

## Validation of Placement Decisions Based on Assessment Tests

### What we looked at:

In the Spring term of 2006, five<sup>1</sup> regular English courses (English 61, 62 & 98), four reading English courses (English 63 & 64), eight math courses (Math 50, 51, 90, & 96), and three ESL courses (English 51, 52, & 56) were surveyed. Traditionally, variances in populations can be found with 30 respondents per condition; for the current study, 318 students completed the survey; 146 were in a Math course, 98 were in an English course, 40 were in a reading English class, and 34 were in an ESL course. To compare student responses with course performance (grade), information from Datatel and the California Community College Chancellor's Office MIS (Management Information Services) data were accessed for each student. To match the students' performance with their survey results, each student needed to include their student identification number or their social security number on the survey. Accurate identification numbers were available to match survey responses and student grades for 86% (275) of the respondents. Faculty were also surveyed for their impressions of student preparation. Out of the possible 21 faculty surveys, faculty for 15 sections completed and returned their surveys in a timely manner (four<sup>2</sup> out of six English faculty; two<sup>3</sup> of four Reading faculty; five of eight Math courses; and three out of three ESL sections). When combined with the respondents with completed student surveys and the associated grade data, 128 respondents had fully complete data, meaning that students' self-ratings could be associated with specific faculty ratings as well as the students' own grades in their courses (16 ESL students; 40 English students; 16 Reading students; and 56 Math students); this is 40% of the total number of students surveyed. Although the overall results are reliable, any breakdowns by department should be interpreted cautiously due to the small sample size when using records that combine student responses, faculty responses, and/or grade data.

Two surveys were created, one for students and one for faculty. Two target questions were asked of the students; the first question was: "How did you meet the prerequisite for this class?" The five choices were:

1. My placement test assessed me at this level.
2. I passed the course required for enrollment (prerequisite) in this course.
3. I successfully challenged my placement decision in a lower-level course, and was put in this course level.
4. I took the course required for enrollment in this course (prerequisite) at another college.

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<sup>1</sup> The English 64 course at MVC was not surveyed due to investigator error.

<sup>2</sup> Due to the passing of Sherise Snodgrass, a faculty survey was not completed for the MVC sections of English 61 and 98.

<sup>3</sup> English 64 at MVC was not completed due to researcher error.

5. I am repeating this course.

The final question was: “Which sentence best describes you.” The answer options were:

1. I should have enrolled in a lower level course- I was not prepared for this level of difficulty.
2. I belong in this course- this course is about the right level of difficulty for me.
3. I should have been placed in a higher course- I have already learned this material.

Similarly, faculty rated each student in their section based on the following scale:

1. Definitely prepared for a higher level course.
2. Might be prepared for a higher level course.
3. Is appropriately prepared for this course.
4. May not be prepared for this course.
5. Definitely not prepared for this course.
6. No longer enrolled.
7. No basis for evaluation.

### **What we found:**

Table 1 shows the number of students in each course type by their self-identified preparedness/difficulty level and their method of course placement. Contact JoAnna Quejada, Dean of Matriculation and Outreach, for access to student survey responses by course number. As can be seen, most students enrolled in their current courses either through a placement decision based on their assessment test or by passing the prior-level course (the prerequisite). For both types of enrollment, most students believed that they were appropriately prepared for their course; of those students who did not believe that they were appropriately prepared, the majority believed that they should be placed in a higher level course. This pattern did not differ by course content.

