

De Anza College Office of Institutional Research and Planning

To: Senior Staff

From: Mallory Newell, De Anza Researcher

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Subject: Cluster Analysis for Enrollment Planning

In an attempt to better understand the varying student populations we serve, the Institutional Research Office partnered with two consultants to conduct a statistical analysis of the students attending De Anza College in fall 2016.

Methodology

A cluster analysis was chosen to evaluate and assess the clustering of student demographics and academic performance. This procedure allowed for the creation of clusters based on individual characteristics of the students which included: age, credits attempted (in fall 2016), cumulative GPA, cumulative credits attempted, EOPS status, DSPS status, Calworks status, attended orientation, selected a major, completed an educational plan, selected an education goal, highest education level attained, full/part time status, low income status, financial aid awarded, visa status, and applied for financial aid. Five clusters resulted which accounted for 97.2% ($n = 20,179$) of individuals in the data set, with 2.8% ($n = 575$) remaining as outliers who did not fit into any cluster and were excluded from the analysis.

Descriptive Statistics

Descriptive statistics were run on the dataset with the outliers excluded and showed a snapshot of students within the clusters who attended De Anza College in fall quarter of 2016. The average age was 25.88 (SD = 10.23), and students attempted an average of 10.55 units in fall quarter (SD = 5.02). The students' average cumulative GPA was 2.72 (SD = 1.08) and students had on average accumulated 67.15 units, though showed a large variance in the number of units they had acquired (SD = 67.37). About half of the students were full time students ($n = 48.9\%$). Less than half of the students attended orientation ($n = 8,869, 44.0\%$), but the majority of students had selected a major ($n = 18,777, 93.1\%$) and had developed an education plan ($n = 12,866, 63.8\%$). The majority of students wanted to transfer ($n = 15,025, 74.5\%$), while less students wanted to earn a degree ($n = 1,736, 8.6\%$), certificate ($n = 581, 2.9\%$), or had another type of education goal ($n = 2,837, 14.1\%$).

A quarter of students identified as low income students ($n = 5,215, 25.8\%$). About half of students applied for financial aid ($n = 10,824, 53.6\%$), and one in six students were awarded Pell Grants ($n = 3,065, 15.2\%$) and one in five were awarded another type of aid ($n = 4,354, 21.6\%$). The majority of students had a high school or equivalent degree ($n = 15,795, 78.3\%$), but some had bachelor's degrees or higher ($n = 2,197, 10.9\%$), associates degrees ($n = 586, 2.9\%$), or other degrees ($n = 1,601, 7.9\%$). Lastly, 8% of all students were international students ($n = 1,608, 8.0\%$).

Observations and Recommendations:

Part-Time, Returning Students: These students tend to be coming to De Anza to take one course per term but are enrolled for around 6 terms. This group has a success rate of 76% but persist from term to term at a lower rate than other groups at 55%. These students are largely enrolled in Math, CIS, KNES, C D, ACCT, ESL, BUS, EWRT, PSYC courses. Only about 30% have completed an educational plan. This group may benefit from meeting with a counselor to help them stay on track to meet their educational goal while taking only one course per term.

Full-Time, Transfer Bound, Higher Income: These students are the highest achieving group of students with a success rate of 81% and persistence rate of 90% and cumulative GPA of 3.01, This group does not need much support but could be tapped to serve as mentors or tutors for other students.

Part Time, Possible Transfer, Lower Income: These students have the intent to transfer but can only attend part-time. Since only about half enrolled in a special program, it would be good to reach out to the other half and see if they are eligible for assistance. This group would also benefit from completing an educational plan to help them stay on track. We will also want to make sure they are connected to financial aid options that are available to part-time students since only 52% of this population is receiving aid. This group may be able to attend full-time if additional aid were available. This is our second largest group of students so we will want to focus on their success and persistence to keep them enrolled. This group could benefit from being more connected to special programs and learning communities to help improve their success and persistence rates. This group has a high withdraw rate (16%) which should be of concern.

DSPS/ADPE Students: This is our smallest population of students but they have completed the most units of all groups, 203 total units, all in SPED and PEA. These are students that return quarter after quarter to take the same classes. We should ensure that this population has a way to continue to enroll in courses after the repeatability requirements came into effect.

Full-Time, Transfer Bound, Lower Income: This group is our largest population of students who are enrolled full-time and plan to transfer but they have a lower GPA and lower success rate (75%) than the higher income transfer-bound group (81%). These students are already connected to EOPS and financial aid and have matriculated. These students have a similar persistence rate as the higher income group but a higher withdraw rate. We would want to make sure these students are aware of resources to help them remain enrolled full-time and be successful. It may be worth exploring why all students in this group applied for financial aid but only 75% are receiving aid.