A study was conducted at Antelope Valley College in California to explore the use of multiple measures in placement recommendations by examining variables potentially associated with success in writing, reading, and math courses. The study sample was all students who were assessed and enrolled in reading and writing courses in fall 1990, spring 1991, fall 1992, and spring 1993; and students enrolled in math courses in fall 1993 and spring 1994. Variables examined for their relationship with course success were age, high school grade point average (GPA), high school completion status, recency of formal schooling, years of high school English, grade in last English and math classes, highest level math class completed, recency of last math class, units planned and work hours planned. Chi-square analyses indicated that: (1) for writing courses, grade in last English class, units planned, and recency of schooling were strongly associated with success; (2) for reading courses, years of high school English, work hours planned, and recency of schooling were strongly associated with success; and (3) for math courses, success was strongly associated with high school grade point average, highest math class completed, grade in last math class, units planned, and recency of schooling. A number of cases were examined to measure the impact of multiple measures on placement recommendations, revealing that the majority of impact from this weighting falls on borderline scores. Though multiple measures are applied at the front end of the process, placement recommendations can be appealed through the prerequisite challenge process. (KP)
MULTIPLE MEASURES IN PLACEMENT RECOMMENDATIONS: AN EXAMINATION OF VARIABLES RELATED TO COURSE SUCCESS

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INTRODUCTION AND BACKGROUND

Consistent with Title 5 regulations concerning matriculation, Antelope Valley College has applied multiple measures in making placement recommendations for writing, reading, and math courses. During the process of administering placement exams, the college collects additional information on each student (demographics, educational background, future educational plans, etc.). This additional information is collected by means of a survey (see Appendix 1). When the placement exams are scored, this additional information is also entered into the assessment database. The result of this assessment process is a profile of the student. This profile culminates in a "Counseling Report" (see Appendix 2) which provides a summary of the student's background information along with score results from the placement exams. Based on cut scores for the exams, initial placement recommendations are made.

Historically, during the registration process, students interfaced with a counselor or instructional faculty advisor to discuss course placement and selection. During these interfaces, the placement test results, the additional information on the counseling report, and other data (transcripts, etc.), would be used as multiple criteria to render placement recommendations. Even though there was considerable variability in how the additional criteria were evaluated, at least measures beyond test scores were utilized. However, beginning with the summer term 1994, the College implemented phone registration. As a result of this new registration process, the "interfaces" that used to occur during registration are less frequent if they occur at all. The net impact of these changes is that the College lost its primary vehicle for applying multiple measures in placement recommendations. Because of the College's commitment to using multiple measures in placement it became imperative that a new system for utilizing multiple measures be developed.

A NEW MULTIPLE MEASURES SYSTEM

A survey of other community colleges found two principle methods being used to apply multiple measures in placement recommendations. One method involves the identification of variables related to success in courses (usually through multiple or logistic regression). Once these variables are identified, a weighted formula is developed which predicts the probability of a student achieving a particular grade based on these variables. The other method also identifies variables associated with course success (through multiple or logistic regression, crosstabulations, expectancy tables, etc.). Once these variables are identified the student's raw score on the placement exams are adjusted. These scores are typically adjusted by adding points for positive predictors and subtracting points for negative predictors.

The College chose the latter method mentioned above for three reasons. First, this method could be integrated into existing assessment software and systems without drastic modifications. Second, the system would be easily understood by students who often have questions about their placement recommendations. Third, this method would standardize the weighting and application of additional criteria in placement recommendations.
METHODOLOGY

Data Source

The data source consisted of all students who were assessed and were enrolled in writing, reading, and math courses. For reading and writing courses the data was drawn from the Fall 1990, Spring 1991, Fall 1992, and Spring 1993 semesters. For math courses the data was drawn from the Fall 1993 and Spring 1994 semesters.

Variables

The variables examined for relationship to course success were as follows: age, high school GPA, high school completion status, recency of formal schooling, years of high school English, grade in last English class, highest math class completed, grade in last math class, recency of last math class, units planned, work hours planned. The values for these variables can be found in Appendix 1.

Analyses

Chi-square analysis was used to determine associations between course success and the variables of interest. The chi-square statistic provided a measure of statistical significance while the crosstabulations provided a means to examine the relative and practical importance of the associations. These analyses were carried out for writing, reading, and math courses. Course success was determined by end of course grade. Grades of A, B, C, or CR were considered success. Grades of D, F, or NC were considered nonsuccess. Grades of W or INC were not considered nonsuccess, but were treated as separate values. Because of the large number of cases and the desire to find only meaningful associations, statistical significance was set at p ≤ .01.
RESULTS

Writing Courses

Because of the desire to identify underlying factors associated with success in writing courses, analyses were performed with data combined from all writing courses (English 50A - Basic Composition, English 50B - Intermediate Composition, and English 1A - Freshman Composition I). Table 1 displays the association between age and success in writing courses. The relationship was found to be statistically significant. Given the limitations of the data, it is evident that students 25 years of age and older experience considerably more success than those 24 years of age and younger.

Table 1  Expectancy Table Showing Relation Between Age and End of Course Grade for Writing Courses (N = 4127).

<table>
<thead>
<tr>
<th>Age</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>&lt; 24</td>
<td>2896</td>
<td>43</td>
</tr>
<tr>
<td>25 - 34</td>
<td>816</td>
<td>56</td>
</tr>
<tr>
<td>35 - 44</td>
<td>313</td>
<td>63</td>
</tr>
<tr>
<td>≥ 45</td>
<td>102</td>
<td>60</td>
</tr>
<tr>
<td>All Cases</td>
<td>4127</td>
<td>47</td>
</tr>
</tbody>
</table>

Chi-square = 108.02, df = 10, p = .000

Table 2 displays the association between high school GPA and writing course success. The relationship was found to be statistically significant. It is evident that students with average grades of "B to A-" and "A- to A" experience considerably more success than those with lower high school grades.
Table 2  
Expectancy Table Showing Relation Between High School GPA and End of Course Grade for Writing Courses (N = 4090)

<table>
<thead>
<tr>
<th>HS GPA</th>
<th># OF CASES</th>
<th>Percentage Receiving Each Grade</th>
<th>A/B/C/CR</th>
<th>D/F/NC</th>
<th>W/INC</th>
</tr>
</thead>
<tbody>
<tr>
<td>D or less</td>
<td>179</td>
<td></td>
<td>42</td>
<td>28</td>
<td>30</td>
</tr>
<tr>
<td>C- to C</td>
<td>541</td>
<td></td>
<td>45</td>
<td>26</td>
<td>30</td>
</tr>
<tr>
<td>C to B-</td>
<td>1195</td>
<td></td>
<td>41</td>
<td>30</td>
<td>29</td>
</tr>
<tr>
<td>B- to B</td>
<td>1157</td>
<td></td>
<td>47</td>
<td>27</td>
<td>26</td>
</tr>
<tr>
<td>B to A</td>
<td>800</td>
<td></td>
<td>56</td>
<td>24</td>
<td>20</td>
</tr>
<tr>
<td>A- to A</td>
<td>218</td>
<td></td>
<td>62</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>All Cases</td>
<td>4090</td>
<td></td>
<td>47</td>
<td>27</td>
<td>26</td>
</tr>
</tbody>
</table>

*Chi-square = 70.06, df = 12, p = .000*

Table 3 displays the association between high school completion and writing course success. The relationship was found to be statistically significant. Students who are high school graduates experience greater success (48%) than those who are not high school graduates (43%). It is interesting to note that 20% of all students in writing courses did not complete high school.

Table 3  
Expectancy Table Showing Relation Between High School Completion Status and End of Course Grade for Writing Courses (N = 4135)

<table>
<thead>
<tr>
<th>HS COMPLETION</th>
<th># OF CASES</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS Graduate</td>
<td>3303</td>
<td></td>
</tr>
<tr>
<td>Not HS Grad</td>
<td>832</td>
<td></td>
</tr>
<tr>
<td>All Cases</td>
<td>4135</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percentage Receiving Each Grade</th>
<th>A/B/C/CR</th>
<th>D/F/NC</th>
<th>W/INC</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS Graduate</td>
<td>48</td>
<td>27</td>
<td>25</td>
</tr>
<tr>
<td>Not HS Grad</td>
<td>43</td>
<td>27</td>
<td>30</td>
</tr>
<tr>
<td>All Cases</td>
<td>47</td>
<td>27</td>
<td>26</td>
</tr>
</tbody>
</table>

*Chi-square = 20.56, df = 2, p = .000*

Table 4 displays the association between years of high school English and writing course success. The relationship was not statistically significant. It appears that the number of years of high school English is not a very useful variable in predicting writing course success. For example, students with two years (49%) have as much success as students with four years (50%).
Table 4  
**Expectancy Table Showing Relation Between Years of High School English and End of Course Grade for Writing Courses (N = 4096).**

<table>
<thead>
<tr>
<th>Years of HS English</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>136</td>
<td>46</td>
</tr>
<tr>
<td>1 year</td>
<td>166</td>
<td>43</td>
</tr>
<tr>
<td>2 years</td>
<td>436</td>
<td>49</td>
</tr>
<tr>
<td>3 years</td>
<td>1800</td>
<td>45</td>
</tr>
<tr>
<td>4 years</td>
<td>1558</td>
<td>50</td>
</tr>
<tr>
<td>All Cases</td>
<td>4096</td>
<td>47</td>
</tr>
</tbody>
</table>

*Chi-square = 13.64, df = 8, p = .092*

Table 5 displays the association between grade in last English class and writing course success. The relationship was found to be statistically significant. Students with grades of "B" or "A" experience considerably more success than those with grades of "C" or less.

