

Pasadena City College - Assessment Services Office
Math Consequential Validity Study – Math 3 Course
Spring 2007 and Fall 2007

Overview

The Assessment Services Office conducted a Math Consequential Validity Study in the spring 2007 semester; however, due to not receiving an adequate amount of survey responses for Math 3 courses the study was repeated in the fall 2007 semester. The purpose of the study was to determine whether the Math 3 placement exam cut-scores should be adjusted. The Math Consequential Validity Study is mandated by the California Community Colleges Chancellor's Office and requires that students and instructors meet a 75% threshold regarding their satisfaction with course placement – 75% of students must agree that they have been appropriately placed in their classes and 75% of instructors must agree that students have been appropriately placed in their classes. The Chancellor's Office also requires an N=50 for each course that is included in the study, in order to make any changes to the Math placement exam cut-scores.

Method

In order to receive an adequate amount of surveys for the Math 3 courses, 100% of Math 3 course sections were selected for both the spring 2007 and fall 2007 Math Validation Studies.

Spring 2007

- Math 3 – 15 sections

Fall 2007

- Math 3 – 15 sections

There were a total of 30 Math 3 class sections sampled. During the sixth week of the spring 2007 and fall 2007 semesters, faculty survey packets were delivered to faculty members asking them to rate the preparedness level for individual students in selected Math classes (See Appendix A). Student survey packets were also delivered to faculty members to administer to students in their classrooms (See Appendix B). The survey responses were mailed back to Assessment Services for tabulation and analysis.

Demographics – All Students

| Gender | Number | Percentage |
|---------------|---------------|-------------------|
| Female | 312 | 53.7% |
| Male | 262 | 45.1% |
| Missing Data | 7 | 1.2% |
| Total | 581 | 100.0% |

| Ethnicity | Number | Percentage |
|-------------------------------------------------------|---------------|-------------------|
| African American or Black | 20 | 3.4% |
| Asian or Pacific Islander | 243 | 41.8% |
| Caucasian or White (Non-Hispanic) | 99 | 17.0% |
| Latino, Hispanic, Central American, or South American | 149 | 25.6% |
| Other | 63 | 10.8% |
| Missing Data | 7 | 1.2% |
| Total | 581 | 100.0% |

Results

We surveyed a total of 581 students. Of these, 108 students were placed in the Math 3 class based on their test scores on the Math placement exam. The remaining 473 students were admitted into the Math 3 courses by other means. (See Table 1)

Table 1: Paths of Entry into Math Courses – All Students

| Path of Entry | Math 3 |
|---------------------------------------|----------------|
| Math Exam | 18.6% N=108 |
| Prerequisite Course @ PCC | 69.4% N=403 |
| Prerequisite Course @ Another College | 5.3% N=31 |
| Waiver/Challenge | 3.1% N=18 |
| Other | 2.7% N=16 |
| Missing Data | 0.9% N=5 |
| Total | N=581 |

Student Ratings – All Students

All students who participated in the study were asked for their level of satisfaction with course placement. The overall level of satisfaction was relatively high across students in the Math 3 course sections, 84.9% of students indicated that the Math 3 course placement was the appropriate level for them. Only 7.7% of students indicated that their Math 3 course was too difficult for them and only 5.5% of students indicated that their Math 3 course was too easy for them. (See Table 2)

Table 2: Overall Student Satisfaction with Math Placement (All Students)

| Student Satisfaction | Math 3 |
|----------------------|----------------|
| Appropriate Level | 84.9% N=493 |
| Course Too Difficult | 7.7% N=45 |
| Course Too Easy | 5.5% N=32 |
| Missing Data | 1.9% N=11 |
| Total | 581 |

Instructor Ratings – All Students

The second phase of the study asked instructors to rate the accuracy of placement for students in their Math 3 class. Overall, 56.2% of instructors indicated that students were appropriately placed in their Math 3 classes. Only 25.3% of instructors indicated that students were inappropriately placed in their Math 3 classes (Course Too Difficult for Students). Only 3.7% of instructors indicated that the Math 3 course was Too Easy for students. (See Table 3)

Table 3: Overall Instructor Satisfaction with Student Progress (All Students)

| Instructor Satisfaction | Math 3 |
|--------------------------------|----------------|
| Appropriate Level | 56.2% N=527 |
| Course Too Difficult | 25.3% N=237 |
| Course Too Easy | 3.7% N=35 |
| Missing Data | 14.7% N=138 |
| Total | N=937 |

