Assessment Test Comparison Study Presentation for Campus Dialogue

James E. Smith, Ph.D. Director of Research and Planning

# Assessment Test Comparison Study

Compares test from three sources:

- Locally developed tests (LDT)
  - Math and English
- Compass
  - Math, English, and Reading
- Accuplacer
  - Math, English, and Reading

### Compass

 Math and English cut scores were established with the assistance of the Compass consultant.

### Accuplacer

- Adopted from Crafton Hills College cut-scores
- Locally Developed
  - Established and adjusted as part of periodic reliability and validity reporting required by the State Chancellors Office (unchanged for this study)



### Number of Tests Administered Dates: Sept. 10, 2008 to January 6, 2009 N=2,393

| Test        | Accuplacer | Locally Developed<br>Tests (LDT) | Compass | Total |
|-------------|------------|----------------------------------|---------|-------|
| English     | 633        | 901                              | 668     | 2,393 |
| Reading     | 633        | 847                              | 640     | 2,120 |
| Math        | 961        | 1268                             | 756     | 2,985 |
| Total tests | 2,227      | 3,207                            | 2,064   | 7,498 |

*Note:* For Reading, the LDTs and Compass are the same—1,487 (847+640) students were administered this test. *Source: DataTel* 

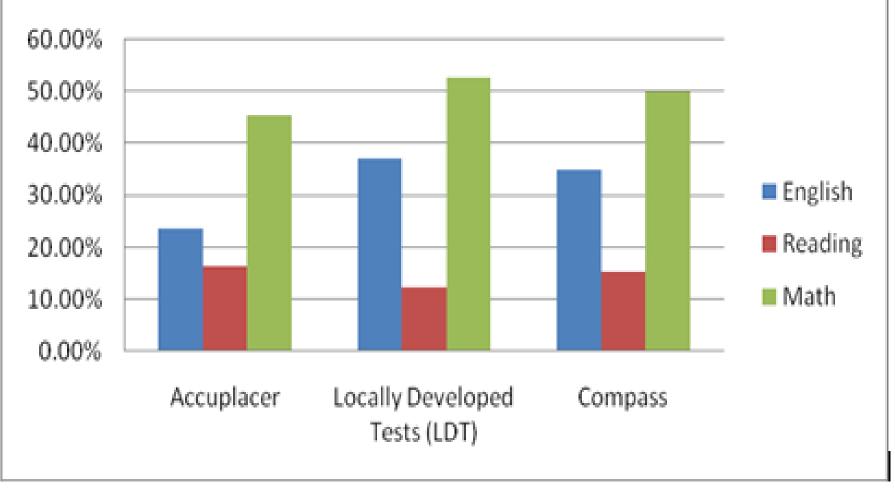
# Number of Students who Enrolled in class within one semester of Assessment

| Test        | Accuplacer | Locally Developed<br>Tests (LDT) | Compass | Total |
|-------------|------------|----------------------------------|---------|-------|
| English     | 149        | 404                              | 232     | 785   |
| Reading     | 104        | 104                              | 97      | 305   |
| Math        | 436        | 667                              | 377     | 1480  |
| Total tests | 689        | 1175                             | 706     | 2560  |

# Percentage of Students who Enrolled within one term of being Assessed

| Test        | Accuplacer | Locally Developed<br>Tests (LDT) | Compass | Average over<br>all tests |
|-------------|------------|----------------------------------|---------|---------------------------|
| English     | 23.54%     | 37.00%                           | 34.73%  | 32.80%                    |
| Reading     | 16.43%     | 12.28%                           | 15.16%  | 14.39%                    |
| Math        | 45.37%     | 52.60%                           | 49.87%  | <b>49.58</b> %            |
| Total tests | 30.94%     | 36.64%                           | 34.21%  | <b>34.28</b> %            |

# Percentage of Test-Takers who Enrolled in a Placement Course



Placement and Prerequisite Survey

- Student respondents
- Faculty respondent
- Analysis of student performance measures
  - Retention
  - Grades (pass-rates)

### Mixed Method Analysis Qualitative and Quantitative

## Placement and Prerequisite Surveys provided data for the qualitative analysis

# Students were asked to respond as following:

- Identify themselves by social security number or student ID#.
- 2) Identify their class by class code.
- 3) Indicate their level of preparation for the course.