Table 1		Placement Test	Passed Prerequisite	Successfully Challenged Placement Decision	Passed Prerequisite at Another College	Repeating Course	Assessed at a Higher Level but Enrolled in Lower Level
Math	<i>Not Prepared</i>	3	1	1	0	0	5
	<b>Correct Level</b>	<b>49</b>	<b>49</b>	<b>5</b>	<b>3</b>	<b>6</b>	<b>1</b>
	Too Easy	19	4	0	1	2	0
English	<i>Not Prepared</i>	2	0	0	0	0	0
	<b>Correct Level</b>	<b>44</b>	<b>14</b>	<b>6</b>	<b>0</b>	<b>7</b>	<b>0</b>
	Too Easy	18	5	0	0	0	0
ESL	<i>Not Prepared</i>	0	1	0	0	0	1
	<b>Correct Level</b>	<b>17</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>0</b>
	Too Easy	2	2	1	0	1	0
Reading	<i>Not Prepared</i>	1	0	1	0	0	0
	<b>Correct Level</b>	<b>21</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
	Too Easy	14	0	0	0	0	0

As shown in Table 2, faculty generally believed that students were appropriately prepared for their course level regardless of whether the student was placed into their current course via a placement test or had passed the course prior.

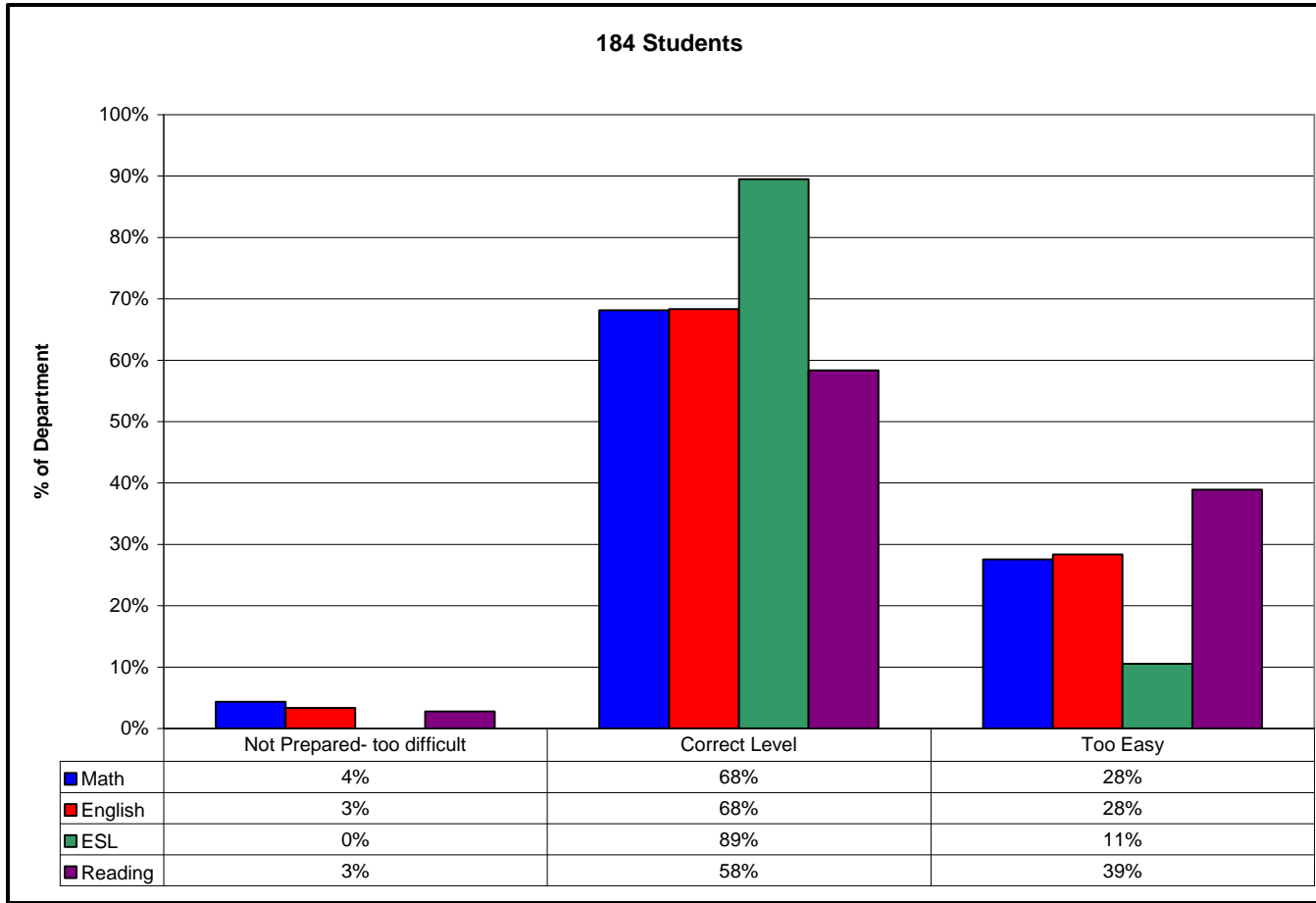
Table 2		Placement Test	Passed Prerequisite
Math	Might be Prepared for a Higher Level Course	1	4
	Is Appropriately Prepared for this Course	15	13
	May Not be Prepared for this Course	2	3
	Definitely Not Prepared for this Course	3	7
English	Might be Prepared for a Higher Level Course	5	1
	Is Appropriately Prepared for this Course	18	7
	May Not be Prepared for this Course	4	0
	Definitely Not Prepared for this Course	3	0
ESL	Might be Prepared for a Higher Level Course	3	1 <sup>4</sup>
	Is Appropriately Prepared for this Course	4	2
	May Not be Prepared for this Course	1	1
	Definitely Not Prepared for this Course	0	0
English/ Reading	Might be Prepared for a Higher Level Course	2	0
	Is Appropriately Prepared for this Course	11	1
	May Not be Prepared for this Course	1	0
	Definitely Not Prepared for this Course	0	0

