The Relationships between Illinois Basic Skills test results and ACT scores: Updated Analysis

Prepared by the Illinois Education Research Council
May 2012
Overview of Basic Skills Test Results
All BST-takers, 2010-11 (N = 15,215)
Includes data from multiple BST Attempts

- 10,444 (68.6%)
- 3,557 (23.4%)
- 1,017 (6.7%)
- 187 (1.2%)
- 10 (0.1%)
Results by Subtest

- BST: 58.8% Not Yet Passed, 28.2% Passed after Multiple Attempts, 13.0% Passed on First Attempt
- Reading: 41.0% Not Yet Passed, 49.7% Passed after Multiple Attempts, 9.3% Passed on First Attempt
- Math: 40.2% Not Yet Passed, 51.1% Passed after Multiple Attempts, 8.7% Passed on First Attempt
- Language Arts: 47.5% Not Yet Passed, 42.3% Passed after Multiple Attempts, 10.2% Passed on First Attempt
- Writing: 10.8% Not Yet Passed, 86.1% Passed on First Attempt

Legend:
- Blue: Not Yet Passed
- Light Green: Passed after Multiple Attempts
- Dark Green: Passed on First Attempt
Attempts and Pass Rates, Reading

- Attempt #1: 15,159 attempts, pass rate 50%
- Attempt #2: 3,223 attempts, pass rate 36%
- Attempt #3: 659 attempts, pass rate 32%
- Attempt #4: 82 attempts, pass rate 32%
- Attempt #5: 3 attempts, pass rate 0%
Attempts and Pass Rates, Writing

- Total attempts: 14,990
- Pass rate: 86%

Pass rates by attempt:
- Attempt 1: 66%
- Attempt 2: 61%
- Attempt 3: 100%
- Attempts 4 and 5: 0
## Proportion Failing on First Attempt Who Have Yet to Re-Take Exams

<table>
<thead>
<tr>
<th></th>
<th>N Failing on First Attempt</th>
<th>N Who have Yet to Re-take Failed Exam</th>
<th>% Who Have Yet to Re-take Failed Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>7,594</td>
<td>4,371</td>
<td>58%</td>
</tr>
<tr>
<td>Language Arts</td>
<td>8,113</td>
<td>4,429</td>
<td>55%</td>
</tr>
<tr>
<td>Math</td>
<td>7,359</td>
<td>4,360</td>
<td>59%</td>
</tr>
<tr>
<td>Writing</td>
<td>1,895</td>
<td>1,302</td>
<td>69%</td>
</tr>
</tbody>
</table>
Number of subtests passed
(including multiple attempts)

- 41.2% Passed All BST
- 14.7% Passed Three Subtests
- 14.7% Passed Two Subtests
- 22.3% Passed One Subtest
- 7.2% Passed None
- None
Number of subtests passed
(including multiple attempts)

- Passed Just One Subtest: 22.3%
- Did Not Pass Any: 7.2%
- Passed Just Language Arts: 0.3%
- Passed Just Math: 1.3%
- Passed Two Subtests: 14.7%
- Passed Three Subtests: 14.6%
- Passed All: 41.2%
- Passed Just Writing: 20.1%
Number of subtests passed
(including multiple attempts)

- Passed All: 41.2%
- Passed One Subtest: 22.3%
- Passed Three Subtests: 14.6%
- Passed Two Subtests: 14.7%
- Did Not Pass Any: 7.2%

- 6.3% Math + Writing
- 2.4% Language Arts + Writing
- 0.3% Reading + Language Arts
- 0.5% Reading + Math
- 5.0% Reading + Writing
- 0.2% Language Arts + Math
Number of subtests passed (including multiple attempts)

- Passed All: 41.2%
- Passed Three Subtests: 14.6%
- Passed Two Subtests: 14.7%
- Passed One Subtest: 22.3%
- Did Not Pass Any: 7.2%
- 0.5% All but Writing
- 3.2% All but Reading
- 4.3% All but Math
- 6.6% All but Language Arts
Comparison of Basic Skills and ACT Results

Our Sample: Took 2010-11 BST & matched to ACT scores within the past 10 years (N= 6,496)

- All Four Subtests: 43.9% (All BST-takers) vs. 41.2% (Our Sample)
- Writing: 92.5% (All BST-takers) vs. 89.2% (Our Sample)
- Reading: 61.7% (All BST-takers) vs. 59.0% (Our Sample)
- Math: 64.6% (All BST-takers) vs. 59.8% (Our Sample)
- Language Arts: 55.0% (All BST-takers) vs. 52.5% (Our Sample)
Distribution of ACT composite scores for our sample

Mean = 22.35
Std. Dev. = 4.454
N = 6,496
Distribution of BST Results by ACT composite score

- Blue bars: Not Yet Passed
- Green bars: Passed on First Attempt
- Light green bars: Passed after Multiple Attempts

ACT Composite

Count
Proportion passing BST by ACT composite score

BST Results
- Passed after Multiple Attempts
- Passed on First Attempt

ACT Composite
Proportion passing BST Reading, by ACT Reading score

Result
- Passed after Multiple Attempts
- Passed on First Attempt

ACT Reading

Count

0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50% 55% 60% 65% 70% 75% 80% 85% 90% 95% 100%

6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
Proportion passing BST Language Arts, by ACT Language Arts Score

