De Anza College Office of Institutional Research and Planning

To: Karen Chow, Chair, English Department

From: Mallory Newell, De Anza Researcher

Date: 6/27/2017

Subject: Multiple Measures Rule Set – De Anza College Specific Analysis

In order to generate multiple measures rule sets based on high school transcripts for the English department, data for students who attended De Anza College and enrolled in a EWRT course and had a high school transcript available in CalPass Plus between 2004 and 2014 was used. This resulted in 27,810 students in the English file. The following analysis provides the results of the analysis of De Anza student high school transcript data.

The rule sets came out slightly different than the statewide models, which would lead to a recommendation for the De Anza English department to consider the use of the local models over the statewide models.

For example, the statewide model for placement into college-level English is recommended at a GPA of 2.6 or higher. The local model recommends a 2.8 GPA or higher. Students who obtained greater than a 2.8 GPA but lower than a 3.6 GPA made up 68% of the total student population that the rule sets were derived on, and the success rate for these students was a B or better in the college-level course.

One of the concerns raised by the English department is that they would like to retain their course success rates in EWRT1A, EWRT200, and EWRT211 while using high school GPA as a multiple measure assessment.

The following table lists the average course success rates between 2013-14 and 2016-17, their corresponding average course grade and the corresponding average grade point scale for the course, as the decision trees displayed below are built using the corresponding average grade point scale value:

Table 1. 4-Year Average Success Rates in EWRT Courses – De Anza College

EWRT1A	EWRT211	EWRT200
79.6% or a B- or a 2.7	72.8% or a C- or a 1.7	77.3% or a C+ or a 2.3

Success rates obtained from the Inquiry Tool for 2013-14 through winter 2017. GPA to course grade conversions from: http://www.collegeboard.com/html/academicTracker-howtoconvert.html.

Of the sample of students included in the local decision trees, Table 2 displays details of their high school GPA.

Table 2. GPA of Sample of Students Used to Derive the De Anza Decision Trees

Mean GPA (average)	Mode GPA (appears most often)	Median GPA (right in the middle)
2.7	3.0	2.75

GPAs are based on the highest GPA available, which for the majority of students was a 12th grade GPA.

De Anza Decision Trees

Figures 1-5 display the decision trees generated specifically for De Anza College using a data file of only De Anza Students who enrolled in an English course between 2004 and 2014. This resulted in 27,810 students in the English file.

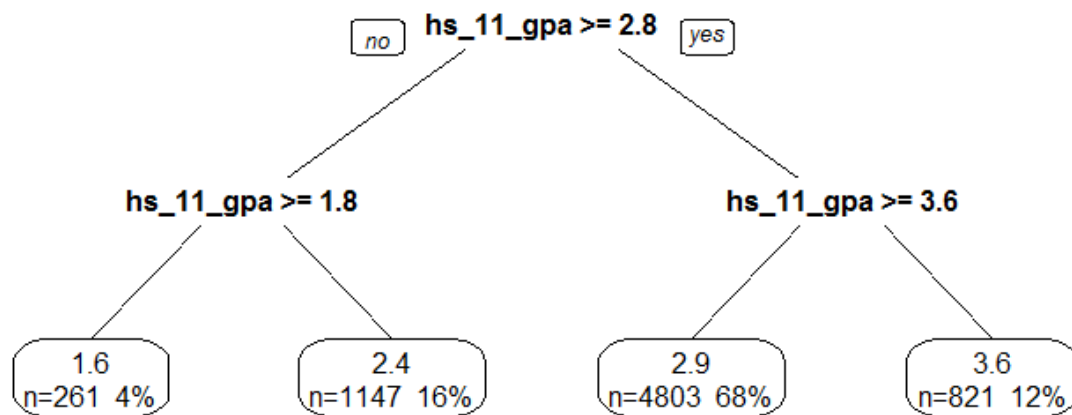*Figure 1: EWRT1A – Students with transcripts up through 11th grade*

Figure 1 displays the decision tree for De Anza students whose first course enrolled was EWRT1A and who we have complete 11th grade transcripts for. The top node of the tree shows that students with a 2.8 GPA or higher will result in a 70% or higher success rate in the course. If you travel down the branch to the right towards the "yes" path, students with equal to or greater than a 2.8 GPA but less than a 3.6 GPA make up 68% of the total students (4,803) who took EWRT1A as their first course, and these students have a probability of success of 2.9 or a B or better in EWRT1A. Since the average success rate in EWRT1A at De Anza is a 2.7 or B-, setting the GPA cut off slightly above the recommended 2.8 at 2.9 would retain the current success rate of the course which is at a 2.7 or 79.6%. The statewide model recommends >= 2.6 GPA for this level.