Table 5  
**Expectancy Table Showing Relation Between Grade in Last English Class and End of Course Grade for Writing Courses (N = 4054)**

<table>
<thead>
<tr>
<th>Last English Grade</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>F</td>
<td>49</td>
<td>20</td>
</tr>
<tr>
<td>D</td>
<td>252</td>
<td>33</td>
</tr>
<tr>
<td>C</td>
<td>1587</td>
<td>43</td>
</tr>
<tr>
<td>B</td>
<td>1641</td>
<td>51</td>
</tr>
<tr>
<td>A</td>
<td>525</td>
<td>58</td>
</tr>
<tr>
<td>All Cases</td>
<td>4054</td>
<td>47</td>
</tr>
</tbody>
</table>

*Chi-square = 97.18, df = 8, p = .000*

Table 6 displays the association between work hours planned and writing course success. The relationship was found to be statistically significant, but a confusing picture emerged. Students planning to work no hours have almost the same success rate (49%) as those planning
to work 31-40 hours per week (48%) and those planning more than 40 hours of work per week (50%).

Table 6  Expectancy Table Showing Relation Between Work Hours Planned and End of Course Grade for Writing Courses (N = 4084).

<table>
<thead>
<tr>
<th>Work Hours Planned</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>None</td>
<td>816</td>
<td>49</td>
</tr>
<tr>
<td>1-10/week</td>
<td>262</td>
<td>49</td>
</tr>
<tr>
<td>11-20/week</td>
<td>907</td>
<td>48</td>
</tr>
<tr>
<td>21-30/week</td>
<td>985</td>
<td>44</td>
</tr>
<tr>
<td>31-40/week</td>
<td>781</td>
<td>48</td>
</tr>
<tr>
<td>&gt; 40/week</td>
<td>333</td>
<td>50</td>
</tr>
<tr>
<td>All Cases</td>
<td>4084</td>
<td>47</td>
</tr>
</tbody>
</table>

Chi-square = 29.01, df = 10, p = .0001

Table 7 displays the association between units planned and writing course success. The relationship was statistically significant. Students planning to enroll in less than 6 units tend to have a higher success rate than students planning to take 6 or more units. Students planning to take 12 or more units have the lowest success rate.

Table 7  Expectancy Table Showing Relation Between Units Planned and End of Course Grade for Writing Courses (N = 4089).

<table>
<thead>
<tr>
<th>Units Planned</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>&lt; 6 units</td>
<td>537</td>
<td>56</td>
</tr>
<tr>
<td>6-8 units</td>
<td>959</td>
<td>49</td>
</tr>
<tr>
<td>9-11 units</td>
<td>629</td>
<td>49</td>
</tr>
<tr>
<td>12 or more</td>
<td>1964</td>
<td>44</td>
</tr>
<tr>
<td>All Cases</td>
<td>4089</td>
<td>47</td>
</tr>
</tbody>
</table>

Chi-square = 33.65, df = 6, p = .001
Table 8 displays the association between recency of schooling and writing course success. The relationship was statistically significant. Students who have been out of school 3 or more years tend to have higher success rates than those out of school less than 3 years.

Table 8

<table>
<thead>
<tr>
<th>Years Out of School</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>Still enrolled</td>
<td>1110</td>
<td>46</td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>1198</td>
<td>40</td>
</tr>
<tr>
<td>1-2 years</td>
<td>410</td>
<td>41</td>
</tr>
<tr>
<td>3-4 years</td>
<td>318</td>
<td>54</td>
</tr>
<tr>
<td>5-10 years</td>
<td>511</td>
<td>52</td>
</tr>
<tr>
<td>&gt; 10 years</td>
<td>569</td>
<td>60</td>
</tr>
<tr>
<td>All Cases</td>
<td>4116</td>
<td>47</td>
</tr>
</tbody>
</table>

Chi-square = 99.84, df = 10, p = .000

Seven of the variables showed statistically significant associations with writing course success (age, high school GPA, high school completion status, grade in last English class, work hours planned, units planned, and recency of schooling). One variable, years of high school English, was not significantly associated with success.

Using additional measures in placement recommendations requires that the measures not be "highly correlated" [Title 5, 55521(c)]. The terms "highly correlated" are extremely subjective. Correlations can be statistically significant and/or practically significant. When the number of cases is sufficiently large, even small departures from 0 can be statistically significant. However, statistical significance does not always mean that a correlation is useful or meaningful. In sorting out the interrelationships among the variables, it was decided that correlations of .50 or higher between variables were indicative of high correlations. Appendix 3 displays a correlation matrix for all the independent variables as well as end of course grade for writing.

The relation between high school completion and writing course success was statistically significant. However, the difference between completers and non-completers was only 5% and therefore it is recommended that this variable not be used. The relationship between work hours planned and writing course success, while statistically significant, produced some puzzling results (see Table 6). Age was strongly associated with writing course success. However, the correlation matrix reveals a high correlation ($r = .62$) between age and recency of schooling.
Including age would not add appreciably to the model of multiple measures because most of this variance is explained through the recency of schooling variable. Additionally, age is a sensitive variable and using it as a measure for placement consideration could create a bias/discrimination issue. Grade in last English class and high school GPA were strongly associated with writing course success. However, the correlation matrix reveals a high correlation (r = .56) between high school GPA and grade in last English class. In choosing one or the other it seems reasonable to choose grade in last English class since we are concerned with writing course success.

In summary, high school completion status, work hours planned, age, and high school GPA are not recommended as multiple measures because of the reasons outlined above. Three of the independent variables demonstrated very clear and highly linear associations with writing course success and were not highly correlated with each other. It is recommended that for the following variable values a point be added to the writing score to form an *adjusted* writing score based on multiple measures:

- Grade in Last English class (add a point for students with a "B" or better grade)
- Units Planned (add a point for students planning to take less than 6 units)
- Recency of Schooling (add a point for students out of school more than 10 years)

**Reading Courses**

Because of the desire to identify underlying factors associated with success in reading courses, analyses were performed with data combined from all reading courses (English 51A - Intermediate Reading and English 51B - Critical Reading and Study Skills). Table 9 displays the association between age and success in reading courses. The relationship was found to be statistically significant. Given the limitations of the data, it is evident that students 25 years of age and older experience considerably more success than those 24 years of age and younger.

*Table 9*  
Expectancy Table Showing Relation Between Age and End of Course Grade for Reading Courses (*N = 502*).

<table>
<thead>
<tr>
<th>Age</th>
<th># of Cases</th>
<th>A/B/C/CR</th>
<th>D/F/NC</th>
<th>W/INC</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 24</td>
<td>294</td>
<td>64</td>
<td>20</td>
<td>16</td>
</tr>
<tr>
<td>25 - 34</td>
<td>112</td>
<td>77</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>35 - 44</td>
<td>64</td>
<td>75</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>≥ 45</td>
<td>32</td>
<td>88</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>All Cases</td>
<td>502</td>
<td>70</td>
<td>14</td>
<td>16</td>
</tr>
</tbody>
</table>

Chi-square = 24.79, df = 10, p = .006
Table 10 displays the association between high school GPA and reading course success. The relationship was found to be statistically significant. It is evident that students with average grades of "B to A-" and "A- to A" experience considerably more success than those with lower high school grades. Students with high school GPAs of "D or less" also have high success rates (86%), but with so few in this category (N = 9, 2%), it seems unreasonable to draw any conclusions.

<table>
<thead>
<tr>
<th>HS GPA</th>
<th># OF CASES</th>
<th>Percentage Receiving Each Grade</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D or less</td>
<td>9</td>
<td>86</td>
<td>0</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>C- to C</td>
<td>84</td>
<td>62</td>
<td>21</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>C to B-</td>
<td>158</td>
<td>71</td>
<td>10</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>B- to B</td>
<td>138</td>
<td>62</td>
<td>19</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>B to A-</td>
<td>88</td>
<td>82</td>
<td>9</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>A- to A</td>
<td>21</td>
<td>88</td>
<td>12</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>All Cases</td>
<td>498</td>
<td>70</td>
<td>14</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

*Chi-square = 22.48, df = 10, p = .013*

Table 11 displays the association between high school completion and reading course success. The relationship was not statistically significant. Students who are high school graduates are not likely to experience greater success than those who are not high school graduates.
Table 11  Expectancy Table Showing Relation Between High School Completion Status and End of Course Grade for Reading Courses (N = 500)

<table>
<thead>
<tr>
<th>HS COMPLETION</th>
<th># OF CASES</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>HS Graduate</td>
<td>418</td>
<td>70</td>
</tr>
<tr>
<td>Not HS Grad</td>
<td>82</td>
<td>66</td>
</tr>
<tr>
<td>All Cases</td>
<td>500</td>
<td>70</td>
</tr>
</tbody>
</table>

Chi-square = 4.49, df = 2, p = .106

Table 12 displays the association between years of high school English and reading course success. The relationship was not statistically significant. Students with three or four years of high school English experience are not more likely to be successful when compared to students with 2 years or less of high school English.