Student Ratings: Next, to comply with the procedures set forth by the Chancellor's Office for consequential validity studies, all students who entered the target class through some means other than the Math test were factored out. We received 109 usable ratings from students. Overall, 79.8% of students indicated that they were appropriately placed in their Math 3 course. Only 4.6% of students indicated that the Math 3 course was Too Difficult for them and only 12.8% of students indicated that the Math 3 course was Too Easy for them. (See Table 4)

Table 4: Student Satisfaction with Math Placement (Math-Placed Students Only)

| | Math 3 |
|----------------------|---------------|
| Appropriate Level | 79.8% N=87 |
| Course Too Difficult | 4.6% N=5 |
| Course Too Easy | 12.8% N=14 |
| Missing Data | 2.7% N=3 |
| Total | N=109 |

Instructor Ratings: Survey results revealed that most instructors are satisfied with student course placement in Math 3 courses; 76.2% of instructors indicated that students were Placed Appropriately in their Math 3 courses. Only 18.8% of instructors indicated that the Course was Too Difficult for Students and only 4.9% of instructors indicated that the Course was Too Easy for Students. (See Table 5)

Table 5: Instructor Satisfaction with Math Placement (Math-Placed Students Only)

| | Math 3 |
|----------------------|---------------|
| Appropriate Level | 76.2% N=77 |
| Course Too Difficult | 18.8% N=19 |
| Course Too Easy | 4.9% N=5 |
| Missing Data | 0.0% N=0 |
| Total | N=101 |

Conclusion

The survey results revealed that most students are satisfied with their Math 3 course placement; 79.8% Student Agreement N=87. The survey results also revealed that most instructors are also satisfied with student course placements in Math 3 courses; 76.2% Instructor Agreement N=77. According to the results of the study, the Math 3 cut-scores do not require an adjustment and are placing students in Math 3 courses appropriately. No change is needed at this time for the Math 3 cut-scores. (See Table 6)

Table 6: Comparison of Student and Instructor Satisfaction (Math-Placed Students Only)

| Course | Student Satisfaction Rate >75.0% | Instructor Satisfaction Rate >75.0% |
|---------------|------------------------------------------------|---------------------------------------------------|
| Math 3 | YES –79.8% N=87 | YES – 76.2% N=77 |

Appendix A: Instructor Survey Instructions

Pasadena City College – Assessment Services (D205) State Mandated Math Consequential Validity Study Spring 2007

Instructor Survey Instructions

Dear Instructor:

I have enclosed your **Instructor Survey Packet** for the **State Mandated - Math Consequential Validity Study**. Instructors it is very important that you complete all of the steps that are listed below in order to complete the study successfully. In your **Instructor Survey Packet** you will find the following forms:

- 1) Instructor Survey Instructions
- 2) Permanent Class Roster
- 3) Scantron

Please complete the following steps for the Instructor Survey portion of the study.

- 1) Please mark all of your responses on your scantron with a #2 pencil.
- 2) On your scantron, **PRINT** your LAST name in BOX 5 and your FIRST NAME in BOX 6
- 3) For each student that is listed on the Permanent Class Roster, rate whether you believe that the student was appropriately placed into your Math class using the rating scale below.

Rating Scale:

A = Appropriately placed

B = Inappropriately placed- Student's level is too low (should be in a lower level course)

C = Inappropriately placed – Student's level is too high (should be in a higher level course)

For Example: If a student is listed on the class roster as Number 1, then you would bubble in A, B or C on the scantron in the Number 1 Slot. If a student is not listed on the class roster, please do not add them to the roster. When rating your students, you should not take into account past grades in other Math classes, other classes in general or class attendance. The mission of this study is to find out whether students are being appropriately placed into their Math courses; therefore, you should rate each student on class performance (grades on exams, quizzes, homework, etc). Please list any grades that you have assigned to each student on the class roster in the remarks section.

Once you have completed both the Instructor and Student Survey portions of the study, please send the class roster, survey and scantron back to the Assessment Office (D205) to the attention of Denise Carter. If you have more than one class section that has been selected, you may enclose all of your Instructor Survey forms in the same packet (please separate and label each course section accordingly). **The final deadline for submitting ALL packets will be Friday, April 6, 2007.** If you should have any questions or need additional forms please call me at Ext. 7806 or email me at dkcarter@pasadena.edu. As a team we can ensure that our students are being appropriately placed in their Math classes. I look forward to working with you on this very important study. Please do not hesitate to contact me if you have any further questions. Have a wonderful semester!

