



*Office of the Vice President
for Community Colleges*

Results of October 2006 Pilot Study: Validation of Reading Prerequisite Courses for Writing Courses

Office of the Vice President for Community Colleges, Academic Planning, Assessment,
and Policy Analysis

October 2006

Executive Summary

The purpose of the study was to respond to the charge in the Vice President for Community Colleges, Associate Vice President Academic Affairs memo of September 16, 2005, subject: Implementing the Agreed Upon Compass Test Practices: (Attachment 1)

The UHCC system will design and conduct a pilot study to validate prerequisite requirements. The pilot study will begin with the validation of reading course prerequisites for developmental and baccalaureate transfer level writing courses. The study will be conducted under the leadership of the Community Colleges' Director of Policy, Assessment, and Planning, with broad systemwide participation in the design and analysis of the study. A description of the study design will be presented to the Council of Community College Chancellors by December 1, 2005. The report of the findings of the analysis will be presented to the Council of Chancellors by October 15, 2006 with implementation of any resulting changes for students registering for fall 2007.

A Prerequisite Validation Pilot Study Work Group (Attachment 2) was formed with volunteers from the majority of the colleges. The Work Group met in January, May, and October 2006 to discuss the process. The research questions agreed to were:

- “Is successful completion of English 21 essential to successful completion of English 22?”
- “Is successful completion of English 21 essential to successful completion of English 100?”

Using source records from Banner/ODS, the sample-selection criteria were students whose *COMPASS* scores placed them into English 21 since January 18, 2003 and:

1. Students who had NOT taken English 19, 20, or 21 but HAD taken English 22.
2. Students who HAD taken English 21 and had also taken English 22.

Also, comparison of grade distributions were made of those who had taken English 21, English 22, then English 100 within three semesters of the test recommendation with the grade distributions of those who had NOT taken English 21, but taken English 22 and 100 within two, then three semesters of the recommendation

The findings and recommendations of this pilot study are:

1. There is no sufficient evidence to indicate that successful completion of English 21 is essential to the successful completion of either English 22 or English 100.

2. The success rate of the groups of students who took English 22 after taking English 21 as recommended was, with one exception, consistently lower on English 22 and English 100 than that of students who did not take English 21 as recommended. However, these differences were not statistically significant ($\alpha = 0.05$). Complete analysis and methodology are in the Analysis, Results and Methodology section.
3. The methodology be used for future quantitative studies and that the pilot study be forwarded to the Council of Chancellors for their review.

These findings and results may arise from factors such as:

- a. English 21 might not be properly “aligned” in terms of content and learning activities to significantly help the student acquire knowledge and skills leading to greater success in English 22 or English 100.
- b. Differences in course content and/or grading standards may exist among community colleges. These differences might tend to conceal real differences.

This study should not be used to make a general determination about the usefulness or effectiveness of English 21. Rather, the purpose of this study is to answer the question defined in the May 4, 2006 meeting: Is successful completion of English 21 essential to successful completion of either English 22 or English 100?

Introduction

The purpose of the study was to respond to the charge in the Vice President for Community Colleges, Associate Vice President Academic Affairs memo of September 16, 2005, subject: Implementing the Agreed Upon Compass Test Practices:

As part of the discussion that resulted in this agreement it became clear that we have a number of existing course prerequisites that affect student placement decisions across the colleges that have not been validated for their effectiveness. As stated in ACCJC Standards of Accreditation, “The institution regularly evaluates admissions and placement instruments and practices to validate their effectiveness while minimizing biases (Standard II, B 3 e).” In addition, a campus civil rights compliance audit conducted at Maui Community College by the Office of the State Director for Career and Technical Education call for an assessment of the effectiveness of course prerequisites for students in career programs.

The UHCC system will design and conduct a pilot study to validate prerequisite requirements. The pilot study will begin with the validation of reading course prerequisites for developmental and baccalaureate transfer level writing courses. The study will be conducted under the leadership of the Community Colleges’ Director of Policy, Assessment, and Planning, with broad systemwide participation in the design and analysis of the study.

The study was conducted under the leadership of the Community Colleges’ Director of Academic Planning, Assessment, and Policy Analysis (APAPA) with systemwide participation. At the January 26, 2006 meeting of the Work Group, Director, APAPA stated this pilot study will be a quantitative study. At the May 4, 2006 Work Group meeting, the research questions agreed upon were:

“Is successful completion of English 21 essential to successful completion of English 22?”