Table 12  Expectancy Table Showing Relation Between Years of High School English and End of Course Grade for Reading Courses (N = 498).

<table>
<thead>
<tr>
<th>Years of HS English</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>2 years or less</td>
<td>92</td>
<td>70</td>
</tr>
<tr>
<td>3 years</td>
<td>180</td>
<td>68</td>
</tr>
<tr>
<td>4 years</td>
<td>226</td>
<td>70</td>
</tr>
<tr>
<td>All Cases</td>
<td>498</td>
<td>70</td>
</tr>
</tbody>
</table>

Chi-square = 7.84, df = 4, p = .100

Table 13 displays the association between grade in last English class and reading course success. The relationship was statistically significant. Students with grades of "B" in their last English class experience the highest success rate (76%) in reading courses. No students reported having an "F" in their last English class and only 5% reported earning a "D".
**Table 13**  
Expectancy Table Showing Relation Between Grade in Last English Class and End of Course Grade for Reading Courses (N = 500)

<table>
<thead>
<tr>
<th>Last English Grade</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C or less</td>
<td>294</td>
<td>A/B/C/CR</td>
<td>67</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>B</td>
<td>144</td>
<td>D/F/NC</td>
<td>76</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>A</td>
<td>62</td>
<td>W/INC</td>
<td>65</td>
<td>26</td>
<td>9</td>
</tr>
<tr>
<td>All Cases</td>
<td>500</td>
<td></td>
<td>70</td>
<td>14</td>
<td>16</td>
</tr>
</tbody>
</table>

*Chi-square = 12.86, df = 4, p = .012*

Table 14 displays the association between work hours planned and reading course success. The relationship was found to be statistically significant. Students planning to work no hours or 1-10 hours per week are more likely to succeed in reading courses than those planning to work 11 or more hours per week.

**Table 14**  
Expectancy Table Showing Relation Between Work Hours Planned and End of Course Grade for Reading Courses (N = 502).

<table>
<thead>
<tr>
<th>Work Hours Planned</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>128</td>
<td>A/B/C/CR</td>
<td>81</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>1-10/week</td>
<td>36</td>
<td>D/F/NC</td>
<td>78</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>11-20/week</td>
<td>140</td>
<td>W/INC</td>
<td>69</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>21-30/week</td>
<td>74</td>
<td></td>
<td>57</td>
<td>30</td>
<td>13</td>
</tr>
<tr>
<td>31-40/week</td>
<td>104</td>
<td></td>
<td>63</td>
<td>14</td>
<td>23</td>
</tr>
<tr>
<td>&gt; 40/week</td>
<td>20</td>
<td></td>
<td>70</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>All Cases</td>
<td>502</td>
<td></td>
<td>70</td>
<td>14</td>
<td>16</td>
</tr>
</tbody>
</table>

*Chi-square = 31.13, df = 10, p = .000*
Table 15 displays the association between units planned and reading course success. The relationship was not statistically significant. For reading course success, units planned does not appear to be associated with end of course grade.

**Table 15**  
*Expectancy Table Showing Relation Between Units Planned and End of Course Grade for Reading Courses (N = 492)*.

<table>
<thead>
<tr>
<th>Units Planned</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
<th>A/B/C/CR</th>
<th>D/F/NC</th>
<th>W/INC</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 6 units</td>
<td>54</td>
<td></td>
<td>70</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>6-8 units</td>
<td>128</td>
<td></td>
<td>78</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>9-11 units</td>
<td>62</td>
<td></td>
<td>68</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>12 or more</td>
<td>248</td>
<td></td>
<td>66</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>All Cases</td>
<td>492</td>
<td></td>
<td>70</td>
<td>14</td>
<td>16</td>
</tr>
</tbody>
</table>

*Chi-square = 6.21, df = 6, p = .400*

Table 16 displays the association between recency of schooling and reading course success. The relationship was statistically significant. Students who have been out of school 10 or more years have the highest success rate (81%) in reading courses. For some reason students out of school 1-2 years have the lowest success rate (52%).

**Table 16**  
*Expectancy Table Showing Relation Between Recency of Schooling and End of Course Grade for Reading Courses (N = 496)*.

<table>
<thead>
<tr>
<th>Years Out of School</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
<th>A/B/C/CR</th>
<th>D/F/NC</th>
<th>W/INC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Still enrolled</td>
<td>118</td>
<td></td>
<td>71</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>108</td>
<td></td>
<td>61</td>
<td>24</td>
<td>15</td>
</tr>
<tr>
<td>1-2 years</td>
<td>46</td>
<td></td>
<td>52</td>
<td>30</td>
<td>17</td>
</tr>
<tr>
<td>3-4 years</td>
<td>36</td>
<td></td>
<td>67</td>
<td>6</td>
<td>28</td>
</tr>
<tr>
<td>5-10 years</td>
<td>92</td>
<td></td>
<td>67</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>&gt; 10 years</td>
<td>96</td>
<td></td>
<td>81</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>All Cases</td>
<td>496</td>
<td></td>
<td>70</td>
<td>14</td>
<td>16</td>
</tr>
</tbody>
</table>

*Chi-square = 37.33, df = 10, p = .000*
Five of the variables showed statistically significant associations with reading course success (age, high school GPA, grade in last English class, work hours planned, and recency of schooling) while three variables were not significantly associated with success (high school completion status, years of high school English, and units planned).

Age was strongly associated with reading course success. However, additional analysis revealed a high correlation \( (r = .75, \text{ see Appendix 4}) \) between age and recency of schooling. Including age would not add appreciably to the model of multiple measures because most of this variance is picked up in the recency of schooling variable. And as mentioned previously, age is a sensitive variable that potentially could raise issues of bias and/or discrimination if used in placement decisions. High school GPA and grade in last English class were strongly associated with reading course success. However, the correlation between high school GPA and grade in last English was high \( (r = .55) \). In choosing one or the other, it seems reasonable to choose grade in last English class since we are concerned with reading course success.

In summary, age and high school GPA are not recommended as multiple measures because of the reasons outlined above. Three of the independent variables demonstrated very clear and highly linear associations with reading course success and were not highly correlated with each other. It is recommended that for the following variable values a point be added to the reading score to form an adjusted reading score based on multiple measures:

- Grade in Last English Class (add a point for students reporting a "B" grade)
- Work Hours Planned (add a point for students planning to work 10 or less hours per week)
- Recency of Schooling (add a point for students out of school more than 10 years)

Math Courses

While there are 13 different math courses in which students can be placed, 7 years of placement data have shown that 96% of all students place into math courses at the intermediate algebra level and below. It seemed reasonable to explore variables associated with math success utilizing these courses: Math 60 - Arithmetic Fundamentals, Math 50 - Arithmetic, Math A - Elementary Algebra, Math B - Geometry, and Math C - Intermediate Algebra,

Table 17 displays the association between age and success in math courses. The relationship was found to be statistically significant. Given the limitations of the data, it is evident that students 25 years of age and older experience considerably more success than those 24 years of age and younger.
Table 17  
Expectancy Table Showing Relation Between Age and End of Course Grade for Math Courses (N = 2681).

<table>
<thead>
<tr>
<th>Age</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>≤ 24</td>
<td>1708</td>
<td>46</td>
</tr>
<tr>
<td>25 - 34</td>
<td>601</td>
<td>66</td>
</tr>
<tr>
<td>35 - 44</td>
<td>287</td>
<td>72</td>
</tr>
<tr>
<td>≥ 45</td>
<td>85</td>
<td>62</td>
</tr>
<tr>
<td>All Cases</td>
<td>2681</td>
<td>53</td>
</tr>
</tbody>
</table>

Chi-square = 136.56, df = 10, p = .000

Table 18 displays the association between high school GPA and math course success. The relationship was found to be statistically significant. It is evident that students with average grades of "B to A-" and "A- to A" experience considerably more success than those with lower high school grades. Students with high school GPAs of "D or less" also have high success rates (86%), but with so few in this category (N = 9, 2%), it seems unreasonable to draw any conclusions.

Table 18  
Expectancy Table Showing Relation Between High School GPA and End of Course Grade for Math Courses (N = 2648)

<table>
<thead>
<tr>
<th>HS GPA</th>
<th># OF CASES</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>D or less</td>
<td>108</td>
<td>43</td>
</tr>
<tr>
<td>C- to C</td>
<td>337</td>
<td>50</td>
</tr>
<tr>
<td>C to B-</td>
<td>704</td>
<td>49</td>
</tr>
<tr>
<td>B- to B</td>
<td>760</td>
<td>52</td>
</tr>
<tr>
<td>B to A-</td>
<td>586</td>
<td>60</td>
</tr>
<tr>
<td>A- to A</td>
<td>153</td>
<td>68</td>
</tr>
<tr>
<td>All Cases</td>
<td>2648</td>
<td>53</td>
</tr>
</tbody>
</table>

Chi-square = 50.04, df = 10, p = .000
Table 19 displays the association between high school completion and math course success. The relationship was statistically significant. Students who are high school graduates are likely to experience greater success in math courses (58%) than those who are not high school graduates (45%). It is interesting to note that 34% of all students in math courses did not complete high school.