Figure 2: EWRT1A – Students with transcripts up through 12th grade
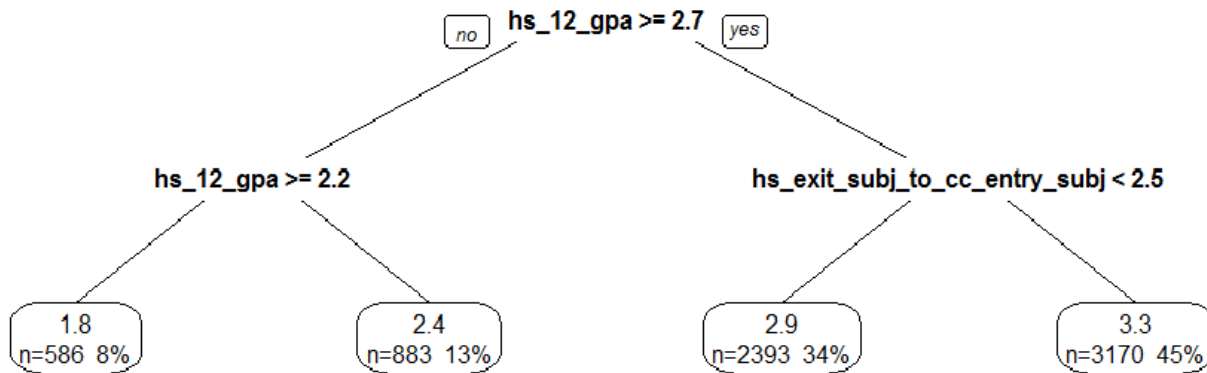

Figure 2 displays the decision tree for De Anza students whose first course enrolled was EWRT1A and who we have complete 12th grade transcripts for. The top node of the tree shows that students with a 2.7 GPA or higher will result in a 70% or higher success rate in the course. If you travel down the branch to the right, students who enrolled in an English course less than 2.5 terms after completing their English course in high school (2,393) make up 34% of the students and have a success rate of 2.9 or a B average in EWRT1A. On the right hand side, these students (3,170) took more than 2.5 terms off before enrolling in EWRT1A, these students have a probability of success of 3.3 or a B+ or better in the course. Since the average success rate in EWRT1A at De Anza is a 2.7 or B-, setting the GPA cut off at the recommended 2.7 plus checking for their most recent English enrollment less than or equal to 2.5 terms prior, would retain the current success rate of the course which is at a 2.7 or 79%. The statewide model recommends >= 2.6 GPA for this level.
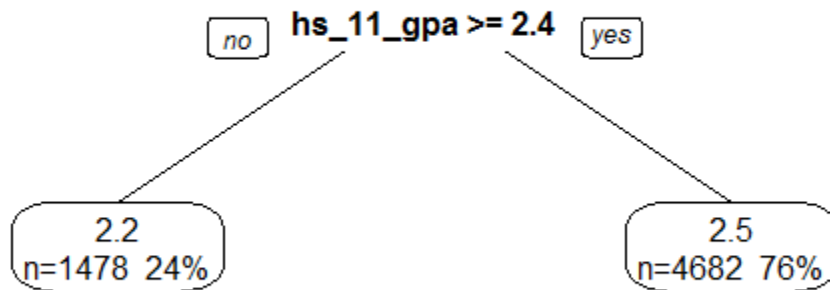
Figure 3 displays the decision tree for De Anza students whose first course enrolled was EWRT211 and who we have complete 11th grade transcripts for. The top node of the tree shows that students with a 2.4 GPA or higher have a probability of success of 65% or higher. If you travel down the right side, students who have greater than a 2.4 GPA in high school make up 76% of all students who enrolled in EWRT211 as their first course (4,682) and have a probability of success of 2.5 or a C+/B-. Since the average success rate in EWRT211 at De Anza is 72.8% or a C- or 1.7, setting the GPA cut off at the recommended GPA of 2.5 or 2.6 for this group would retain the current success rate of the course. The statewide model recommends >= 2.3 GPA for this level.