- Distribute the survey and read the instructions to students.
- Collect completed surveys.
- Enter an assessment of each student's academic preparation for the class (skill level).

### Instructors were asked to...

The Scale for Rating Preparation for the class was measured using a selfreported five point scale

A) Yes, overqualified.
B) Yes, very much so.
C) Yes, but not completely.
D) Yes, but just barely.
E) No, not at all.

# **Student Ratings**

| Test   | N   | Percentage of students who indicated<br>they were sufficiently qualified to take the<br>course. | Percentage of students who indicate they were overqualified. |
|--|-----|---|--|
| Compass English (COMPENGL)                       | 60  | 92%   | 10%  |
| Compass Reading (S99READ)                        | 58  | 95%   | 10%  |
| Compass Reading (COMPREAD)                       | 48  | 89%   | 10%  |
| Compass Math-1 (COMPMTH1)                        | 60  | 90%   | 10%  |
| Compass Math-2 (COMPMTH2)                        | 10* | 90%*  | 30%*   |
| Locally maintained Pre-Algebra (F04PRE)          | 93  | 92%   | 6.4%   |
| Locally maintained Elementary Algebra (F04ELEM)  | 94  | 95%   | 11%  |
| Locally maintained intermediate Algebra (F04INT) | 58  | 91%   | 10%  |
| Locally maintained College Algebra (F04CALG)     | 29  | 84%   | 12%  |
| Locally maintained English (F04ENGL)             | 207 | 91%   | 13%  |
| Accuplacer Arithmetic (VACCUARITH)               | 43  | 88%   | 12%  |
| Accuplacer Algebra (VACCUALG)                    | 42  | 91%   | 12%  |
| Accuplacer level Math (VACCUCLM)                 | 17* | 90%*  | 14%*   |
| Accuplacer Reading (VACCUREAD)                   | 40  | 91%   | 11%  |
| Accuplacer English (VACCUSENT)                   | 55  | 89%   | 11%  |



| Test   | Student N | Percentage of faculty who<br>indicated students were<br>sufficiently qualified to take<br>the course. | Percentage of faculty who indicated<br>that students were over qualified. |
|--|-----------|---|---|
| Compass English (COMPENGL)                       | 60        | 89%   | 3.7%  |
| Compass Reading (S99READ)                        | 58        | 88%   | 6.4%  |
| Compass Reading (COMPREAD)                       | 48        | 76%   | 1.7%  |
| Compass Math-1 (COMPMTH1)                        | 60        | 75%   | 1.7%  |
| Compass Math-2 (COMPMTH2)                        | 10*       | 90%   | 0   |
| Locally maintained Pre-Algebra (F04PRE)          | 93        | 77%   | 3.2%  |
| Locally maintained Elementary Algebra (F04ELEM)  | 94        | 73%   | 7.1%  |
| Locally maintained intermediate Algebra (F04INT) | 58        | 66%   | 5.5%  |
| Locally maintained College Algebra (F04CALG)     | 29        | 81%   | 7.3%  |
| Locally maintained English (F04ENGL)             | 207       | 77%   | 6.7%  |
| Accuplacer Arithmetic (VACCUARITH)               | 43        | 72%   | 2.3%  |
| Accuplacer Algebra (VACCUALG)                    | 42        | 74%   | 0%  |
| Accuplacer level Math (VACCUCLM)                 | 17*       | 71%   | 0%  |
| Accuplacer Reading (VACCUREAD)                   | 40        | 75%   | 1.8%  |
| Accuplacer English (VACCUSENT)                   | 55        | 68%   | 6.5   |

# **Student/Faculty Agreement**

| Test   | N   | Correlation between student and faculty assessments. |
|--|-----|--|
| Compass English (COMPENGL)                       | 60  | .432   |
| Compass Reading (S99READ)                        | 58  | .381   |
| Compass Reading (COMPREAD)                       | 48  | .392   |
| Compass Math-1 (COMPMTH1)                        | 60  | .352   |
| Compass Math-2 (COMPMTH2)                        | 10* | .415   |
| Locally maintained Pre-Algebra (F04PRE)          | 93  | .431   |
| Locally maintained Elementary Algebra (F04ELEM)  | 94  | .390   |
| Locally maintained intermediate Algebra (F04INT) | 58  | .375   |
| Locally maintained College Algebra (F04CALG)     | 29  | .451   |
| Locally maintained English (F04ENGL)             | 207 | .386   |
| Accuplacer Arithmetic (VACCUARITH)               | 43  | .399   |
| Accuplacer Algebra (VACCUALG)                    | 42  | .334   |
| Accuplacer level Math (VACCUCLM)                 | 17* | .103   |
| Accuplacer Reading (VACCUREAD)                   | 40  | .303   |
| Accuplacer English (VACCUSENT)                   | 55  | .301   |