**Table 19 Expectancy Table Showing Relation Between High School Completion Status and End of Course Grade for Math Courses (N = 2681)**

<table>
<thead>
<tr>
<th>HS COMPLETION</th>
<th># OF CASES</th>
<th>Percentage Receiving Each Grade</th>
<th>A/B/C/CR</th>
<th>D/F/NC</th>
<th>W/INC</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS Graduate</td>
<td>1774</td>
<td>58</td>
<td>17</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Not HS Grad</td>
<td>907</td>
<td>45</td>
<td>25</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>All Cases</td>
<td>2681</td>
<td>53</td>
<td>20</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>

Chisquare = 20.40, df = 2, p = .000

Table 20 displays the association between recency of last math class and math course success. The relationship was found to be statistically significant. It appears that students who completed a math class 5 or more years ago are the most likely to be successful (67%).

**Table 20 Expectancy Table Showing Relation Between Recency of Last Math Class and End of Course Grade for Math Courses (N = 2673)**

<table>
<thead>
<tr>
<th>Years Since Last Math Class</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
<th>A/B/C/CR</th>
<th>D/F/NC</th>
<th>W/INC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>223</td>
<td>49</td>
<td>27</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>573</td>
<td>47</td>
<td>28</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>1-2 years</td>
<td>682</td>
<td>43</td>
<td>25</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>3-5 years</td>
<td>322</td>
<td>52</td>
<td>15</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>&gt; 5 years</td>
<td>873</td>
<td>67</td>
<td>11</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>All Cases</td>
<td>2673</td>
<td>53</td>
<td>20</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>

Chisquare = 140.35, df = 8, p = .000
Table 21 displays the association between highest math class completed and math course success. The relationship was found to be statistically significant. Students who complete math courses beyond Algebra 1 experience more success than those whose backgrounds include Algebra 1 preparation or less.

Table 21  Expectancy Table Showing Relation Between Highest Math Class Completed and End of Course Grade for Math Courses (N = 2676)

<table>
<thead>
<tr>
<th>Highest Math Grade Completed</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>≤ Algebra 1</td>
<td>1816</td>
<td>51</td>
</tr>
<tr>
<td>Geometry/Algebra 2</td>
<td>780</td>
<td>58</td>
</tr>
<tr>
<td>&gt; Algebra 2</td>
<td>80</td>
<td>75</td>
</tr>
<tr>
<td>All Cases</td>
<td>2676</td>
<td>53</td>
</tr>
</tbody>
</table>

Chi-square = 27.83, df = 4, p = .000

Table 22 displays the association between grade in last math class and math course success. The relationship was found to be statistically significant. Students with grades of "B" or "A" in their last math class experience greater success than those with grades of "C" or less.

Table 22  Expectancy Table Showing Relation Between Grade in Last Math Class and End of Course Grade for Math Courses (N = 2667)

<table>
<thead>
<tr>
<th>Last Math Grade</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>F</td>
<td>64</td>
<td>41</td>
</tr>
<tr>
<td>D</td>
<td>353</td>
<td>45</td>
</tr>
<tr>
<td>C</td>
<td>1189</td>
<td>51</td>
</tr>
<tr>
<td>B</td>
<td>767</td>
<td>57</td>
</tr>
<tr>
<td>A</td>
<td>294</td>
<td>66</td>
</tr>
<tr>
<td>All Cases</td>
<td>2667</td>
<td>53</td>
</tr>
</tbody>
</table>

Chi-square = 41.26, df = 8, p = .000
Table 23 displays the association between work hours planned and math course success. The relationship was found to be statistically significant, but a confusing picture emerged. Students planning to work no hours have almost the same success rate (56%) as those planning to work 31-40 hours per week (57%). Those planning more than 40 hours of work per week have the highest success rate (65%). Additionally, those students planning to work from 1-30 hours per week have similar success rates (around 50%).

<table>
<thead>
<tr>
<th>Work Hours Planned</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
<th>A/B/C/CR</th>
<th>D/F/NC</th>
<th>W/INC</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>706</td>
<td>56</td>
<td>19</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>1-10/week</td>
<td>164</td>
<td>51</td>
<td>18</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>11-20/week</td>
<td>591</td>
<td>49</td>
<td>23</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>21-30/week</td>
<td>551</td>
<td>49</td>
<td>21</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>31-40/week</td>
<td>460</td>
<td>57</td>
<td>18</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>&gt; 40/week</td>
<td>172</td>
<td>65</td>
<td>15</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>All Cases</td>
<td>2644</td>
<td>53</td>
<td>20</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>

*Chi-square = 27.26, df = 10, p = .002*

Table 24 displays the association between units planned and math course success. The relationship was statistically significant. Students planning to enroll in 8 units or less tend to have a higher success rate than students planning to take 9 or more units. Students planning to take 12 or more units have the lowest success rate.
Table 24  Expectancy Table Showing Relation Between Units Planned and End of Course Grade for Math Courses (N = 2632).

<table>
<thead>
<tr>
<th>Units Planned</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>&lt; 6 units</td>
<td>348</td>
<td>62</td>
</tr>
<tr>
<td>6-8 units</td>
<td>695</td>
<td>58</td>
</tr>
<tr>
<td>9-11 units</td>
<td>400</td>
<td>52</td>
</tr>
<tr>
<td>12 or more</td>
<td>1179</td>
<td>49</td>
</tr>
<tr>
<td>All Cases</td>
<td>2632</td>
<td>53</td>
</tr>
</tbody>
</table>

Chi-square = 29.20, df = 6, p = .000

Table 25 displays the association between recency of schooling and math course success. The relationship was statistically significant. Students who have been out of school 10 or more years experience a higher success rate than those out of school 10 years or less.

Table 25  Expectancy Table Showing Relation Between Recency of Schooling and End of Course Grade for Math Courses (N = 2666).

<table>
<thead>
<tr>
<th>Years Out of School</th>
<th># of Cases</th>
<th>Percentage Receiving Each Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A/B/C/CR</td>
</tr>
<tr>
<td>Still enrolled</td>
<td>944</td>
<td>48</td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>489</td>
<td>48</td>
</tr>
<tr>
<td>1-2 years</td>
<td>218</td>
<td>51</td>
</tr>
<tr>
<td>3-4 years</td>
<td>214</td>
<td>55</td>
</tr>
<tr>
<td>5-10 years</td>
<td>305</td>
<td>58</td>
</tr>
<tr>
<td>&gt; 10 years</td>
<td>496</td>
<td>67</td>
</tr>
<tr>
<td>All Cases</td>
<td>2666</td>
<td>53</td>
</tr>
</tbody>
</table>

Chi-square = 91.41, df = 10, p = .000

Table 25 displays the association between recency of schooling and math course success. The relationship was statistically significant. Students who have been out of school 10 or more years experience a higher success rate than those out of school 10 years or less.

All nine variables showed statistically significant associations with success in math courses (age, high school GPA, high school completion, recency of last math class, highest math
completed, grade in last math class, work hours planned, units planned, and recency of schooling).

The correlation matrix in Appendix 5 reveals a high correlation \( r = .63 \) between age and recency of schooling, a high correlation \( r = .79 \) between recency of last math class and recency of schooling, a high correlation \( r = .59 \) between age and recency of last math class, and a high correlation \( r = .46 \) between high school completion and recency of schooling. This evidence of high multicollinearity among these independent variables provides reasonable justification to leave out age, recency of last math class, and high school completion status in the model of multiple measures. The contributions of these variables in explaining math course success is sufficiently picked up through the recency of schooling variable. Additionally, the work hours planned variable was significantly associated with math course success, but as described earlier, a somewhat odd pattern emerged in success rates. It is also recommended to leave this variable out of the model.

In summary, age, recency of last math class, high school completion status, and work hours planned are not recommended as multiple measures because of the reasons outlined above. Five of the independent variables demonstrated very clear and highly linear associations with math course success and were not highly correlated with each other. It is recommended that for the following variable values, a point be added to the math score to form an adjusted math score based on multiple measures:

- HS GPA (add a point for students with average grades of "B to A-" or higher)
- Highest Math Completed (add a point for students who completed courses beyond Algebra 1)
- Grade in Last Math Class (add a point for students with a "B" or better)
- Units Planned (add a point for students planning to take 8 units or less)
- Recency of Schooling (add a point for students out of school more than 10 years)
SUMMARY

The use of multiple measures in placement recommendations is required as outlined in matriculation regulations and provisions. This study explored educational background variables potentially associated with success in writing, reading, and math courses. For writing courses, three variables were found to be strongly associated with success and were recommended to be used as additional criteria in reading placement recommendations: Grade in last English class, units planned, and recency of schooling. For reading courses, three variables were found to be strongly associated with success and were recommended to be used as additional criteria in making placement recommendations: Years of high school English, work hours planned, and recency of schooling. For math courses, five variables were found to be strongly associated with success and were recommended to be used as additional criteria in placement recommendations: high school GPA, highest math class completed, grade in last math class, units planned, and recency of schooling. It is interesting to note that recency of schooling was associated with success in writing, reading, and math courses. It is not surprising that recency of schooling is predictive of success across these courses. The older, returning students tend to be more mature, motivated, and determined to succeed, all of which, are believed to contribute to success in college work.