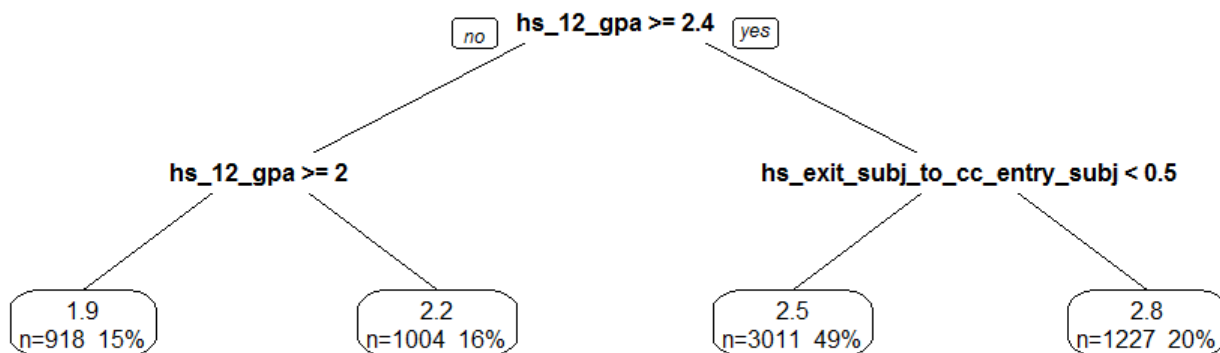*Figure 4: EWRT211 – Students with transcripts up through 12th grade*

Figure 4 displays the decision tree for De Anza students whose first course enrolled was EWRT211 and who we have complete 12th grade transcripts for. The top node of the tree shows that students

with a 2.4 GPA or higher will result in a 65% or higher success rate in the course. If you travel down the branch to the right, students who enrolled in a English course less than 0.5 terms after completing their English course in high school (3,011) make up 49% of the students and have a success rate of 2.5 or a C+/B- average in EWRT211. On the right hand side, these students (1,227) took more than 0.5 terms off before enrolling in EWRT211, and their probability of success is 2.8 or a B- or better in the course. Since the average success rate in EWRT211 at De Anza is a 1.7 or C-, setting the GPA cut off at the recommended 2.4 and checking for prior English enrollment last than 1 term prior, would retain the current success rate of the course. The statewide model recommends >= 2.2 GPA plus high school 12th grade English course grade of C or better.

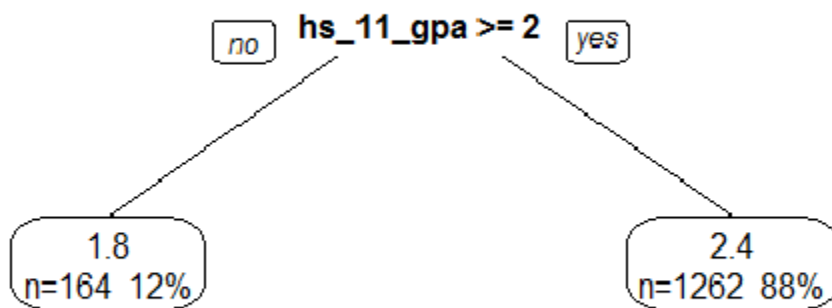*Figure 5: EWRT200 – Students with transcripts up through 11th grade*

Figure 5 displays the decision tree for De Anza students whose first course enrolled was EWRT200 and who we have complete 12th grade transcripts for. The top node of the tree shows that students with a 2.0 GPA or higher will result in a 60% or higher success rate in the course. If you travel down the right side, students who have greater than a 2.0 GPA in high school make up 88% of all students who enrolled in EWRT200 as their first course (1,262) and have a probability of success of 2.4 or a C+. Since the average success rate in EWRT200 at De Anza is 77.3% or a C+ or 2.3, setting the GPA cut off slightly above the recommended GPA of 2.0 at 2.1 or 2.2 for this group would retain the current success rate of the course. The statewide model recommends >= 2.0 GPA for this level.

A decision tree for EWRT200 students with 12th grade transcripts at De Anza was not replicable. In this case, the department may want to consider using the same cut off as used for 11th grade students (Figure 5), which would be 2.1 or 2.2 or higher GPA.