### Table 6. Comparison of Assessment Tests Over All English

#### Courses

| Grade                      | Accuplacer | Locally   | Compass |
|----------------------------|------------|-----------|---------|
|                            |            | Developed |         |
| Α                          | 10.7%      | 17.5%     | 14.4%   |
| В                          | 25.3%      | 20.4%     | 20.3%   |
| С                          | 22.7%      | 20.4%     | 16.9%   |
| D                          | 6.7%       | 10.4%     | 13.6%   |
| F                          | 17.3%      | 12.3%     | 13.6%   |
| I                          | 1.3%       |           | .8%     |
| W                          | 16.0%      | 19.0%     | 20.3%   |
|                            | 100.0%     | 100.0%    | 100.0%  |
| Pass-rate                  | 58.7       | 58.3      | 51.7    |
| Retention                  | 84.0%      | 81%0      | 79.7%   |
| Missing (unofficial drops) | 49.7%      | 47.8%     | 49.1%   |
| N                          | 149        | 404       | 232     |

Source: DataTel

# Table 7. Comparison of assessment tests for English 914 placement

| Grade                      | Accuplacer | Locally     | Compass    |
|----------------------------|------------|-------------|------------|
|                            |            | Developed   |            |
| Α                          | 9.1%       | 15.5        | 20.9%      |
| В                          | 54.5       | 26.2        | 20.9       |
| С                          | 27.3       | 17.9        | 16.3       |
| D                          | 0.0        | 9.5         | 7.0        |
| F                          | 9.1        | 11.9        | 14.0       |
| I                          | 0.0        | 0.0         | 0.0        |
| W                          | 0.0        | 19.0        | 20.9       |
| Total                      | 100.0      | 100.0       | 100.0      |
| Pass-rate                  | 90.1%      | 59.5%       | 58.1%      |
| Retention                  | 100%       | <b>81</b> % | 79.1%      |
| Missing (unofficial drops) | 52.2%      | 56.5%       | 47.6%      |
| N                          | *23        | 193         | 82         |
|                            | 23/149=15% | 193/404=47% | 82/232=35% |

\*) The N for this group is too small to analyze

# Table 8. Comparison of assessment tests for English 015 placement

| Grade                      | Accuplacer    | Locally       | Compass       |
|----------------------------|---------------|---------------|---------------|
|                            |               | Developed     |               |
| A                          | 7.7%          | 19.1%         | 12.1%         |
| В                          | 20.5%         | 15.5%         | 15.2%         |
| С                          | 25.6%         | 22.7%         | 21.2%         |
| D                          | 10.3%         | 10.0%         | 27.3%         |
| F                          | 15.4%         | 12.7%         | 12.1%         |
| I                          | 2.6%          | 0.0%          | 0.0%          |
| w                          | 17.9%         | 20.0%         | 12.1%         |
| Total                      | 100.0%        | 100.0%        | 100.0%        |
|                            |               |               |               |
| Pass-rate                  | <b>53.8</b> % | 57.3%         | <b>48.5</b> % |
| Retention                  | <b>82.1</b> % | <b>80.0</b> % | <b>87.9</b> % |
| Missing (unofficial drops) | 48.7          | 40            | 51.5          |
| Ν                          | 76/146=52%    | 184/404=46%   | 68/232=29%    |

### Table 9. Comparison of assessment tests for English 101 placement

| Grade                      | Accuplacer | Locally       | Compass    |
|----------------------------|------------|---------------|------------|
|                            |            | Developed     |            |
| A                          | 20.0%      | 27.3%         | 12.9       |
| В                          | 20.0%      | 27.3%         | 29.0       |
| С                          | 15.0%      | 18.2%         | 9.7        |
| D                          | 0          | 9.1%          | 3.2        |
| F                          | 30.0%      | 9.1%          | 16.1       |
| I                          | 0          | 0%            | 3.2        |
| w                          | 15.0%%     | 9.1%          | 25.8%      |
| Total                      | 100.0%     | 100.0%        | 100.0      |
|                            |            |               |            |
| Pass-rate                  | 55%        | <b>72.7</b> % | 51.6%      |
| Retention                  | 85.0%      | <b>90.9</b> % | 74.2%      |
| Missing (unofficial drops) | 52.6       | 35.3          | 54.4       |
| Ν                          | 38/146=26% | *17/404=4%    | 57/232=25% |