“Is successful completion of English 21 essential to successful completion of English 100?”

The Californian “Best Practices” model was used as the basic reference in designing the UHCC pilot study.

Analysis, Results and Methodology

This section was completed by the Office of Planning and Institutional Research Kapi‘olani Community College and is included here in its entirety:

UHCC Prerequisite Validation Pilot Study
Frank Abou-Sayf and Guy Nishimoto
Kapi`olani Community College

October 16, 2006

Introduction

On May 4, 2006, the authors were asked by the Director, APAPA to take the lead in conducting a pilot study to determine whether successful completion of English 21 (ENG 21) is essential to successful completion of English 22 (ENG 22) and English 100 (ENG 100). This document presents the results of this study.

Sample-Selection Criteria

The selection process was based on Banner data and using SORTTEST. The process was as follows:

1. Students whose *COMPASS* scores placed them in ENG 21 since January 18, 2003, were selected. That is, they had reading scores between 56 and 78 (inclusive) and writing scores less than 40 (by System Agreement, a writing test score greater than or equal to 40 AND a reading test score 56-78 would place the student into ENG 22). We obtained 4,667 records.
2. Records of these students included term, location, and grade information for ENG 19, 20, 21, 22, and 100. For ENG 19, 20, 21 and 21V, the query went as far back as fall 1985.
3. We then queried the table for various characteristics to select the records we wanted to use to determine grade distributions:
 - ◆ We selected the records of students who had NOT taken ENG 19, 20, or 21 but HAD taken ENG 22.
 - ◆ We selected the records of those students who HAD taken ENG 21 and had also taken ENG 22.
 - ◆ We also determined the number of terms between taking one course and another.

This selection process allowed for the comparison of the students who had taken ENG 21 and 22 within n semesters of being recommended to take ENG 21 with the students who had taken ENG 22 within n and $n-1$ semesters of the recommendation without taking ENG 21. This matching of the number of semesters of enrollment was done for both groups to reduce the effect of the persistence factor that we had discussed in our meetings.

One comparison restricted the students to those who took the course the same semester they were tested (Table E in the Appendix) and in another students with zero semesters of enrollment in the UH system before taking *COMPASS* were

selected (Table G in the Appendix). These tables, where no persistence effect is present, provide the most rigorous results.

4. We also compared the grade distributions of those who had taken ENG 21, ENG 22, then ENG 100 within three semesters of the test recommendation with the grade distributions of those who had NOT taken ENG 21, but taken ENG 22 and 100 within three semesters of the recommendation (Tables I through L).

Statistical Analysis

The criterion “successful completion” was measured by success rates (or pass rates) on specific courses. Success rate was calculated as the number of *A*, *B*, *C* and *CR* grades divided by the total number of grades, excluding *I* and including *W*, expressed as a percentage. The statistical technique used was a series of *z*-tests for the comparison of two proportions (rates in this case). This approach was deemed preferable to the use of Chi Square (χ^2) that was suggested earlier because the latter is concerned with finding statistically significant differences between the letter-grade distributions while the former provides information about success rates as a whole. That is, the outcome of a χ^2 test could be that there is a statistically significant difference between the proportion of *As* and *Bs* between the two groups while providing no information about the statistical significance of the groups’ success rates. Finally, since the hypothesis being tested is whether successful completion of ENG 21 is essential to successful completion of ENG 22 and ENG 100, a one-tail test of statistical significance was used.

Results and Interpretation

Details of the statistical analysis are presented in the Appendix.

The analysis indicates that the success rate of students who took ENG 22 after taking ENG 21 as recommended was, with one exception, consistently lower on ENG 22 and ENG 100 than that of students who did not take ENG 21 as recommended. However, these differences were not statistically significant ($\alpha = 0.05$). A list of the observed statistical significance levels is provided in Table O in the Appendix.

This study should not be used to make a general determination about the usefulness or effectiveness of ENG 21. Rather, the purpose of this study is to answer the question defined in our May 4, 2006 discussion: Is successful completion of ENG 21 essential to successful completion of either ENG 22 or ENG 100?

The results of the study clearly indicate that there is no sufficient evidence to indicate that successfully completing ENG 21 has resulted in the increased likelihood of success in either ENG 22 or ENG 100. These results may arise from one or several factors:

1. ENG 21 might not be properly “aligned” in terms of content and learning activities to significantly help the student acquire knowledge and skills leading to greater success in ENG 22 or ENG 100.