One caveat needs to be mentioned in this approach with multiple measures. The values for the variables are self-reported (see Appendix 1). There is concern that when students find out about how the measures are applied there may be false reporting of some of the information. Because of this concern a number of cases were examined in terms of how the application of the multiple measures affect placement recommendations. The result of this examination revealed that the majority of the impact from this weighting is with students who have borderline scores. In other words, the impact is primarily with students who are 1 or 2 points away from a different placement level. Appendices 6, 7, and 8 provide examples of how the adjusted scores affect placement recommendations for writing, reading, and math respectively. Appendix 9 provides a table of cutoff scores for placement recommendations. For many students, the addition of 3 or 4 points to their test scores will not affect their placement recommendation. Additionally, experience and research has shown that students tend to be quite forthright and honest when answering questions about their academic backgrounds.

There are certainly pluses and minuses with this approach to using multiple measures. On the negative side it is cold and impersonal. The measures are applied mechanically through computer scoring of the placement exams. There is no subjectivity. On the positive side this method of applying multiple measures is fair and consistent. In the past multiple measures were applied differently by different counselors/advisors with a variety of opinions and biases toward success factors.

Finally, even though multiple measures are applied at the front end of the assessment/placement process, the resulting placement recommendation is not absolutely final. Students have the opportunity to appeal their placement recommendation through the prerequisite challenge process (see Appendix 10).
NAME: 
SOC. SEC. #:

BIRTHDATE: 02/05/74  AGE: 19
SEX: MALE
ETHNICITY: BLACK/NOT OF HISPANIC ORIGIN
ADMISSION STATUS: NEW (FIRST TIME IN COLLEGE)

EDUCATIONAL BACKGROUND:

HIGH SCHOOL EDUCATION: HIGH SCHOOL DIPLOMA
HIGHEST DEGREE: NO DEGREE AT THIS TIME
YEARS OUT OF SCHOOL: LESS THAN 1 YEAR
YEARS OF H.S. ENGLISH: 4 YEARS IN H.S.
GRADE IN LAST ENGLISH CLASS: B
HIGH SCHOOL G.P.A.: B TO A-, 3.0 - 3.4
H.S. LAST ATTENDED: NOT SPECIFIED
HIGHEST MATH COMPLETED: BASIC MATH
GRADE IN LAST MATH CLASS: A
TIME SINCE LAST MATH: LESS THAN 1 YEAR

COLLEGE PLANS:

PLAN TO ATTEND: DAY
UNITS PLANNED NEXT TERM:
EMPLOYMENT HOURS PLANNED: NONE
EDUCATIONAL GOAL:
MAJOR: NOT SPECIFIED
TRANSFER COLLEGE: UC, LOS ANGELES (UCLA)
IMPORTANCE OF COLLEGE TO SIGNIFICANT OTHERS: VERY IMPORTANT
IMPORTANCE OF COLLEGE TO SELF: VERY IMPORTANT
ADDITIONAL #1  2  3  4  5  6  7  8  9  10  11  12  13  14  15
QUESTIONS: A

TEST RESULTS:

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<th>CORRECT #</th>
<th>CORRECT %</th>
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<th>LOCAL % -ILE</th>
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COURSE PLACEMENTS:

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</tr>
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COMMENTS:
EDUCATIONAL BACKGROUND

7. HIGH SCHOOL EDUCATION: (Choose only one)
   - Still in HS.
   - Not a H.S. graduate
   - High School diploma
   - Foreign secondary diploma
   - Certificate of completion

8. HIGHEST COLLEGE DEGREE OR CERTIFICATE EARNED:
   - No degree at this time
   - Bachelor's Degree
   - Certificate
   - Master's Degree or beyond
   - Associate Degree
   - Other

9. HOW LONG HAVE YOU BEEN OUT OF SCHOOL? (Don't count or include summer)
   - Still in school
   - Less than 1 year
   - 1-2 years
   - 3-4 years
   - 5-10 years
   - More than 10 years

10. HOW MANY YEARS OF ENGLISH HAVE YOU COMPLETED IN HIGH SCHOOL? (Do not include ESL)
    - Less than 1 year in high school
    - 1 year in high school
    - 2 years in high school
    - 3 years in high school
    - 4 years in high school

11. WHAT GRADE DID YOU RECEIVE IN THE LAST ENGLISH CLASS YOU COMPLETED?

12. WHAT IS YOUR HIGH SCHOOL GRADE POINT AVERAGE (G.P.A.)?
    - A- to A 3.5-4.0
    - B to A- 3.0-3.4
    - B- to B 2.5-2.9
    - C to B- 2.0-2.4
    - C- to C 1.5-1.9
    - D to C- 1.0-1.4
    - Below D < 1.0

13. HIGH SCHOOL LAST ATTENDED: (Use code sheet)

14. WHAT IS THE HIGHEST LEVEL MATH CLASS YOU HAVE COMPLETED?
    - None
    - Basic math (arithmetic)
    - Algebra I (beginning)
    - Algebra II (intermediate)
    - Geometry
    - College Algebra/Pre-calculus
    - Calculus

15. WHAT GRADE DID YOU RECEIVE IN THE LAST MATH CLASS YOU COMPLETED?

16. HOW LONG AGO DID YOU COMPLETE YOUR LAST MATH CLASS?
    - Currently enrolled in a math course
    - Less than 1 year
    - 1-2 years
    - 3-5 years
    - More than 5 years

COLLEGE PLANS

17. PLAN TO ATTEND:
    - Day
    - Evening
    - Day and Evening

18. COLLEGE UNITS PLANNED FOR NEXT TERM:
    - Less than 6 units
    - 6-9 units
    - 9-11 units
    - 12 units or more

19. EMPLOYMENT HOURS PLANNED WHILE ENROLLED:
    - None
    - 1-10 hours/week
    - 11-20 hours/week
    - More than 40 hours/week

20. MOST IMPORTANT EDUCATIONAL GOAL:
    - Personal enrichment only
    - Transfer to a 4 year college
    - H.S. diploma
    - Two year degree
    - Other
    - Certificate

21. I WOULD LIKE INFORMATION ABOUT:
    (Check all that apply)
    - Financial aid
    - Job placement
    - Child care
    - Disabled student services
    - Health services
    - Learning disabilities
    - Veterans' program
    - E.O.P.S.
    - Re-entry program
    - Work experience
    - Orientation to college

22. MAJOR:
    - Use code sheet

23. HOW DEFINITE IS YOUR CHOICE OF MAJOR?
    - Very
    - Fairly
    - Unsure

24. TRANSFER COLLEGE:

25. HOW IMPORTANT IS IT TO THE PEOPLE CLOSEST TO YOU THAT YOU GO TO COLLEGE?
    - Not very important
    - Somewhat important
    - Very important

26. HOW IMPORTANT IS COLLEGE TO YOU PERSONALLY?
    - Not very important
    - Somewhat important
    - Very important

27. ADDITIONAL QUESTIONS:
    - Optional
    - Choosing a major
    - Career planning
    - Counseling
    - Transferring
    - Tutoring
    - Study skills
    - Math skills
    - Reading skills
    - Writing skills
    - ESL

Appendix 2
Page 22
BEST COPY AVAILABLE
Appendix 3

Correlation Matrix for All Independent Variables and End of Course Grade for Writing Courses
(N = 3995)

<table>
<thead>
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<th>Variable Name</th>
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*p < .01
**p < .001
Appendix 4

**Correlation Matrix for All Independent Variables and End of Course Grade for Reading Courses (N = 406)**

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* p < .01  
** p < .001
### Appendix 5

**Correlation Matrix for All Independent Variables and End of Course Grade for Math Courses**

*(N = 1875)*

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* *p < .01
** *p < .001
Appendix 6
Writing Placement Examples
ANTELOPE VALLEY COLLEGE
COUNSELING REPORT

Name: [Redacted]
Soc.Sec.#: [Redacted]
Birthdate: [Redacted]
Age: 54
Sex: FEMALE
Ethnicity: FILIPINO
Admission Status: NEW (FIRST TIME IN COLLEGE)

EDUCATIONAL BACKGROUND:

High school education: FOREIGN SECONDARY DIPLOMA
Highest degree: ASSOCIATE DEGREE
Years out of school: MORE THAN 10 YEARS
Years of H.S. English: 4 YEARS IN H.S.
Grade in last English class: A
High School G.P.A.: B to A-, 3.0 - 3.4
H.S. last attended: OTHER COUNTRY HIGH SCHOOL
Highest math completed: ALGEBRA I
Grade in last math class: B
Time since last math: MORE THAN 5 YEARS

COLLEGE PLANS:

Plan to attend: DAY
Units planned next term: 9-11 Units
Employment hours planned: NONE
Educational goal: VOCATIONAL TRAINING/CERTIFICATE
Major: CHILD AND FAMILY EDUCATION (VERY SURE)
Transfer college: NOT SPECIFIED
Importance of college to significant others: VERY IMPORTANT
Importance of college to self: VERY IMPORTANT

Additional Questions: A

TEST RESULTS:

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<th>TEST TAKEN</th>
<th>TESTDATE</th>
<th>CORRECT #</th>
<th>CORRECT %</th>
<th>ATTEMPT #</th>
<th>ATTEMPT %</th>
<th>ACCURACY %</th>
<th>LOCAL % - ILE</th>
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COURSE PLACEMENTS:

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COMMENTS:

Impact on Writing Placement

None - Score change from 25 to 27 caused essay to be read, but score of 8 on essay required for ENGLISH 1A placement.
ANTELOPE VALLEY COLLEGE
COUNSELING REPORT

Name: [Redacted]
Soc. Sec. #: [Redacted]
Birthdate: [Redacted]
Age: 35
Sex: FEMALE
Ethnicity: AMERICAN INDIAN/ALASKAN NATIVE
Admission Status: NEW (FIRST TIME IN COLLEGE)

EDUCATIONAL BACKGROUND:
High school education: HIGH SCHOOL DIPLOMA
Highest degree: NO DEGREE AT THIS TIME
Years out of school: MORE THAN 10 YEARS
Years of H.S. English: 3 YEARS IN H.S.
Grade in last English class: C
High School G.P.A.: C- to C, 1.5 - 1.9
H.S. last attended: NOT SPECIFIED
Highest math completed: BASIC MATH
Grade in last math class: C
Time since last math: 3-5 YEARS

COLLEGE PLANS:
Plan to attend: DAY
Units planned next term: LESS THAN 6 Units
Employment hours planned: 1-10 HOURS/WEEK
Educational goal: PERSONAL ENRICHMENT ONLY
Major: ENGLISH
Transfer college: NOT SPECIFIED
Importance of college to significant others: VERY IMPORTANT
Importance of college to self: VERY IMPORTANT

Additional Questions: A

TEST RESULTS:

<table>
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<tr>
<th>TESTDATE</th>
<th>TEST TAKEN</th>
<th>CORRECT</th>
<th>ATTEMPT</th>
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<td>8 16%</td>
<td>13% 3%</td>
</tr>
<tr>
<td>03/07/95</td>
<td>READING--CEEB A</td>
<td>7 20%</td>
<td>18 51%</td>
<td>39% 4%</td>
</tr>
<tr>
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<td>READING A ADJUST SCR</td>
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</table>

COURSE PLACEMENTS:
03/07/95 WRITING: ENGLISH 50A (BASIC COMPOSITION AND MECHANICS)
03/07/95 MATH: MATH 60 (ARITHMETIC FUNDAMENTALS)
03/07/95 READING: ENGLISH 51A (INTERMEDIATE READING)

COMMENTS: Impact on Writing Placement
Score change from 14 to 16 resulted in placement one level higher.
ANTELOPE VALLEY COLLEGE
COUNSELING REPORT

Name: [Redacted]
Soc. Sec. #: [Redacted]

Birthdate: Age: 28
Sex: MALE
Ethnicity: WHITE/NOT OF HISPANIC ORIGIN
Admission Status: NEW (FROM OTHER COLLEGE)

EDUCATIONAL BACKGROUND:

High school education: HIGH SCHOOL DIPLOMA
Highest degree: NO DEGREE AT THIS TIME
Years out of school: 5-10 YEARS
Years of H.S. English: 4 YEARS IN H.S.
Grade in last English class: B
High School G.P.A.: B- to B, 2.5 - 2.9
H.S. last attended: OTHER CALIFORNIA HIGH SCHOOL
Highest math completed: GEOMETRY
Grade in last math class: C
Time since last math: MORE THAN 5 YEARS

COLLEGE PLANS:

Plan to attend: DAY & EVENING
Units planned next term: 6-8 Units
Employment hours planned: 31-40 HOURS/WEEK
Educational goal: TWO YEAR DEGREE
Major: BUSINESS ADMINISTRATION/GENERAL BUSINESS (VERY SURE)
Transfer college: NOT SPECIFIED
Importance of college to significant others: VERY IMPORTANT
Importance of college to self: VERY IMPORTANT
Additional: #1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Questions: A

TEST RESULTS:

<table>
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<tr>
<th>TESTDATE</th>
<th>TEST TAKEN</th>
<th>CORRECT #</th>
<th>%</th>
<th>ATTEMPT #</th>
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<th>ACCURACY</th>
<th>% -ILE</th>
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<tbody>
<tr>
<td>03/07/95</td>
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<td>40</td>
<td>100%</td>
<td>78%</td>
<td>92%</td>
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<td>03/07/95</td>
<td>ALGEBRA READINESS</td>
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<td>45</td>
<td>90%</td>
<td>69%</td>
<td>97%</td>
</tr>
<tr>
<td>03/07/95</td>
<td>READING--CEEB A</td>
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<td>86%</td>
<td>35</td>
<td>100%</td>
<td>86%</td>
<td>92%</td>
</tr>
<tr>
<td>03/07/95</td>
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<tr>
<td>03/07/95</td>
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COURSE PLACEMENTS:

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<th>COURSE NAME</th>
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<tbody>
<tr>
<td>03/07/95</td>
<td>WRITING: ENGLISH 1A (FRESHMAN COMPOSITION)</td>
</tr>
<tr>
<td>03/07/95</td>
<td>MATH: MATH A, BUS 50 (FULLY PREPARED)</td>
</tr>
<tr>
<td>03/07/95</td>
<td>READING: COLLEGE LEVEL READING</td>
</tr>
</tbody>
</table>

COMMENTS: {
Impact on Writing Placement
Score change from 31 to 32 resulted in ENGLISH 1A placement without essay being read.}
Appendix 7
Reading Placement Examples
ANTELOPE VALLEY COLLEGE
COUNSELING REPORT

Name: 
Soc. Sec. #: 
Birthdate: Age: 36
Sex: MALE
Ethnicity: HISPANIC
Admission Status: NEW (FIRST TIME IN COLLEGE)
Veteran: YES

EDUCATIONAL BACKGROUND:
-----------------------------------------------
High school education: HIGH SCHOOL DIPLOMA
Highest degree: NO DEGREE AT THIS TIME
Years out of school: MORE THAN 10 YEARS
Years of H.S. English: 3 YEARS IN H.
Grade in last English class: B
High School G.P.A.: C to B-, 2.0 - 2.4
H.S. last attended: OTHER CALIFORNIA HIGH SCHOOL
Highest math completed: BASIC MATH
Grade in last math class: C
Time since last math: MORE THAN 5 YEARS

COLLEGE PLANS:
------------------------
Plan to attend: EVENING
Units planned next term: 12 Units OR MORE
Employment hours planned: 31-40 HOURS/WEEK
Educational goal: TRANSFER TO A 4 YEAR COLLEGE
Major: GENERAL EDUCATION/LIBERAL STUDIES (VERY SURE)
Transfer college: CSU, BAKERSFIELD
Importance of college to significant others: VERY IMPORTANT
Importance of college to self: VERY IMPORTANT

Questions: #1 #2 #3 #4 #5 #6 #7 #8 #9 #10 #11 #12 #13 #14 #15

TEST RESULTS:
------------------
03/07/95 WRITING--CEEB A 19 48% 24 60% 79% 45%
03/07/95 ALGEBRA READINESS 16 32% 27 54% 59% 56%
03/07/95 READING--CEEB A 15 43% 17 49% 88% 25%
03/10/95 ESSAY 4
03/07/95 WRITING A ADJUST SCR 21
03/07/95 MATH AR ADJUSTED SCR 17
03/07/95 READING A ADJUST SCR 17

COURSE PLACEMENTS:
------------------
03/07/95 WRITING: ENGLISH 50A (BASIC COMPOSITION AND MECHANICS)
03/07/95 MATH: MATH 50
03/07/95 READING: ENGLISH 51A (INTERMEDIATE READING)

COMMENTS:
----------
Impact on Reading Placement
None - Score change from 15 to 17 not enough - score of 18 necessary for next level placement.
ANTEOPE VALLEY COLLEGE
COUNSELING REPORT

Name: 
Soc.Sec.#: 
Birthdate: Age: 29
Sex: MALE
Ethnicity: WHITE/NOT OF HISPANIC ORIGIN
Admission Status: NEW (FIRST TIME IN COLLEGE)

EDUCATIONAL BACKGROUND:
High school education: G.E.D.
Highest degree: NO DEGREE AT THIS TIME
Years out of school: MORE THAN 10 YEARS
Years of H.S. English: 2 YEARS IN H.S.
Grade in last English class: C
High School G.P.A.: B- to B, 2.5 - 2.9
H.S. last attended: DESERT WINDS HIGH SCHOOL
Highest math completed: BASIC MATH
Grade in last math class: B
Time since last math: MORE THAN 5 YEARS

COLLEGE PLANS:
Plan to attend: DAY & EVENING
Units planned next term: 9-11 Units
Employment hours planned: 11-20 HOURS/WEEK
Educational goal: TWO YEAR DEGREE
Major: ELECTRONICS TECHNOLOGY (VERY SURE)
Transfer college: NOT SPECIFIED
Importance of college to significant others: VERY IMPORTANT
Importance of college to self: VERY IMPORTANT

