



ANTELOPE VALLEY COLLEGE

Notes from the Researchers

- Volume 1 – August 2009

Recent Projects from the Office of Institutional Research and Planning

Research for: Assessment Center

Research Lead: Aeron Zentner & Aaron Voelcker

Consequential Validity

The first part of the study compared preparedness of the student based on a student self evaluation compared to a teacher evaluation of the student. These measures were set up in the survey as a single question that gave the answer options of: “under prepared”, “prepared” and “over-prepared”.

The data was gathered by surveying students in English 097, 099 and 101 and Math 060, 070 and 102 classes. The students’ survey information was then entered into a survey database and the results were imported into Microsoft Access where the data was manipulated to exclude all students who had not taken the assessment in a two-year cycle prior to the term. This provided a population of students who had taken the assessment test and would be measured to validate if the test placed them in the right class.

The student self evaluation and the instructor evaluations were tested for correspondence, ideally the student and instructor would agree 100%. The statistical method used to test for dependency was the Chi-Squared Test. The test showed statistical significance (rejecting the null hypothesis of no dependence) of students rating themselves differently than the teacher rating in Math 060 and Math 070. English 097 was close to being statistically significant and there was no significance in English 099. So for English 097 and 099 we accept the null hypothesis that there is no dependence between the instructor and student ratings.

Example: English 097

	Faculty			
Student	1	2	3	Row Total
1	3	11	0	14
<i>expected</i>	2.732	11.098	.171	
2	10	53	1	64
<i>expected</i>	12.488	50.732	.780	
3	3	1	0	4
<i>expected</i>	.780	3.171	.049	
Columns Total	16	65	1	82

Grand Total

Chi Square Total	8.703
DF	4
P	.069

The chi square test result of the observed frequencies of your variables was not significant using a one-tailed test

These results show that the students and faculty do not give corresponding ratings in English, but that the students and faculty have significant dependence between ratings in the Math courses.

For additional information on this or other projects, contact the research office at ext. 6398.



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The faculty ratings were used to assess the consequential validity of the placement tests. Using the Chancellor's office recommended 75% level in the Standards for Test Validations, instructors believed that the students were adequately prepared and thus appropriately placed. The lowest percentage placed into 'Prepared' or 'Over-Prepared' occurred in English 99, but the 78.6% level was still above the 75% threshold.

The second part of the consequential validity study was to examine the disproportionate impact and see if there were any discrepancies based on age, gender, ethnicity or disability.

The data was gathered on the students who had taken the assessment in a two-year cycle prior to the term and their success in the class. Success in a class is based on credit or no credit scale for English 097 and 099 and on a letter grade in Math 060 and 070 with a C or better counted as success. The success rate was based on many comparison levels of gender, age, ethnicity and disability. Math placement is calculated by multiple measures of algebra and pre-algebra Math 050 and 060 placement is tested with the COMPASS Pre-Algebra Measure (CPAM). Math 060, 070 and 102 placement is tested with the COMPASS Algebra Measure (CAM). English placement is tested with the COMPASS Writing Measure (CMW)

Example: Gender

Gender	CMW	CPAM	CAM	Engl 097	Engl 099	Engl 101	Math 060 CPAM	Math 060 CAM	Math 070 CAM
Female	62	45	34	100.0%	91.1%	59.2%	87.3%	90.0%	91.2%
Male	61	54	38	79.4%	80.8%	63.0%	95.3%	95.1%	94.4%
N/A	67	87	38	-	100.0%	66.7%	100.0%	100.0%	100.0%

Gender, ethnicity, and disability all had some variation between groups, but did not show major departures from the 75% 'Prepared' or 'Over-Prepared' threshold. Age groups had some large departures from the 75% threshold, in particular a 25% 'Prepared' or 'Over-Prepared' level for English 097 for the 25-29 age groups. However, the sample size within individual age groups was small and no clear pattern of departure from the 75% threshold has been identified.

The third part of the consequential validity study was to evaluate the percentage of student success based on assessment scores relative to the cut points within the course levels. But that is a topic for a future "Notes from the Researchers."



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Research for: (Science, Technology, Engineering, and Mathematics) S.T.E.M

Research Lead: Tricia Menchaca

The California Cost Reduction Access Act grant is provided to higher education Hispanic serving institutions to assist in increasing the number of Hispanic students majoring in S.T.E.M. fields and the number of students transferring to four-year colleges in these fields. In an effort to determine the baseline interest, background, and academic needs of students in these fields, the Office of Institutional Research and Planning surveyed 471 students from both campuses for the summer 2008 session. Twelve of these students elected to take a survey in Spanish.

Additional surveys will be collected during the fall 2009 term to provide baseline data for students for the 2009 – 2010 year and to compare with the summer results.

	English Surveys	Spanish Surveys
Students with parents who do have a college degree and/or H.S. diploma	75%	67%
Students majoring in STEM fields	8%	25%
Students who are somewhat interested and/or very interested in specific STEM majors	43%	50%
Students interested in Environmental Science as a major	4%	44%
Students very interested in participating in a STEM club	11%	42%
Students interested in visiting 4-yr college universities	62%	58%

These data reflect the importance of a S.T.E.M program that can provide students with additional resources to assist in fostering their educational interests and supporting them throughout the transfer process. Five percent of all students surveyed claimed to be **very interested** in one or more S.T.E.M. majors but selected their declared majors in other areas thereby reflecting the need for outreach programs. The demand for continued support and assistance in planning for transfer to four-year institutions is reflected by the high volume of students who are interested in visiting these colleges before making life changing and costly decisions.

With the current greening policies of our nation, students have received a considerable amount of exposure to issues such as renewable energy, restoration of ecosystems, and climate change. Their interest in these environmental science fields is expressed by the percentage of students who declared a high interest in these fields: Please note that such a program is currently not available at AVC. Although the grant is specific to STEM fields, any programs created for this project will be open to **all** students. Thank you for your cooperation in conducting these surveys and your continued support is greatly appreciated! If you have any questions or would like to share your ideas please contact pmenchaca@avc.edu.