Validation of Multiple Measures Used to Place Students into Math and English Coursework at RSCCD Colleges
(Santa Ana College and Santiago Canyon College)

Compiled by the RSCCD Research Department, November 2006

Background

By definition, Title 5 regulations stipulate that multiple measures are designed to be applied in conjunction with each other **prior** to the student being enrolled in a course. Further, to prevent discriminatory practices and arbitrary applications of placement information, **such measures are to be incorporated for all placement decisions** (Title 5, Section 55521(a)(3)).

Data gathered by counselors at the time of orientation on the RSCCD Needs Assessment and Advisement Forms have long been used in placing students into English, ESL, Math, and Reading coursework at Santa Ana College (SAC) and Santiago Canyon College (SCC). Twelve measures are collected on the form used for native English-speaking students, and 14 measures are collected on the English-as-a-second-language form. For the purposes of this study, they will be referred to, by number, as follows:

English Needs Form
1. GPA
2. # of years of English studied
3. grade in last English class
4. last English class completed
5. importance of college
6. length of time out of school
7. last math class completed
8. grade in last math class completed
9. length of time since last math class
10. # hours/week plan to attend classes
11. # hours/week plan to work
12. current status at RSCCD

ESL Needs Form
1. % of time use English at home
2. % of time use English at work
4. grade in last Eng/ESL class
5. type of last Eng/ESL class
6. # of years of school outside US
7. level of ability in native language
8. # years out of school
9. last math completed
10. grade in last math class
11. # hours/week plan to attend class
12. # hours/week plan to work
13. current status at RSCCD
14. # of years studied English
15. # of years studied ESL

Summary of Findings

Data from the Needs Assessment forms (2004-05 and 2005-06) were analyzed with placement test scores and course grades (discriminate analyses). **Across subject areas, most items found on the Needs Forms correlate highly with the current placement instruments**—resulting in only modest advantages in using them in placement/advisement decisions (9 of the 12 items on the English Needs Form, and 10 of the 13 items on the ESL version are highly correlated).

Needs Assessment Items with Course Success and Placement Tests (across subjects)				
	Predicted Course Success			
	ESL Needs Form Items		**English Needs Form Items**	
Actual Course Success	**Successful**	**Non-successful**	**Successful**	**Non-successful**
Successful	56%	44%	56%	44%
Non-successful	36%	64%	37%	63%
Correct classifications using multiple measures	**59.8%**		**59.2%**	
Correct classifications using placement test only	**54.6%**		**52.6%**	

Next, analyses were done separating each of the Needs Form data sets by subject areas enrolled in: the English version analyzed by English, math, and reading course placement individually; and the ESL version by ESL and math placement. Generally, comparable results were found.

		Correct Classifications by Model Used in Analyses	
Needs Form Used	**Needs Form Items in Model**	**Test Only**	**Needs Items and Test**
English Form			
Math Course	**1,3** (9,6,7,4)	50.8%	60.0%
English Course	**1,3,7** (8,5,11)	50.3%	59.9%
Reading Course	**7,1** (10,11,5)	42.7%	58.2%
ESL Form			
ESL Course	**2,13** (6,7)	52.5%	58.0%
Math Course	**6,2** (9,11)	53.8%	53.6%

*Needs items most highly correlated with success are shown in **bold.**

➢ With regards to using the multiple measures currently on the **ESL Needs Form**, better results are achieved by using multiple measures with the test scores for placement into ESL; correct placements are not enhanced by using multiple measures with math placement/advisement.

➢ With regards to the **English Needs Form**, analyses showed there is advantage to using multiple measures to advise students into appropriate coursework across all subjects (math, English, and reading).

These indications are somewhat supported by another set of analyses comparing the success rates of students assigned to two groups: 1) students for whom multiple measures were used to override the test score placement recommendation, and 2) students for whom the test score placement recommendation was used.

➢ Across all **math course levels**, 51% of those for whom course recommendations based solely on test scores were successful (A,B,C,CR) in that course compared to 52% of those for whom this recommendation was overridden based upon multiple measures were successful.

• At the course-level detail, the use of multiple measures to override placements by test alone were advantageous in Math N05 (70% vs. 64%), Math N06 (54% vs. 48%), Math 070 (64% vs. 57%), Math 140 (51% vs. 45%), Math 150 (73% vs. 58%), and Math 160 (52% vs. 45%).

➢ Across all **ESL course levels**, 71% of "test only" placements were successful vs. 66% of those using "test with multiple measures;" in no ESL course was the use of multiple measures significantly assist in predicting course success.

➢ Across all **English course levels**, 58% of "test only" placements were successful vs. 59% of "test with multiple measures" placements, yielding only marginally better predictive results.

• The use of multiple measures in placement into both English N60 (54% vs. 53%) and English 101 (64% vs. 61%) resulted in higher course success rates than "test only" placements.

➢ Across all **Reading course levels**, 71% of "test with multiple measures" placements were successful vs. 64% of "test only" placements.

• Multiple measures greatly assist more predictive advisement into the lowest reading course level (N80); test scores alone were more predictive for higher level placements (Reading N90 and 100).

Conclusions and Recommedations

Overall, course placement/advisement has been modestly enhanced by the consideration of multiple measures in conjunction with placement test scores.

In accordance with matriculation guidelines mandated by the State, it is recommended that the models shown above **be incorporated uniformly**—in conjunction with the placement tests—into the advisement of students basic skills coursework. Once these models have been applied to all matriculants into basic skills courses, it is also advised that department faculty, counselors, and assessment staff collaborate to assess these predictors regularly and adjust as necessary.