TEST RESULTS: TESTDATE TEST TAKEN CORRECT ATTEMPT ACCURACY LOCAL
----------------- ----------------- -------------- -------------- ----------------- --------------
03/07/95 WRITING--CEEB A 22 55% 37 93% 59% 50%
03/07/95 ALGEBRA READINESS 20 40% 37 74% 54% 82%
03/07/95 READING--CEEB A 17 49% 23 66% 74% 33%
03/10/95 ESSAY 4
03/07/95 WRITING A ADJUST SCR 23
03/07/95 MATH AR ADJUSTED SCR 22
03/07/95 READING A ADJUST SCR 18

COURSE PLACEMENTS:

03/07/95 WRITING: ENGLISH 50A (BASIC COMPOSITION AND MECHANICS)
03/07/95 MATH: MATH 50
03/07/95 READING: ENGLISH 51B (CRITICAL READING SKILLS)

COMMENTS: Impact on Reading Placement
Score change from 17 to 18 resulted in placement one level higher.
Name: 
Soc. Sec. #:

Birthdate: Age: 19
Sex: FEMALE
Ethnicity: WHITE/NOT OF HISPANIC ORIGIN
Admission Status: NEW (FIRST TIME IN COLLEGE)

Address: 
Telephone: (805)

English first language: YES
Has learning disability: NO
Veteran: NO

EDUCATIONAL BACKGROUND:

High school education: HIGH SCHOOL DIPLOMA
Highest degree: NO DEGREE AT THIS TIME
Years out of school: LESS THAN 1 YEAR
Years of H.S. English: 4 YEARS IN H.S.
Grade in last English class: B
High School G.P.A.: B to A-, 3.0 - 3.4
H.S. last attended: ANTELOPE VALLEY ADULT SCHOOL
Highest math completed: ALGEBRA I
Grade in last math class: F
Time since last math: 3-5 YEARS

COLLEGE PLANS:

Plan to attend: DAY
Units planned next term: 9-11 Units
Employment hours planned: NONE
Educational goal: TRANSFER TO A 4 YEAR COLLEGE
Major: UNDECLARED MAJOR--UNDECIDED (UNSURE)
Transfer college: NOT SPECIFIED
Importance of college to significant others: VERY IMPORTANT
Importance of college to self: VERY IMPORTANT
Additional #1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Questions: A

TEST RESULTS: TESTDATE TEST TAKEN # % # % ACCURACY %-ILE
03/07/95 WRITING--CEEB A 31 78% 40 100% 78% 92%
03/07/95 ALGEBRA READINESS 19 38% 31 62% 61% 71%
03/07/95 READING--CEEB A 27 77% 35 100% 77% 79%
03/07/95 WRITING A ADJUST SCR 32
03/07/95 MATH AR ADJUSTED SCR 20
03/07/95 READING A ADJUST SCR 29

COURSE PLACEMENTS:

03/07/95 WRITING: ENGLISH 1A (FRESHMAN COMPOSITION)
03/07/95 MATH: MATH 50
03/07/95 READING: COLLEGE LEVEL READING

COMMENTS: Impact on Reading Placement
Score change from 27 to 29 resulted in placement one level higher.
Appendix 8
Math Placement Examples
ANTELOPE VALLEY COLLEGE
COUNSELING REPORT

Name: [Redacted]
Soc.Sec.#: [Redacted]

Birthdate: Age: 15
Sex: MALE
Ethnicity: WHITE/NOT OF HISPANIC ORIGIN
Admission Status: NEW (FIRST TIME IN COLLEGE)

EDUCATIONAL BACKGROUND:

High school education: H.S. PROFICIENCY
Highest degree: NO DEGREE AT THIS TIME
Years out of school: STILL IN SCHOOL
Years of H.S. English: 3 YEARS IN H.S.
Grade in last English class: A
High School G.P.A.: B to A-, 3.0 - 3.4
H.S. last attended: OTHER CALIFORNIA HIGH SCHOOL
Highest math completed: ALGEBRA II
Grade in last math class: B
Time since last math: CURRENTLY ENROLLED IN MATH

COLLEGE PLANS:

Plan to attend: DAY
Units planned next term: 9-11 Units
Employment hours planned: 1-10 HOURS/WEEK
Educational goal: TRANSFER TO A 4 YEAR COLLEGE
Major: PRE MEDICINE (UNSURE)
Transfer college: PRIVATE COLLEGE OR UNIVERSITY
Importance of college to significant others: VERY IMPORTANT
Importance of college to self: VERY IMPORTANT
Additional Questions: A

TEST RESULTS: TESTDATE TEST TAKEN CORRECT ATTEMPT ACCURACY LOCAL %-%ILE
--------- ----------------- ------- ------- ------- ------- -------
03/07/95 WRITING--CEEB A 31 78% 40 100% 78% 92%
03/07/95 INTERMEDIATE ALGEBRA C 24 53% 31 69% 77% 50%
03/07/95 READING--CEEB A 30 86% 35 100% 86% 92%
03/07/95 WRITING A ADJUST SCR 32
03/07/95 MATH IA ADJUSTED SCR 27
03/07/95 READING A ADJUST SCR 31

COURSE PLACEMENTS:

03/07/95 WRITING: ENGLISH 1A (FRESHMAN COMPOSITION)
03/07/95 MATH: MATH D,6,14,15, CIS 41 (RECOMMEND MATH C)
03/07/95 READING: COLLEGE LEVEL READING

COMMENTS: Impact on Math Placement
None - need to take Precalculus test to achieve higher placement.
Name: 
Soc.Sec. #: 
Birthdate: Age: 18 
Sex: FEMALE 
Ethnicity: HISPANIC 
Admission Status: CONTINUING AT THIS COLLEGE 

EDUCATIONAL BACKGROUND: 
High school education: HIGH SCHOOL DIPLOMA 
Highest degree: NO DEGREE AT THIS TIME. 
Years out of school: STILL IN SCHOOL 
Years of H.S. English: 4 YEARS IN H.S. 
Grade in last English class: B 
High School G.P.A.: B to A-, 3.0 - 3.4 
H.S. last attended: HIGHLAND HIGH SCHOOL 
Highest math completed: BASIC MATH 
Grade in last math class: B 
Time since last math: LESS THAN 1 YEAR 

COLLEGE PLANS: 
Plan to attend: DAY & EVENING 
Units planned next term: 6-8 Units 
Employment hours planned: 11-20 HOURS/WEEK 
Educational goal: TRANSFER TO A 4 YEAR COLLEGE 
Major: ADMINISTRATION OF JUSTICE (VERY SURE) 
Transfer college: UC, SANTA BARBARA 
Importance of college to significant others: VERY IMPORTANT 
Importance of college to self: VERY IMPORTANT 
Additional #1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 
Questions: A 

TEST RESULTS: 
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<th>ATTEMPT</th>
<th>ACCURACY</th>
<th>LOCAL %-ILE</th>
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<td>WRITING--CEEB A</td>
<td>13 33%</td>
<td>36 90%</td>
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<td>13%</td>
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<td>11 22%</td>
<td>50 100%</td>
<td>22%</td>
<td>35%</td>
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<tr>
<td>03/07/95</td>
<td>READING--CEEB A</td>
<td>16 46%</td>
<td>34 97%</td>
<td>47%</td>
<td>28%</td>
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<td>14</td>
<td></td>
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<td>03/07/95</td>
<td>READING A ADJUST SCR</td>
<td>17</td>
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</table>

COURSE PLACEMENTS: 
03/07/95 WRITING: LEARNING SKILLS 90 (BASIC SKILLS INSTRUCTION) 
03/07/95 MATH: MATH 50 
03/07/95 READING: ENGLISH 51A (INTERMEDIATE READING) 

COMMENTS: Impact on Math Placement: 
None - score change from 11 to 14 not enough - score of 23 needed for next placement level.
Name: S
Soc.Sec.#: 
Birthdate: Age: 39
Sex: FEMALE
Ethnicity: WHITE/NOT OF HISPANIC ORIGIN
Admission Status: RETURNING TO THIS COLLEGE

EDUCATIONAL BACKGROUND:
---------------------------
High school education: HIGH SCHOOL DIPLOMA
Highest degree: NO DEGREE AT THIS TIME
Years out of school: LESS THAN 1 YEAR
Years of H.S. English: 4 YEARS IN H.S.
Grade in last English class: B
High School G.P.A.: B to A-, 3.0 - 3.4
H.S. last attended: OTHER CALIFORNIA HIGH SCHOOL
Highest math completed: GEOMETRY
Grade in last math class: B
Time since last math: MORE THAN 5 YEARS

COLLEGE PLANS:
-----------------
Plan to attend: DAY & EVENING
Units planned next term: 6-8 Units
Employment hours planned: 21-30 HOURS/WEEK
Educational goal: VOCATIONAL TRAINING/CERTIFICATE
Major: SOCIAL SCIENCES (FAIRLY SURE)
Transfer college: NOT SPECIFIED
Importance of college to significant others: SOMEWHAT IMPORTANT
Importance of college to self: VERY IMPORTANT
Additional #1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Questions: A