2. Some students who did not take Eng 21 may have been placed by the instructor into ENG 22 as a more appropriate level for their abilities. In fact, the data in this study indicate that those who skipped ENG 21 had a higher average writing score than those who complied ((31.55 vs. 26.60 respectively, Table M).
3. Students who “beat the system” and skip ENG 21 may possess motivation and skills that contribute to success in ENG 22 and 100. Those who conform and go through the sequence might lack such characteristics.
4. Notwithstanding the articulation agreements that are currently in effect among the community colleges, differences in course content may exist among community colleges. These differences will tend to conceal real differences.
5. The *COMPASS* reading test might be misplacing some students, e.g., the ones placed at ENG 21 mainly because of their reading test results (again, note the higher average writing score of the students who skipped ENG 21 and took ENG 22).
6. Differences in grading standards may exist among instructors, e.g., instructors giving consistently higher grades than others. These differences will tend to conceal real differences.
7. Finally, differences in grading practices among instructors, e.g., grading on “the curve” will also tend to conceal differences.

It should also be mentioned that, in order to control for the “persistence effect” that was discussed by the Work Group, only students who took the English courses being examined here in relatively rapid succession were selected in most comparisons. As such, these students may not constitute a representative sample of the community college students at large.

APPENDIX

Table A
Those Taking ENG 22 Without
Taking ENG 21 as Recommended *

A	15	13.04%
B	33	28.70%
C	22	19.13%
D	8	6.96%
F	17	14.78%
N	6	5.22%
NC	2	1.74%
W	12	10.43%
Total	115	

* Within 3 semesters of testing

Success Rate: 60.87%

Table B
Those Taking ENG 22 After
Taking ENG 21 as Recommended **

A	40	10.81%
B	90	24.32%
C	80	21.62%
D	37	10.00%
F	57	15.41%
N	16	4.32%
W	50	13.51%
Total	370	

** Within 4 semesters of testing.

Success Rate: 56.76%

Table C
Those Taking ENG 22 Without
Taking ENG 21 as Recommended *

A	15	13.16%
B	33	28.95%
C	22	19.30%
D	8	7.02%
F	17	14.91%
N	6	5.26%
NC	2	1.75%
W	11	9.65%
Total	114	

* Within 2 semesters of testing

Success Rate: 61.40%

Table D
Those Taking ENG 22 After
Taking ENG 21 as Recommended **

A	39	10.74%
B	88	24.24%
C	80	22.04%
D	36	9.92%
F	56	15.43%
N	16	4.41%
W	48	13.22%
Total	363	

** Within 3 semesters of testing

Success Rate: 57.02%

Table E
 Those Taking ENG 22 Without
 Taking ENG 21 as Recommended ^

A	13	16.46%
B	20	25.32%
C	15	18.99%
D	7	8.86%
F	12	15.19%
N	3	3.80%
NC	2	2.53%
W	7	8.86%
Total	79	

^ During the same semester of testing

Success Rate: 60.76%

Table F
 Those Taking ENG 22 After
 Taking ENG 21 as Recommended ^^

A	37	10.91%
B	85	25.07%
C	78	23.01%
D	35	10.32%
F	47	13.86%
N	15	4.42%
W	42	12.39%
Total	339	

^^ Within 2 semesters of testing

Success Rate: 59.00%

Table G
 Those Taking ENG 22 Without
 Taking ENG 21 as Recommended #

A	10	21.74%
B	11	23.91%
C	9	19.57%
D	6	13.04%
F	6	13.04%
W	4	8.70%
Total	46	

**# During the same semester of testing
 and no previous semester in college**

Success Rate: 65.22%

Table H
 Those Taking ENG 22 After
 Taking ENG 21 as Recommended ##

A	28	10.85%
B	71	27.52%
C	56	21.71%
D	30	11.63%
F	35	13.57%
N	11	4.26%
W	27	10.47%
Total	258	

**## Within 2 semesters of testing
 and no previous semester in college**

Success Rate: 60.08%

Table I
 Those Taking ENG 100 Without
 Taking ENG 21 as Recommended *
 They did take ENG 22.

A	9	19.15%
B	15	31.91%
C	6	12.77%
D	1	2.13%
F	7	14.89%
N	1	2.13%
NC	3	6.38%
W	5	10.64%
Total	47	

* Within 3 semesters of testing

Success Rate: 63.83%

Table J
 Those Taking ENG 100 After
 Taking ENG 21 as Recommended **
 They did take ENG 22.