*Placement Test Students*

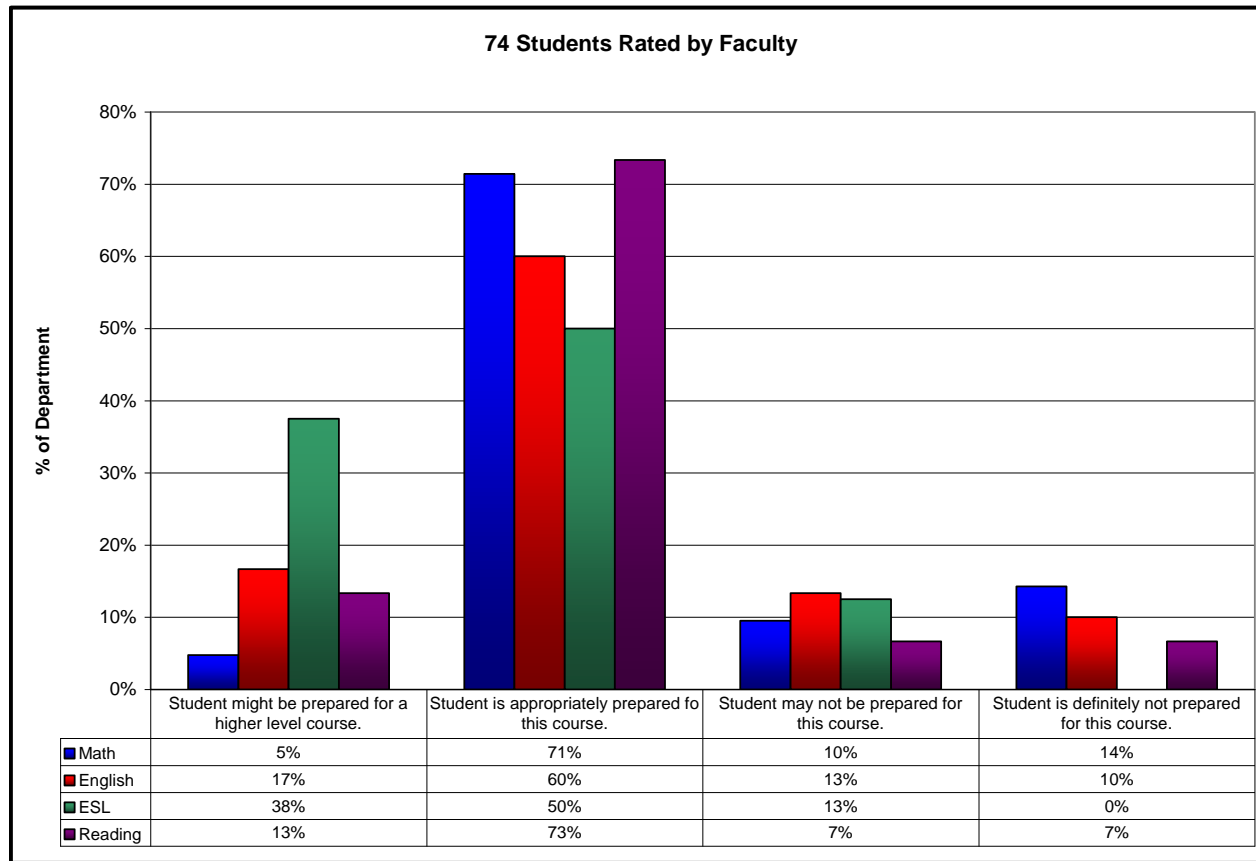
Only 186 of the 192 students who had been placed in their current level course based on their assessment score had valid student identification numbers or social security numbers. Of these, 184 students completed the question regarding the difficulty level and their preparation for their current course; 68% of these students believed that they were placed in the correct course level. *This is below the 75% requirement* (Poggio & Glasnap, California Community College Assessment Standards). The majority of students who believed that they were incorrectly placed believed that they belonged in a higher level of course; this is particularly true of students from the two Reading courses.