TEST RESULTS: TESTDATE TEST TAKEN CORRECT ATTEMPT ACCURACY LOCAL %-ILE
----------------- ----------------- # % # %
03/07/95 WRITING--CEEB A 30 75% 40 100% 75% 82%
03/07/95 ALGEBRA READINESS 19 38% 23 46% 83% 71%
03/07/95 READING--CEEB A 18 51% 35 100% 51% 38%
03/10/95 ESSAY 8
03/07/95 WRITING A ADJUST SCR 31
03/07/95 MATH AR ADJUSTED SCR 23
03/07/95 READING A ADJUST SCR 19

COURSE PLACEMENTS:
---------------------
03/07/95 WRITING: ENGLISH 1A (FRESHMAN COMPOSITION)
03/07/95 MATH: MATH A, BUS 50 (RECOMMEND MATH 50)
03/07/95 READING: ENGLISH 51B (CRITICAL READING SKILLS)

COMMENTS: Impact on Math Placement
Score change from 19 to 23 resulted in placement one level higher.
### CUTOFF SCORES FOR WRITING PLACEMENT EXAMS

If your Adjusted Writing Score is: | and your Essay Score is: | You Qualify for:
--- | --- | ---
0-14 | NA* | Learning Skills 90 - Developmental Learning Skills
15-20 | NA* | English 50A - Basic Composition
21-23 | 0-5 | English 50A - Basic Composition
21-23 | 6-8 | English 50B - Intermediate Composition
24-25 | NA* | English 50B - Intermediate Composition
26-31 | 0-7 | English 50B - Intermediate Composition
26-31 | 8 | English 1A - Freshman Composition
32-40 | NA* | English 1A - Freshman Composition

NA = Essay not utilized

### CUTOFF SCORES FOR READING PLACEMENT EXAMS

If your Adjusted Reading Score is: | You Qualify for:
--- | ---
0-8 | 0-41 | Learning Skills 90 - Developmental Learning Skills
9-17 | 42-49 | English 51A - Intermediate Reading
18-27 | 50-52 | English 51B - Critical Reading & Study Skills
28-35 | 53-60 | College Level Reading (no course)

### CUTOFF SCORES FOR MATH PLACEMENT EXAM

* Algebra Readiness Test

| Adjusted Math Test Score | You Qualify for:
--- | ---
0-10 | Math 60
11-22 | Math 50
23-30 | Math A; Bus 50 (Recommend Math 50)
31-44 | Math A; Bus 50 (Fully prepared)
45-50 | Math A; Bus 50 (Recommend Elementary Algebra Test)

* Elementary Algebra Test

| Adjusted Math Test Score | You Qualify for:
--- | ---
0-6 | Math 50
7-14 | Math A; Bus 50 (Recommend Math 50)
15-19 | Math A; Bus 50 (Fully prepared)
20-24 | Math B,C; Elect 40A (Recommend Math A)
25-44 | Math B,C; Elect 40A (Fully prepared)
45-50 | Math B,C; Elect 40A (Recommend Intermediate Algebra Test)
CUTOFF SCORES FOR MATH PLACEMENT EXAM (continued)

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<tr>
<td>0-9</td>
<td>Math A; Bus 50 (Recommend Math 50)</td>
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<td>10-12</td>
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<td>13-15</td>
<td>Math B,C; Elect 40A (Recommend Math A)</td>
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<td>16-20</td>
<td>Math B,C; Elect 40A (Fully prepared)</td>
</tr>
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<td>21-31</td>
<td>Math D, 6, 14, 15; CIS 41 (Recommend Math C)</td>
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<td>32-43</td>
<td>Math D, 6, 14, 15; CIS 41 (Fully prepared)</td>
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<td>44-45</td>
<td>Math D, 6, 14, 15; CIS 41 (Recommend Precalculus Test)</td>
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<td>0-8</td>
<td>Take Intermediate Algebra Test</td>
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<td>9-10</td>
<td>Math B,C; Elect 40A (Fully prepared)</td>
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<td>Math D, 6, 14, 15; CIS 41 (Recommend Math C)</td>
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<td>19-22</td>
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<td>23-27</td>
<td>Math 7A (Recommend Math D, 6, 5)</td>
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<tr>
<td>28-40</td>
<td>Math 7A (Fully prepared)</td>
</tr>
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</table>
PREREQUISITE CHALLENGE FORM

Name: ___________________________ SSN: ___________ Date Submitted: ___________

Phone: ___________________ Street Address: __________________________________________

City/State/Zip: _________________________________________________________________

A Separate form must be completed for each course you wish to enter. This form must be submitted before the first day of the term. All forms must be submitted to the Counseling Center (Student Services Building).

Course I wish to enter: ___________________________ Prerequisite, corequisite, or limitation on enrollment I wish to challenge: ___________________________

Challenge Categories

Check the box which applies to you:

☐ 1. Challenging the prerequisite, corequisite, or limitation on enrollment on the grounds that it has not been made reasonably available. The Division Dean or designee shall determine within 5 working days whether the required course was reasonably available, and if not, shall waive the prerequisite for the term. Students wishing to appeal the decision of the Division Dean or designee may do so by meeting with the Vice President of Academic Affairs or designee.

☐ 2. Challenging the prerequisite, corequisite, or limitation on enrollment based on my knowledge or ability to succeed in the course despite not meeting the stated conditions of enrollment (student documentation required). I understand that I must attach documentary evidence in support of the challenge. The Division Dean will arrange for the instructors who will evaluate the documentation and provide written notification to me within 5 working days. Students wishing to appeal the decision of the instructor may do so by meeting with the Division Dean.

☐ 3. Challenging the prerequisite, corequisite, or limitation on enrollment on the grounds that it was established in violation of regulation or in violation of the District-approved processes (student documentation required). The Dean of Counseling or designee shall review the petition and provide written notification to the student within 5 working days. Students wishing to appeal the decision of the Dean of Counseling or designee may do so by meeting with the Vice President of Academic Affairs or designee.

☐ 4. The prerequisite, corequisite, or limitation on enrollment is discriminatory or applied in a discriminatory manner (student documentation required). I understand that I must present documentary evidence to the Dean of Counseling or designee who will review the evidence and provide written notification to me within 5 working days. Students wishing to appeal the decision of the Dean of Counseling or designee may do so by meeting with the Vice President of Academic Affairs.

Petition to Challenge (Attach Documentation)

It is the responsibility of the student to provide compelling evidence to support the Challenge.

I acknowledge that Antelope Valley College has determined that this prerequisite is necessary for success in the course and that I am taking personal responsibility for succeeding without this prerequisite.

Student Signature: ____________________________________________ (My request must be made prior to the first day of the term.)

Upon completing this Challenge form you may enroll in the Challenge course by presenting this form at the Counseling Center during registration. If this Challenge is not upheld, you will be dropped from the course. If no space is available in the course when the Challenge is filed and, if the Challenge is upheld, you will be permitted to enroll in the subsequent term provided that space is available when you register.

For Official Use Only:

Action Taken: ☐ approved ☐ not approved Date: _________________________

Comments: _________________________________________________________________

Reviewer's name: ______________________________________________ Signature ______________

Note: All forms are to be returned to the Office of the Dean of Counseling.
PREREQUISITES, COREQUISITES, ADVISORIES ON
RECOMMENDED PREPARATION, AND LIMITATIONS ON ENROLLMENT

Definitions

**Prerequisite** - A condition of enrollment that a student is required to meet in order to demonstrate current readiness for enrollment in a course or educational program. A prerequisite will assure that a student has the skills, concepts, and/or information necessary for success in the course; on the other hand, a student who has not met the prerequisite is highly unlikely to receive a satisfactory grade in the course. Prerequisites are enforced and a student will be blocked from enrolling if the student does not meet the stated prerequisite (see below for challenge procedure).

**Corequisite** - A condition of enrollment consisting of a course that a student is required to simultaneously take in order to enroll in another course. Corequisites are enforced and a student will be blocked from enrolling if the student does not meet the stated prerequisite (see below for challenge procedure).

**Advisory on recommended preparation** - A condition of enrollment that a student is advised, but not required, to meet before or in conjunction with enrollment in a course or educational program.

**Limitation on enrollment** - A condition of enrollment which limits how students qualify for a particular course or program. These limitations apply to courses that include public performance or intercollegiate competition where a try-out or audition is necessary. Additionally, some courses require formal admission to a particular program in order to enroll (e.g., Associate Degree Nursing Program and Licensed Vocational Nursing Program). Limitations on enrollment are enforced and a student will be blocked from enrolling if the student does not meet the stated limitation (see below for challenge procedure).

**Challenge Procedure**

A prerequisite, corequisite, or limitation on enrollment challenge requires the submission of a Prerequisite Challenge Form. This form can be obtained from the Counseling Center in the Student Services Building. A student may file a Prerequisite Challenge Form for one or more of the following reasons.

1) A prerequisite or corequisite is not reasonably available;

2) The student believes the prerequisite was established in violation of regulation or in violation of the District-approved processes;

3) The student believes the prerequisite is discriminatory or being applied in a discriminatory manner and has documentation for such a claim; or

4) The student has the documented knowledge or ability to succeed in the course without meeting the prerequisite.

Upon completing this challenge form the student may enroll in the challenge course by presenting this form at the Counseling Center during registration. If this challenge is not upheld, the student will be dropped from the course. If no space is available in the course when the challenge is filed and, if the challenge is upheld, the student will be permitted to enroll in the subsequent term provided that space is available at the time the student registers.