Sincerely,

Denise K. Carter, Supervisor – Assessment Services

Appendix A: Instructor Survey Instructions

Pasadena City College – Assessment Services (D205) State Mandated Math Consequential Validity Study Fall 2007

Instructor Survey Instructions

Dear Instructor:

I have enclosed your **Instructor Survey Packet** for the **State Mandated - Math Consequential Validity Study**. Instructors it is very important that you complete all of the steps that are listed below in order to complete the study successfully. In your **Instructor Survey Packet** you will find the following forms:

- 1) Instructor Survey Instructions
- 2) Permanent Class Roster
- 3) Scantron

Please complete the following steps for the Instructor Survey portion of the study.

- 1) Please mark all of your responses on your scantron with a #2 pencil.
- 2) On your scantron, **PRINT** your LAST name in BOX 5 and your FIRST NAME in BOX 6.
- 3) For each student that is listed on the Permanent Class Roster, rate whether you believe that the student was appropriately placed into your Math class using the rating scale below.

Rating Scale:

A = Appropriately placed

B = Inappropriately placed- Student's level is too low (should be in a lower level course)

C = Inappropriately placed – Student's level is too high (should be in a higher level course)

For Example: If a student is listed on the class roster as Number 1, then you would bubble in A, B or C on the scantron in the Number 1 Slot. If a student is not listed on the class roster, please do not add them to the roster. When rating your students, you should not take into account past grades in other Math classes, other classes in general or class attendance. The mission of this study is to find out whether students are being appropriately placed into their Math courses; therefore, you should rate each student on class performance (grades on exams, quizzes, homework, etc). Please list any grades that you have assigned to each student on the class roster in the remarks section.

Once you have completed both the Instructor and Student Survey portions of the study, please send the class roster, survey and scantron back to the Assessment Office (D205) to the attention of Denise Carter. If you have more than one class section that has been selected, you may enclose all of your Instructor Survey forms in the same packet (please separate and label each course section accordingly). **The final deadline for submitting ALL packets will be Monday, October 8, 2007.** If you should have any questions or need additional forms please call me at Ext. 7806 or email me at dkcarter@pasadena.edu. As a team we can ensure that our students are being appropriately placed in their Math classes. I look forward to working with you on this very important study. Please do not hesitate to contact me if you have any further questions. Have a wonderful semester!

Sincerely,

Denise K. Carter, Supervisor – Assessment Services

Appendix B: Student Survey Instructions for Instructors

Pasadena City College – Assessment Services (D205) Spring 2007 Math Consequential Validity Study

Student Survey Administration Instructions

The Student Survey portion of the study will take approximately 10-15 minutes to complete. In case of accidental markings, torn sheets, etc., I have enclosed a couple of extra scantrons.

Instructors: Please encourage your students to answer all of the survey questions and to fill-in their information correctly on the scantron. Since all of us are taking the time to complete this study, I would like to ensure that we complete it correctly so that we will not experience any delays with the tabulating of the results. Thank you in advance for your assistance.

Please complete the following steps for the Student Survey portion of the study.

- 1) Please distribute a scantron and a survey to each student.
- 2) Instruct students to use a #2 pencil to mark all of their responses on their scantron.
- 3) Please inform students that they should not mark any responses on the actual survey form.
- 4) Instruct students to fill-out BOX 3 on the scantron. For BOX 3 instruct students to **Write and Bubble-In** the last 8-digits of their LancerCard ID. **Please inform students that they must fill in a 0 before their last eight digits of their LancerCard ID so that we will be able to scan the forms successfully. For Example:** Student number 00-11-2233 must be entered as 000-11-2233 in BOX 3. If a student is unsure about their LancerCard ID number; they can fill in their social security number instead. Please inform students that we need this information for the study, and individual responses will remain confidential.
- 5) Instruct students to **PRINT** their LAST name in BOX 5 and their FIRST NAME in BOX 6.
- 6) Instruct students to answer survey questions #1 through #5 on their scantron. Students should only mark one answer per question on their scantron.