(\*) The N for this group is too small to analyze

### All Reading Courses—910, 920,

# 950, 015, 100

#### Table 10. Comparison of Assessment Tests Over All Reading Courses

| Grade                      | Accuplacer    | Compass (LDT) |
|----------------------------|---------------|---------------|
| A                          | 37.0%         | 23.5%         |
| В                          | 17.4%         | 10.6%         |
| С                          | 17.4%         | 15.3%         |
| D                          | 6.5%          | 11.8%         |
| F                          | 10.9%         | 11.8%         |
|                            | 0.0%          | 0%            |
| W                          | 10.9%         | 27.1%         |
| Total                      | 100.0%        | 100.0%        |
|                            |               |               |
| Pass-rate (A-C)            | 71.7%         | <b>49.9</b> % |
| Retention                  | <b>89.1</b> % | <b>72.9</b> % |
| Missing (unofficial drops) | 54.9%         | 55.6%         |
| Ν                          | 104           | 168           |

# Reading 950

### Table 11. Placement-test Comparison of Assessment Tests— READ-950

| Grade                      | Accuplacer | Compass (LDT) |
|----------------------------|------------|---------------|
| А                          | 37.5       | 9.5%          |
| В                          | 18.8%      | 14.3%         |
| С                          | 18.8%      | 28.6%         |
| D                          | 6.3%       | 14.3%         |
| F                          | 6.3%       | 14.3%         |
| I                          | 0.0%       | 0.0%          |
| W                          | 12.5%      | 19.0%         |
| Total                      | 100.0%     | 100.0         |
| Pass-rate (A-C)            | 75%        | 61.5%         |
| Retention                  | 87.5%      | 81.0%         |
| Missing (unofficial drops) | 54.9%      | 49%           |
| Ν                          | 33/104=33% | 21/168=12.5%  |

(\*) The N for this group is too small to analyze

### All Math Courses

#### Table 12. Comparison of Assessment Tests Over All Math Courses

| Grade                      | Accuplacer    | Locally       | Compass       |
|----------------------------|---------------|---------------|---------------|
|                            |               | developed     |               |
| Α                          | 30.1%         | 19.0%         | 27.9%         |
| В                          | 19.9%         | 22.6%         | 19.4%         |
| С                          | 15.4%         | 16.1%         | 10.4%         |
| D                          | 5.3%          | 7.5%          | 7.7%          |
| F                          | 19.5%         | 15.3%         | 15.3%         |
| I                          | 0.0%          | 0.0%          | 0.0%          |
| W                          | 9.8%          | 19.5%         | 18.9%         |
| Total                      | 100.0%        | 100.0%        | 100.0%        |
|                            |               |               |               |
| Pass-rate                  | 65.4%         | 57.3%         | <b>57.7</b> % |
| Retention                  | <b>91.2</b> % | <b>80.5</b> % | <b>81.1</b> % |
| Missing (unofficial drops) | 51.4%         | 45.9%         | 43.9%         |
| N                          | 436           | 667           | 377           |

For math courses as a whole, Accuplacer has a higher pass-rate and retention rate than the LDT and Compass tests

| Table 13. Assessment test Comparison – Math-942 |             |               |             |
|---|-------------|---------------|-------------|
| Grade   | Accuplacer  | Locally       | Compass     |
|   |             | Developed     |             |
| A   | 21.8%       | 16.9v         | 22.0%       |
| В   | 26.7%       | 23.7%         | 19.3%       |
| С   | 15.8%       | 10.2%         | 12.8%       |
| D   | 7.9%        | 18.6%         | 10.1%       |
| F   | 19.8%       | 16.9%         | 18.3%       |
| I   | 0.0%        | 0.0%          | 0.0%        |
| W   | 7.9%        | 13.6%         | 17.4%       |
| Total   | 100.0%      | 100.0%        | 100.0%      |
|   |             |               |             |
| Pass-rate (A-C)                                 | 64.4%       | <b>50.8</b> % | 54.1%       |
| Retention                                       | 92.1        | <b>86.4</b> % | 82.6        |
| Missing (unofficial drops)                      | 48.2%       | 51.6%         | 40.1%       |
| N   | 195/436=45% | 122/667=18%   | 182/377=48% |