A	19	14.18%
B	44	32.84%
C	31	23.13%
CR	1	0.75%
D	6	4.48%
F	14	10.45%
N	1	0.75%
NC	2	1.49%
W	16	11.94%
Total	134	

** Within 3 semesters of testing

Success Rate: 70.90%

Table K
 Those Taking ENG 100 Without
 Taking ENG 21 as Recommended *
 They did take ENG 22.

A	7	21.88%
B	13	40.63%
C	3	9.38%
F	5	15.63%
N	1	3.13%
NC	1	3.13%
W	2	6.25%
Total	32	

* Within 3 semesters of testing and no
 previous semester in college

Success Rate: 71.88%

Table L
 Those Taking ENG 100 After
 Taking ENG 21 as Recommended **
 They did take ENG 22.

A	20	14.81%
B	45	33.33%
C	31	22.96%
CR	1	0.74%
D	9	6.67%
F	14	10.37%
ID	1	0.74%
NC	1	0.74%
W	13	9.63%
Total	135	

** Within 3 semesters of testing and no
 previous semester in college

Success Rate: 71.85%

Table M
Average COMPASS Scores

Taking ENG 22 w/o ENG 21			Taking ENG 21 and 22 w/o 20		
	Read	Write		Read	Write
Average	68.63	31.55	Average	68.58	26.60
Std Dev	8.3	12.61	Std Dev	6.02	11.18

Table N
Where Did They Take ENG 21 and 22?

	Taking ENG 22 w/o ENG 21		Taking ENG 21 & 22 w/o ENG 20		Taking ENG 21 & 22 w/ ENG 20	
HAW	6	5.22%	9	2.37%	68	17.94%
HON	16	13.91%	4	1.06%	11	2.90%
KAP	26	22.61%	228	60.16%	235	62.01%
KAU	16	13.91%	23	6.07%	26	6.86%
LEE	12	10.43%	49	12.93%	164	43.27%
MAU	30	26.09%	3	0.79%	21	5.54%
WIN	9	7.83%	63	16.62%	64	16.89%
Total	115		379		589	

Table O
Statistical Test Results
z-values and p-values for Success-Rate Comparisons

Tables Compared	z-value	p-value, one tail
A and B	0.7793	0.2179
A and D	0.7289	0.2330
C and D	0.8268	0.2042
C and F	0.4518	0.3257
G and H	0.6580	0.2553
I and J	-0.8979	0.1846
K and L	0.1101	0.4562

Work Group Concerns

Concerns expressed by the Work Group members during meetings and through emails regarding the pilot study include:

- The word “essential” is too precise/limiting. It sets a higher standard than that used in the *COMPASS* course placement studies.
- Pilot study is based on a faulty assumption – English 21/22 courses have not been articulated across the system. English 21/22 are not system courses, the course content is not the same at all colleges.
- English 22 and/or English 100 may not be subsequent courses for English 21 at all colleges.
- Research design is too narrow, other factors need to be considered such as student learning outcomes (SLOs), grading procedures, etc. Some noted that not all colleges have defined SLOs.
- Need to include student survey data with responses to questions like “Did English 21 help you?”
- Specifically, we should note the objection of some committee members "making high stakes decisions based on one study, especially if it's going to be a quantitative study with all these limitations and caveats." We should also include Frank Abou-Sayf's final comment that such a quantitative study as we are proposing has limited usefulness.
- There is a need to involve and include those reading and writing teachers in the analysis of the data. In a later study we should be "including a reading test if we are examining transfer of and necessity for reading skills in English 22 and English 100 [and] a content analysis of the reading skills needed in English 22 and English 100." These measures, and perhaps others, are essential to the big picture of the importance of reading skills in writing classes.
- English 21 and 102 teachers have already presented their data and findings to their respective chancellors concerning skills being taught/learned in the reading courses, but it would be a good idea if we survey and talk with writing teachers about the reading skills in writing classes.
- There is a need to involve and include those reading and writing teachers in the analysis of the data, otherwise, without the teachers' buy-in, any curricular changes will be highly unlikely.