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<sup>4</sup> In fact, this student was rated as “definitely prepared for a higher level course”.

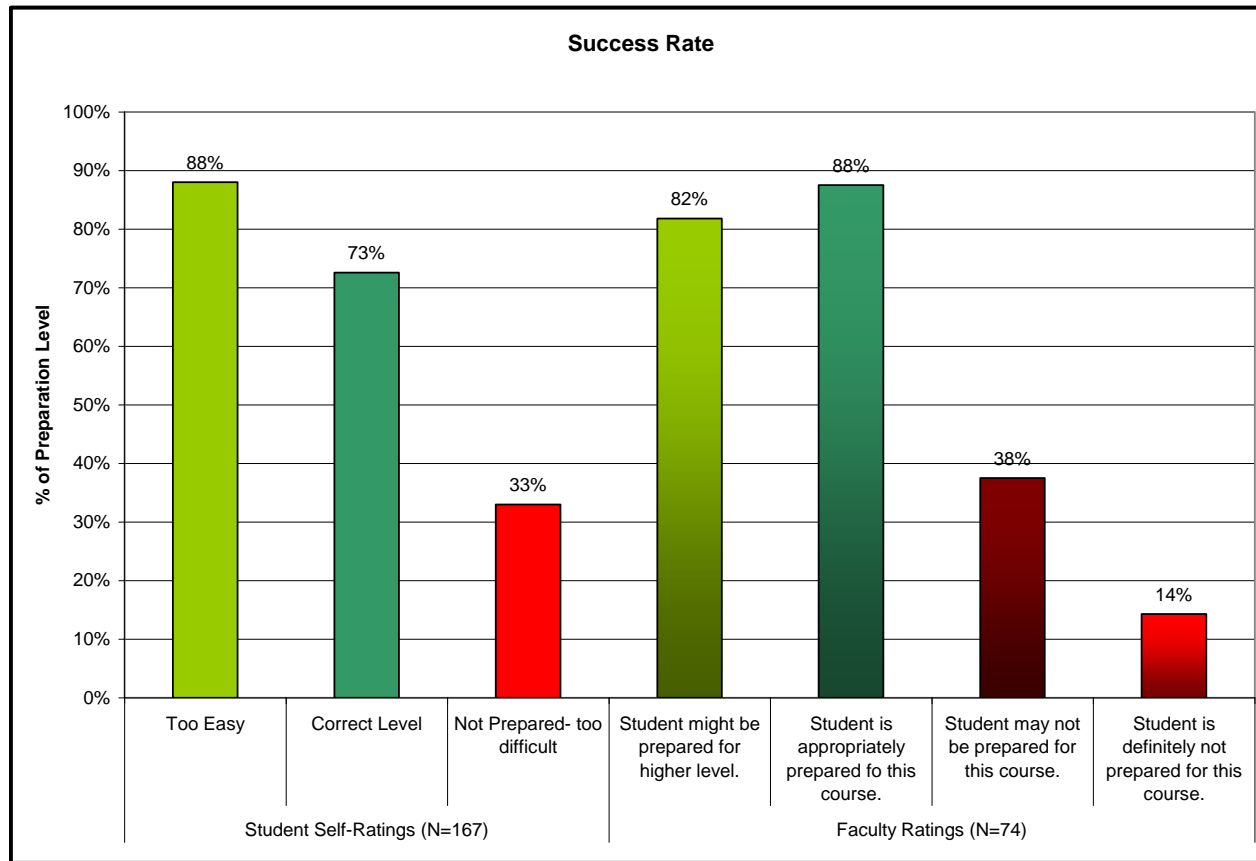


Only 74 students who were enrolled in their current courses based on their assessment scores had faculty ratings. On average, faculty believed that 65% of their students were correctly placed. *This is below the 75% requirement* (Poggio & Glasnap, California Community College Assessment Standards). If faculty who rated students as “appropriately prepared” with the less certain categories (“might be prepared for a higher level course” or “may not be prepared for course”) 91% of students were classified correctly. The faculty ratings varied by department (as shown below); much of the variance comes from the fact that there were small numbers of students from each department (Math = 21; English = 30; ESL = 8; Reading = 15).