### Table 14. Assessment test Comparison – Math-952

| Grade                      | Accuplacer         | Locally             | Compass            |
|----------------------------|--------------------|---------------------|--------------------|
|                            |                    | Developed           |                    |
| А                          | 25.0%              | 15.7%               | 55.0%              |
| В                          | 10.0%              | 28.4%               | 17. %5             |
| С                          | 25.0%              | 22.4%               | 7.5%               |
| D                          | 10.0%              | 3.0%                | 7.5%               |
| F                          | 15.0%              | 13.4%               | 0.0                |
| I                          | 0.0                | 0.0%                | 0.0                |
| W                          | 15.0%              | 17.2%               | 12.5%              |
| Total                      | 100.0%             | 100.0%              | 100.0%             |
|                            |                    |                     |                    |
| Pass-rate (A-C)            | <b>64.4</b> %      | <b>66.4</b> %       | <b>88</b> %        |
| Retention                  | 85.0%              | <b>82.8</b> %       | <b>87.</b> 5%      |
| Missing (unofficial drops) | 68.8%              | 43.7%               | 57.9%              |
| N                          | <i>64/</i> 436=15% | <b>238/</b> 667=36% | <i>9</i> 5/377=25% |

| Table 16. Assessment test Comparison – Math-095 |               |               |           |
|---|---------------|---------------|-----------|
| Grade   | Accuplacer    | Locally       | Compass   |
|   |               | Developed     |           |
| А   | 58.7%         | 10.3%         | *N/A      |
| В   | 13.0%         | 25.6%         | *N/A      |
| С   | 10.9%         | 23.1%         | *N/A      |
| D   | 2.2%          | 5.1%          | *N/A      |
| F   | 4.3%          | 2.6%          | *N/A      |
| Ι   | 0.0%          | 0.0%          | *N/A      |
| W   | 10.9%         | 33.3%         | *N/A      |
| Total   | 100.0%        | 100.0%        | *N/A      |
|   |               |               |           |
| Pass-rate (A-C)                                 | 82.6%         | <b>59.0</b> % | *N/A      |
| Retention                                       | <b>96.1</b> % | <b>66.7</b> % | *N/A      |
| Missing (unofficial drops)                      | 36            | 50            | *N/A      |
| N   | 82/436=19%    | 89/667=13%    | *4/377=1% |

| Table 16. Assessment test Comparison – Math-095 |               |                      |           |
|---|---------------|----------------------|-----------|
| Grade   | Accuplacer    | Locally<br>Developed | Compass   |
| Α   | 58.7%         | 10.3%                | *N/A      |
| В   | 13.0%         | 25.6%                | *N/A      |
| С   | 10.9%         | 23.1%                | *N/A      |
| D   | 2.2%          | 5.1%                 | *N/A      |
| F   | 4.3%          | 2.6%                 | *N/A      |
| I   | 0.0%          | 0.0%                 | *N/A      |
| W   | 10.9%         | 33.3%                | *N/A      |
| Total   | 100.0%        | 100.0%               | *N/A      |
| Pass-rate (A-C)                                 | <b>82.6</b> % | <b>59.0</b> %        | *N/A      |
| Retention                                       | <b>96.1</b> % | 81.4%                | *N/A      |
| Missing (unofficial drops)                      | 36            | 50                   | *N/A      |
| N   | 82/436=19%    | 89/667=13%           | *4/377=1% |