Once you have completed both the Instructor and Student portions of the study, please return all materials via campus mail to Assessment Services - D205 to the attention of Denise Carter. **The final deadline for submitting ALL packets will be Friday, April 6, 2007.** Please be sure to provide your Full Name on the envelope, when returning your survey packets. Once all results have been compiled a meeting will be scheduled with the Division Dean to discuss the results of the study. Once again, I would like to thank you for your cooperation and participation in this very important study.

Sincerely,

Denise K. Carter – Supervisor, Assessment Services

Appendix B: Student Survey

Pasadena City College Assessment Services Survey (D205) Spring 2007

The PCC Assessment Services Office needs to determine if students feel they were accurately placed into their Math courses. Please take a few minutes to answer the following questions below. All answers should be marked on the scantron form with a #2 pencil. Please be assured that your answers will remain anonymous. By answering the following questions honestly, you will help us to improve the accuracy of placement testing in the future.

1. Gender:
 - a) Female
 - b) Male

2. My ethnic background is:
 - a) African American or Black
 - b) Asian or Pacific Islander
 - c) Caucasian or White (Non-Hispanic)
 - d) Latino, Hispanic, Central American, or South American
 - e) Other

3. The class in which I am taking this survey is:
 - a) MATH 402
 - b) MATH 125
 - c) MATH 131
 - d) MATH 15
 - e) MATH 3

4. I was able to enroll in this course by:
 - a) My PCC Math placement test scores
 - b) Completing the prerequisite class at PCC
 - c) Completing a prerequisite class at another college
 - d) Waiver or Challenge
 - e) Other

5. Which of the following statements is most true of your placement in this course?
 - a) This course is too difficult for me
 - b) This course is the right level for me
 - c) This course is too easy for me

Appendix B: Student Survey Instructions for Instructors

Pasadena City College – Assessment Services (D205) Fall 2007 Math Consequential Validity Study

Student Survey Administration Instructions

The Student Survey portion of the study will take approximately 10-15 minutes to complete. In case of accidental markings, torn sheets, etc., I have enclosed a couple of extra scantrons.

Instructors: Please encourage your students to answer all of the survey questions and to fill-in their information correctly on the scantron. Since all of us are taking the time to complete this study, I would like to ensure that we complete it correctly so that we will not experience any delays with the tabulating of the results. Thank you in advance for your assistance.

Please complete the following steps for the Student Survey portion of the study.

- 1) Please distribute a scantron and a survey to each student.
- 2) Instruct students to use a #2 pencil to mark all of their responses on their scantron.
- 3) Please inform students that they should not mark any responses on the actual survey form.
- 4) Instruct students to fill-out BOX 3 on the scantron. For BOX 3 instruct students to **Write and Bubble-In** the last 8-digits of their LancerCard ID. **Please inform students that they must fill in a 0 before their last eight digits of their LancerCard ID so that we will be able to scan the forms successfully. For Example:** Student number 00-11-2233 must be entered as 000-11-2233 in BOX 3. If a student is unsure about their LancerCard ID number; they can fill in their social security number instead. Please inform students that we need this information for the study, and individual responses will remain confidential.
- 5) Instruct students to **PRINT** their LAST name in BOX 5 and their FIRST NAME in BOX 6.
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Sincerely,

Denise K. Carter – Supervisor, Assessment Services

Appendix B: Student Survey

Pasadena City College Assessment Services Survey Fall 2007

The PCC Assessment Services Office needs to determine if students feel they were accurately placed into their Math courses. Please take a few minutes to answer the following questions. All answers should be marked on the scantron sheet in #2 pencil. Please be assured that your answers will remain anonymous. By answering the following questions honestly, you will help us to improve the accuracy of placement testing in the future.

1. Gender:
 - a) Female
 - b) Male

2. My ethnic background is:
 - a) Asian or Pacific Islander
 - b) Black or African American
 - c) Latino, Hispanic, Central American, or South American
 - d) White (non-Hispanic) or Caucasian
 - e) Other

3. The class in which I am taking this survey is:
 - a) MATH 402
 - b) MATH 125
 - c) MATH 131
 - d) MATH 15
 - e) MATH 3

4. I was able to enroll in this course by:
 - a) My PCC MATH placement test scores
 - b) Completing the prerequisite class at PCC
 - c) Completing a prerequisite class at another college
 - d) Counselor override/approval
 - e) Other

5. Which of the following statements is most true of your placement in this course?
 - a) This course is too difficult for me
 - b) This course is the right level for me
 - c) This course is too easy for me