Conclusions and Recommendation

The charge for the pilot study work group was limited to answering the question about the relationship between English 21 grades and English 22 and English 100 grades. There is concern that if we stop there and not explore the factors within the larger, aggregated grade variables, we will be looking at the right things for the wrong reasons and doing our students a disservice. If English 21 is supposed to be teaching students the reading skills that they need in English 22 and English 100, rather than looking at final grades only, perhaps we need to examine the English 22 and English 100 students' reading skills and see how many took English 21 and how many didn't. And if there is no significant difference, then we should further examine what is happening in English 21 and why students are not learning how to annotate, quote, paraphrase, and summarize what they are reading.

The results of this pilot study suggest a need to validate course prerequisites and any larger study should include a review of course content and sequence and the procedures for putting prerequisites in place.

Attachments:

- 1 - Vice President for Community Colleges, Associate Vice President Academic Affairs memo of September 16, 2005, subject: Implementing the Agreed Upon Compass Test Practices
- 2 - List of Work Group Members



UNIVERSITY OF HAWAII

OFFICE OF THE VICE PRESIDENT FOR
COMMUNITY COLLEGES

MEMORANDUM

September 16, 2005

TO: UHCC Chancellors
SUBJECT: Implementing the Agreed Upon Compass Test Practices

I am writing as a follow-up to our recent discussions about implementing the agreed upon Compass Test practices. In April 2005, we agreed to delay the implementation of changes in the COMPASS placement cutoff scores for both math and English until spring 2006. In addition we asked the English faculties to revisit the recommendations of the Deans of Instruction/Chief Academic Officers regarding English 21 and English 102 cutoff scores, and agreed that if there were any changes to be made in the Eng 21 and Eng 102 cutoff scores they will be implemented in Fall 2006. We also agreed that all other recommendations be implemented for spring 2006.

Attached you will find a schedule that details the current test scores that will be used for placement decisions effective starting with the Spring semester 2006.

In addition to implementing the new placement schedule, we are continuing to implement the following validation initiatives:

ENG 21/102 English faculties will review the ACT analysis of 1998-2002 and 2002-2005 data to validate COMPASS reading placement test score cutoffs between English 21 and English 102 and make recommendations to the Chief Academic Officers. Any changes in reading placement test cutoff scores will be implemented for students registering for fall 2006. Decisions will be made and implementation information disseminated by February 1, 2006.

Math 24/25 Math faculties will continue their systemwide discussions, review the learning outcomes for developmental math courses, align these outcomes with transfer level course and come to consensus on a sequence of course. The results may mean the creation of new courses rather than adjustments to Math 24 and Math 25. The guiding principle should be successful student learning and coherence between course and across the system.

As part of the discussion that resulted in this agreement it became clear that we have a number of existing course prerequisites that affect student placement decisions across the colleges that have not been validated for their effectiveness. As stated in ACCJC Standards of Accreditation, "The institution regularly evaluates admissions and placement instruments and practices to validate their effectiveness

Attachment 1

while minimizing biases (Standard II, B 3 e)." In addition, a campus civil rights compliance audit conducted at Maui Community College by the Office of the State Director for Career and Technical Education call for an assessment of the effectiveness of course prerequisites for students in career programs.

The UHCC system will design and conduct a pilot study to validate prerequisite requirements. The pilot study will begin with the validation of reading course prerequisites for developmental and baccalaureate transfer level writing courses. The study will be conducted under the leadership of the Community Colleges' Director of Policy, Assessment, and Planning, with broad systemwide participation in the design and analysis of the study. A description of the study design will be presented to the Council of Community College Chancellors by December 1, 2005. The report of the findings of the analysis will be presented to the Council of Chancellors by October 15, 2006 with implementation of any resulting changes for students registering for fall 2007



Michael T. Rota
Associate Vice President for Academic Affairs

- c. Cheryl Chappell-Long
CC Chief Academic Officers CC
Deans of Student Services

Attachment 2

Prerequisite Validation Pilot Study Work Group Members

Hawaii CC	Pam Hudson, Professor, English Dept Chair
Kapiolani CC	Frank Abou-Sayf, Director Office Planning & Institutional Research Kristine Korey-Smith, Instructor, Holomua Guy Nishimoto, Associate Professor, Assessment Coordinator
Leeward CC	Peter Quigley, Chancellor Gail Levy, Professor, English
Maui CC	Jeannie Pezzoli, Institutional Researcher
Windward CC	Wei Ling Landers, Associate Professor, Chair Mathematics
OVPCC	Cheryl Chappell-Long, Director Academic Planning, Assessment, and Policy Analysis Sam Prather, Institutional Analyst