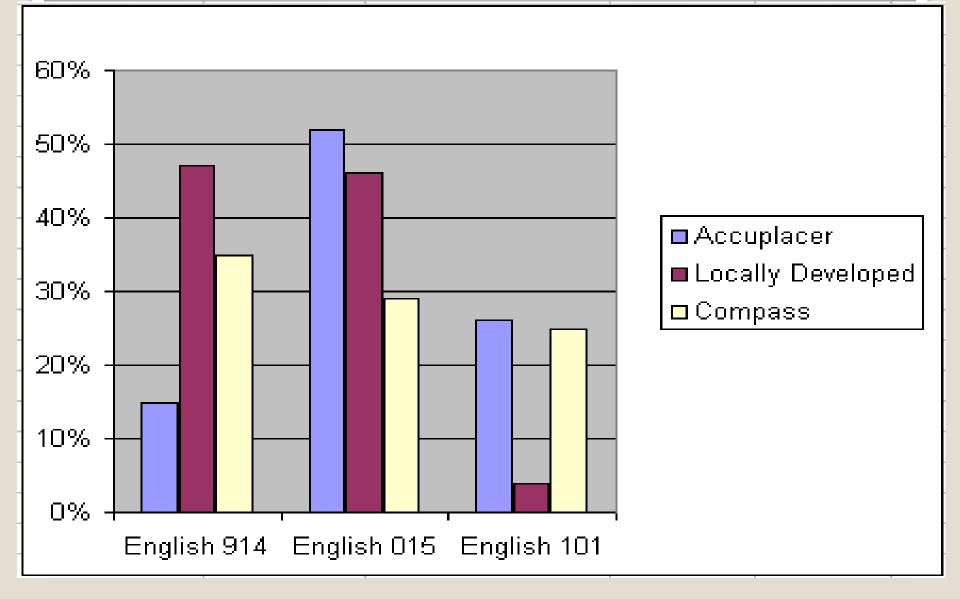
(\*) The N for this group is too small to analyze

| Table 17. Assessment test Comparison – Math-102 |            |                      |            |
|---|------------|----------------------|------------|
| Grade   | Accuplacer | Locally<br>Developed | Compass    |
| A   | 33.3       | 20.0                 | 0.0.0      |
| В   | 33.3       | 10.0                 | 20.0       |
| С   | 0.0        | 10.0                 | 40.0       |
| D   | 0.0        | 10.0                 | 0.0        |
| F   | 0.0        | 30.0                 | 40.0       |
| I   |            |                      |            |
| W   | 33.3       | 20.0                 | 61.5       |
| Total   | 100.0      | 100.0                | 100.0      |
| Pass-rate (A-C)                                 | 66.7       | 40.0                 | 60.0       |
| Retention                                       | 66.7       | 80.0                 | 39.5       |
| Missing (unofficial drops)                      | 3          | 17                   | 48         |
| Ν   | *12/436=3% | *27/667=4%           | *13/377=3% |

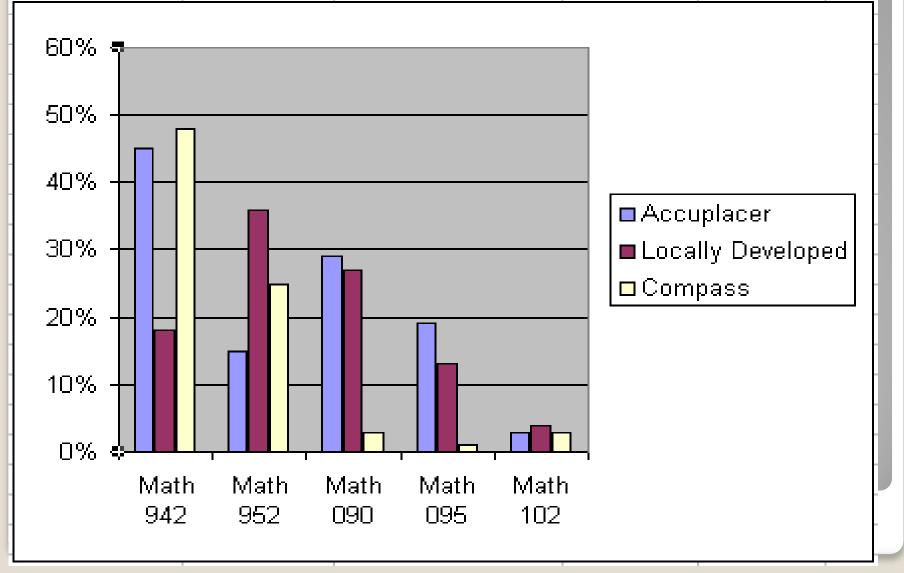
(\*) The N for this group is too small to analyze

### Placement Percentages by

### Course



# Placement Percentages by test



## Conclusion

- Placement and Prerequisite Survey Results
  - All tests demonstrated a minimum level of satisfaction with placement
  - English LDT showed a slightly higher level of agreement with the minimum level of placement
- Student performance measures
  - All tests meet minimum criteria
  - Overall, Accuplacer showed the strongest passrates and retention particularly for math