall 1992)

*Only 0.4% (1) student was placed at this level and is not included in this chart.
Figure 11.
Grades by Source
Math 112 (Fall 1992)
Figure 12.
Grades by Source
Math 105 (Fall 1992)
RATING SCALE FOR PAPERS & COURSE GRADE

A Applies to papers that are clearly superior. May not be flawlessly proportioned or even absolutely error-free, but it does all of the following:
- Engages the topic in a cogent, thoughtful, individual way, developing its points with detail.
- Chooses words aptly and sometimes inventively.
- Varies sentences effectively, thus helping create a voice.
- Demonstrates mastery of most of the grammar and usage conventions of standard English.

B Applies to papers that are clear passes. Does most of all or the following well:
- Responds intelligently to the theme topic, organizing appropriate details in several coherent paragraphs and providing a sense of orderly progress between ideas.
- Uses words precisely if not creatively.
- Varies sentence structure enough to read smoothly.
- Uses competently the conventions of written English, containing few, if any, errors in sentence structure, punctuation and capitalization, or usage.

C Applies to papers that are weak passes because, although they communicate clearly, they lack the development or stylistic command demonstrated by B papers. A C paper usually:
- Responds adequately to the theme topic, showing a clear sense of organization, but also some weakness in transitions and in paragraph structure and development.
- Uses less precise vocabulary.
- Varies sentence structure enough to avoid monotony.
- Contains minor errors in mechanics and usage, and perhaps one or two more distracting errors in sentence structure (an agreement error, a clearly unintentional fragment, an obviously dangling modifier).

D Applies to unsatisfactory papers. These papers usually lack the coherence and development of C papers and exhibit more serious weaknesses in their writers' ability to handle written English. A typical D paper:
- Responds less effectively to the theme topic. Although a major idea may be clearly stated, the paper usually has inadequately developed or illogically sequenced paragraphs which lack clear transitions between ideas.
- Uses vocabulary that is usually acceptable but often imprecise.
- Seldom varies sentences.
- Makes enough errors in usage and in sentence structure - errors in agreement, pronoun reference, sentence punctuation, and modifier placement - to cause a reader serious, if occasional, distraction.

F Applies to papers that are clear failures. These papers present some content but compound the weaknesses of a D paper. A F paper:
- May distort the topic, and usually lacks coherent organization and development with specific details.
- Often employs very basic vocabulary or misuses many words.
- Usually makes no attempt to vary sentences.
- Contains many distracting errors in sentence structure, sometimes suggesting an oral rather than a written style.
RATING SCALE FOR PLACEMENT ESSAY

6 Applies to papers that are clearly superior. A 6 paper may not be flawlessly proportioned or even absolutely error-free, but it does all of the following:
- Engages the topic in a cogent, thoughtful, individual way, developing its points with detail.
- Chooses words aptly and sometimes inventively.
- Varies sentences effectively, thus helping create a voice.
- Demonstrates mastery of most of the grammar and usage conventions of standard English.

5 Applies to papers that are clear passes. A 5 paper does most of all or the following well:
- Responds intelligently to the theme topic, organizing appropriate details in several coherent paragraphs and providing a sense of orderly progress between ideas.
- Uses words precisely if not creatively.
- Varies sentence structure enough to read smoothly.
- Uses competently the conventions of written English, containing few, if any, errors in sentence structure, punctuation and capitalization, or usage.

4 Applies to papers that are weak passes because, although they communicate clearly, they lack the development or stylistic command demonstrated by 5 papers. A 4 paper usually:
- Responds adequately to the theme topic, showing a clear sense of organization, but also some weakness in transitions and in paragraph structure and development.
- Uses less precise vocabulary.
- Varies sentence structure enough to avoid monotony.
- Contains minor errors in mechanics and usage, and perhaps one or two more distracting errors in sentence structure (an agreement error, a clearly unintentional fragment, an obviously dangling modifier).

3 Applies to unsatisfactory papers. These papers usually lack the coherence and development of 4 papers and exhibit more serious weaknesses in their writers' ability to handle written English. A typical 3 paper:
- Responds less effectively to the theme topic. Although a major idea may be clearly stated, the paper usually has inadequately developed or illogically sequenced paragraphs which lack clear transitions between ideas.
- Uses vocabulary that is usually acceptable but often imprecise.
- Seldom varies sentences.
- Makes enough errors in usage and in sentence structure - errors in agreement, pronoun reference, sentence punctuation, and modifier placement - to cause a reader serious, if occasional, distraction.

2 Applies to papers that are clear failures. These papers present some content but compound the weaknesses of a 3 paper. A 2 paper:
- May distort the topic, and usually lacks coherent organization and development with specific details.
- Often employs very basic vocabulary or misuses many words.
- Usually makes no attempt to vary sentences.
- Contains many distracting errors in sentence structure, sometimes suggesting an oral rather than a written style.

1 Applies to papers that demonstrate severe difficulties with reading and writing standard English. These writers many times be more appropriately placed in an ESL course than in English 28. Such papers:
- May clearly misunderstand the topic.
- May be very brief, suggesting real effort in producing even 200 words.
- Usually are markedly incoherent, with no attempt to provide links between sentences and with much faulty predication within them.
- Usually contain distracting errors in grammar, inflection, and idiom in almost every sentence.