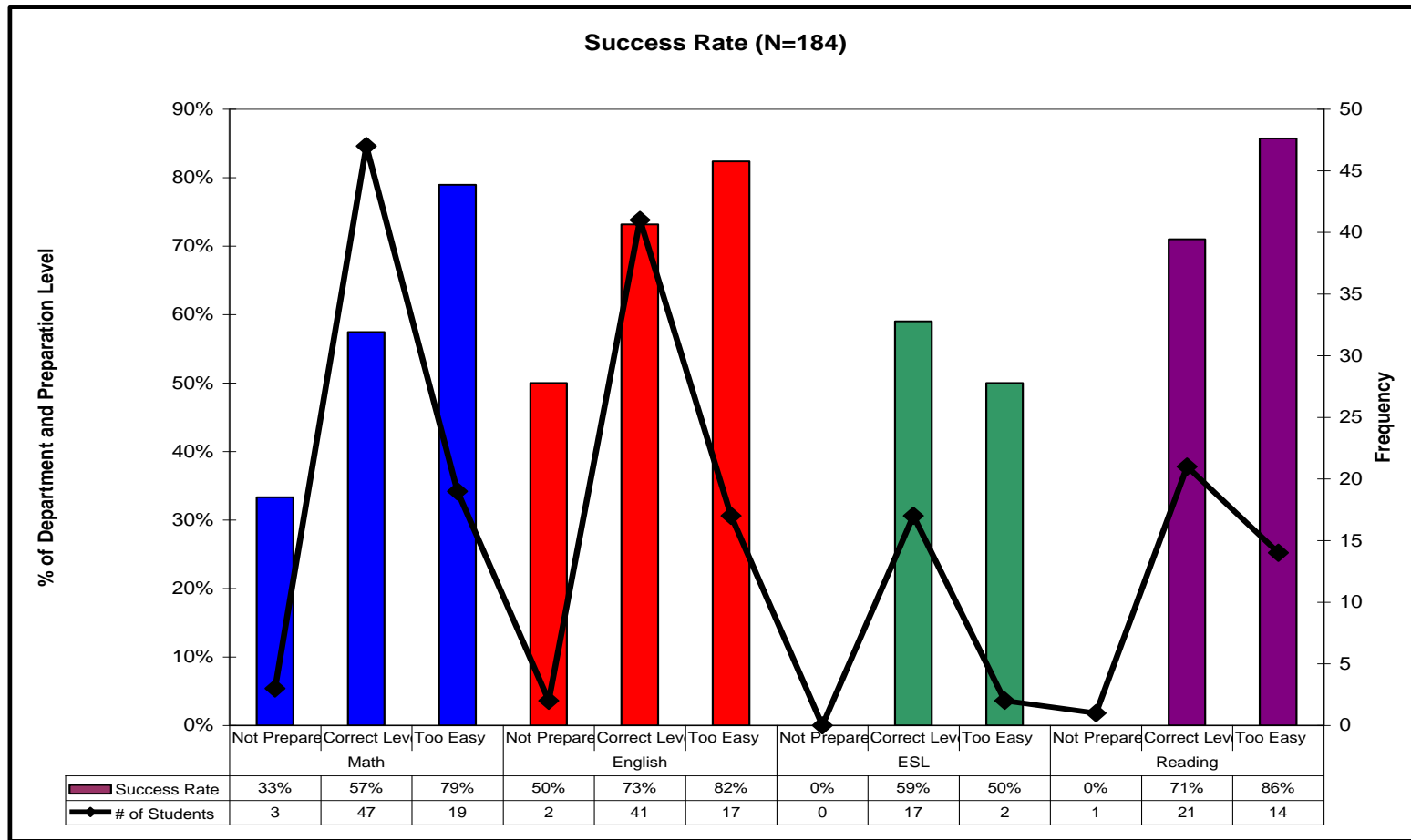
Although the preparation ratings fall below standard requirements, the faculty and student ratings are related to course success rates<sup>5</sup>. Based on the 167 student ratings and student grades that could be linked through student identifiers for students enrolling based on their assessment score, there was a 75% success rate. Out of the 113 students who believed that they were correctly placed, 73% were successful in their course. Of the 48 students that the faculty believed were appropriately prepared for the course difficulty level, 88% were successful. Only six students believed that they were not prepared for their course level, and only two of those students later succeeded in the course. Similarly, the faculty believed that 15 students may not have been prepared or were definitely not prepared for the course level, and only four passed the course.

<sup>5</sup> Success rate is calculated by adding the number of A, B, C, and credit grades received and dividing that by the total number of grades given (including withdrawals, incompletes, and no-grades).



Looking at this information by department, we find similar patterns. Table 3 depicts the student success rate by department for the 186 students who included student identifiers and were placed in their current course by their assessment score. The graph below shows that students are more successful in courses in which they believe they are appropriately prepared for or are over-prepared for. The line in the graph shows the number of students in each of these categories; cautious interpretations are necessary when the number of students is low. For example, although 82% of students in English courses who believed they were over-prepared for it succeeded, this is only 14 students. A comparison between the success rates in the graph with the overall success rates in the table shows that the departmental success rates in the table, which averages the success rates of the three difficulty rating categories, masks the higher success rate of those students in all departments who believed that they were over-prepared for their current course level; the ESL students' success rates do not match this pattern, however (N=19). Also masked was the lower success rate of students in all departments who rated their current course as too difficult.