Result
- Passed after Multiple Attempts
- Passed on First Attempt

ACT Language Arts

Count

0% 14% 2% 10% 15% 15% 25% 35% 40% 55% 68% 78% 92% 94% 95% 96% 98% 99% 100%
0% 0% 0% 0% 0% 2% 4% 6% 8% 10% 11% 12% 13% 14% 15% 23% 49% 88% 91% 97% 100%
0% 0% 0% 0% 0% 2% 4% 6% 8% 10% 15% 25% 35% 44% 61% 85% 96% 99% 100%

0% 0% 0% 0% 2% 4% 6% 8% 10% 11% 12% 13% 14% 15% 23% 49% 88% 91% 97% 100%

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
Proportion passing BST Math, by ACT Math score
Average ACT composite and subscale scores by BST status

<table>
<thead>
<tr>
<th></th>
<th>All BST-takers</th>
<th>Did Not Pass BST</th>
<th>Passed BST</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACT Composite</strong></td>
<td>22.35</td>
<td>20.02</td>
<td>25.32</td>
</tr>
<tr>
<td><strong>ACT English</strong></td>
<td>22.70</td>
<td>20.05</td>
<td>26.07</td>
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<tr>
<td><strong>ACT Math</strong></td>
<td>21.91</td>
<td>19.62</td>
<td>24.83</td>
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<tr>
<td><strong>ACT Reading</strong></td>
<td>22.61</td>
<td>20.02</td>
<td>25.91</td>
</tr>
<tr>
<td><strong>Percentage</strong></td>
<td>100.0%</td>
<td>58.8%</td>
<td>41.2%</td>
</tr>
</tbody>
</table>
Comparison of ACT composite scores for selected groups

Group

ACT Composite

- Bottom Third Teachers (upper bound, 2006)
  - 19.0

- Did Not Pass BST (including multiple attempts, 2010-11)
  - 20.0

- Did Not Pass BST (first attempt, 2010-11)
  - 20.6

- Bottom Third 4Y College-Goers (upper bound, 2003 cohort)
  - 21.0

- All Illinois Teachers (2006)
  - 21.6

- College-Ready Benchmark
  - 22.0

- Our Full Sample of BST-Takers (with ACT scores within last 10 years)
  - 22.4

- Top Third Teachers (lower bound, 2006)
  - 23.0

- Passed BST (including multiple attempts, 2010-11)
  - 25.3

- Top Third 4Y College-Goers (lower bound, 2003 cohort)
  - 26.0

- Passed BST (first attempt, 2010-11)
  - 26.6
Proportion passing each BST subtest by ACT college readiness status

College Readiness Status

<table>
<thead>
<tr>
<th></th>
<th>No (ACT &lt;22)</th>
<th></th>
<th>Yes (ACT ≥22)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>84.3%</td>
<td>73.2%</td>
<td>33.3%</td>
<td>22.3%</td>
</tr>
<tr>
<td>Not Yet Passed</td>
<td>11.5%</td>
<td>12.0%</td>
<td>17.0%</td>
<td>11.6%</td>
</tr>
<tr>
<td>Passed after Multiple Attempts</td>
<td>14.5%</td>
<td>24.6%</td>
<td>49.6%</td>
<td>66.1%</td>
</tr>
<tr>
<td>Passed on First Attempt</td>
<td>4.2%</td>
<td>21.4%</td>
<td>21.4%</td>
<td>79.6%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>95.9%</td>
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</tbody>
</table>

Result

- Not Yet Passed
- Passed after Multiple Attempts
- Passed on First Attempt
Average number of BST subtests passed by ACT college readiness status

<table>
<thead>
<tr>
<th>College Ready?</th>
<th>Mean Number of Subtests Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>No (ACT &lt; 22)</td>
<td>1.44</td>
</tr>
<tr>
<td>Yes (ACT ≥ 22)</td>
<td>3.17</td>
</tr>
</tbody>
</table>

Status

- Allowing Multiple
- First Attempt
## ACT Score x BST Score Correlation Matrix

<table>
<thead>
<tr>
<th>First BST Attempt</th>
<th>Highest BST</th>
<th>ACT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reading</td>
<td>Math</td>
</tr>
<tr>
<td>Reading</td>
<td>.912**</td>
<td>.606**</td>
</tr>
<tr>
<td>Lang Arts</td>
<td>.678**</td>
<td>.606**</td>
</tr>
<tr>
<td>Math</td>
<td>.617**</td>
<td>.930**</td>
</tr>
<tr>
<td>Writing</td>
<td>.427**</td>
<td>.388**</td>
</tr>
</tbody>
</table>

| ACT               |             |             |             |          |          |            |             |             |
| English           | .642**      | .605**      | .676**      | .454**   | 1.000   | .701**    | .769**      | .904**      |
| Math              | .546**      | .732**      | .553**      | .366**   | .701**  | 1.000     | .617**      | .861**      |
| Reading           | .624**      | .537**      | .597**      | .405**   | .769**  | .617**    | 1.000       | .881**      |
| Composite         | .670**      | .701**      | .674**      | .450**   | .904**  | .861**    | .881**      | 1.000       |

**Correlation is significant at the 0.01 level (1-tailed)
ACT Reading by Highest BST Reading

- College Ready Did Not Pass BST: 13%
- Not College Ready Did Not Pass BST: 26%
- Not College Ready Passed BST: 12%
- College Ready Passed BST: 50%

Scale:
- 70
- 60
- 50
- 40
- 30
- 20
- 10
- 0
ACT composite by number of BST subtests passed (including multiple BST attempts)

College Ready Did Not Pass BST 19%

Not College Ready Did Not Pass BST 38%

College Ready Passed BST 37%

Not College Ready Passed BST 7%
Questions or comments?

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