Table 3	Success Rate
Math	62%
English	76%
ESL	58%
Reading	75%



Comparisons can also be made for success rates for faculty ratings; there are only 74 of these ratings for students enrolling in their current course based on their assessment test score. Table 4 shows the success rate of students based on faculty ratings of their preparation level. For students whose assessment test score placed them in their current course, faculty ratings indicated that no students were definitely prepared for a higher level course; the “no longer enrolled” and “no basis for evaluation” categories were also not used for any of these students. The majority of students who faculty believed had been placed appropriately also earned successful course grades, although a faculty member’s opinion regarding the students’ preparation level did not guarantee that students passed their course.



Table 4		Success Rate <sup>6</sup>	Number of Students
Math	Might be Prepared for a Higher Level Course	100%	1
	Is Appropriately Prepared for this Course	93%	15
	May Not be Prepared for this Course	0%	2
	Definitely Not Prepared for this Course	0%	3
English	Might be Prepared for a Higher Level Course	60%	5
	Is Appropriately Prepared for this Course	78%	18
	May Not be Prepared for this Course	50%	4
	Definitely Not Prepared for this Course	33%	3
ESL	Might be Prepared for a Higher Level Course	100%	3
	Is Appropriately Prepared for this Course	100%	4
	May Not be Prepared for this Course	100%	1
	Definitely Not Prepared for this Course	--	0
English/Reading	Might be Prepared for a Higher Level Course	100%	2
	Is Appropriately Prepared for this Course	91%	11
	May Not be Prepared for this Course	0%	1
	Definitely Not Prepared for this Course	0%	1

Again, cautious interpretation of these percentages are in order as the numbers in each cell are quite small; although 100% of the ESL students who were considered to have been appropriately placed were successful, this is only four students.

Student ratings, faculty ratings, and student success were also found to be related to student assessment scores<sup>7</sup>. Both faculty and student ratings indicated that students who were adequately prepared for their current course scored higher on the assessment test; student ratings indicating that the courses were too easy were related to higher assessment scores.

### What this means:

Student self-ratings of preparedness (or course difficulty) and faculty ratings of student preparedness generally tell the same story, whether compared by course number (appendices), course content (Math, English, Reading, or ESL), or with the full files: the majority of students

<sup>6</sup> The success rate was calculated by using the number of students earning an A, B, C, or credit in that department with that faculty rating (numerator) divided by the total number of students in the target department who received the specific faculty rating (denominator).

<sup>7</sup> All analysis with actual test scores include only AccuPlacer test scores with no multiple measure modifications; the multiple measure answers are not numerically so they can not be analyzed statistically in any useful manner.

are placed appropriately; when this was not the case, most faculty and students believed that the students should be in a higher-level course. When only students who were placed in their current courses via their scores on an assessment test were investigated, a similar pattern was found. *However, the percentage of students who believed that they had been placed correctly did not reach the a suggested threshold;* the Center for Educational Testing and Evaluation suggests that at least 75% of students should believe that they were placed correctly, whereas only 68% of MSJC students surveyed believed that their course placement was at the appropriate level. This was true when the student ratings were broken down by department, as well. Similarly, only 65% of faculty believed that students were placed correctly. However, the faculty rating scale was more descriptive than the student ratings scale, and included several categories describing uncertainty (e.g., “Student *might be* prepared for a higher level course,”); when these more uncertain ratings are included, the faculty ratings demonstrate that 91% of the students placed via their assessment test scores were prepared for their current class, or close to the correct level of academic preparation.

Students who believed that their class would be too easy for them were more likely to be successful compared to students who believed that their course placement was appropriate. Students who believed that the course would be too difficult for them were less likely to succeed. The success rate of students who faculty believed were appropriately prepared was higher than the overall success rate suggesting that faculty beliefs regarding student preparation level are influential in determining grades. Student ratings of their preparation level were also related to their actual scores on the assessment test. In sum, the current investigation into the validity of MSJC placement decisions has resulted in a general picture of placement decisions that the majority of faculty and students believe are appropriate yet the rate does not reach standard thresholds of acceptance.