What to Consider When Setting the Pass Point on Hiring Examinations

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What to consider when setting the pass point on hiring examinations

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Overview

- What are pass points and why are they important?
- The Uniform Guidelines, professional standards, and pass points
- Methods of calculating pass points
- The Angoff Method
- The Modified Angoff Method
- Conclusion
What is a pass point and why is it important?
What is a pass point?

• Also called a:
  – Cut Point
  – Cutoff Score

• The point that differentiates those that can do the job from those that cannot.
Why are pass points important?

- Screen out unqualified applicants
- Reduce candidate pool
- Reduce adverse impact
- Limit legal exposure
- Save time and money
The goal of a pass point is to:

• Establish minimal competence required for success
• Determine who will continue in the selection process
• Provide a rational and reasonable expectation of proficiency
The Uniform Guidelines, Professional Standards, and Pass Points
Cutoff Scores - Where cutoff scores are used, they should normally be set so as to be reasonable and consistent with normal expectations of acceptable proficiency within the work force.
Standards for Educational and Psychological Testing

Standard 4.19

“When proposed score interpretations involve one or more cut scores, the rationale and procedures used for establishing cut scores should be clearly documented and defensible.”
Lanning vs. SEPTA (2002)

• PAT for a law enforcement position.
• The Court noted that while the test may have disparate impact against women, evidence indicated it was an appropriate level for the entry level position.
• The Court’s decision stated that a pass point must be set so the “minimally qualified” individuals pass it—this is a significantly lower threshold than many employers would like to use.
Legal Requirements in Setting Pass Points

There is no single approach accepted or required by the courts in setting pass points – they must be based on a rationale relative to job performance requirements.
Methods of Calculating Pass Points
Most Recognized Methods

- The “Traditional Pass Point Method
- Nedelsky Method
- Ebel
- Angoff Method
- Modified Angoff Method
Traditional Pass Points

• 70%

• This method is very common in organizations who have little expertise or have not (yet) been sued for employment discrimination

• Problems with this approach:
  – Completely arbitrary
  – Will not necessarily screen in/out the appropriate applicants
  – Not defensible
The Concept of **Minimal Acceptable Competence (MAC)**

- The level of skill or ability that is possessed by the “barely acceptable applicant”
- These are the people who can perform the job at a minimally acceptable level—but no more
- This concept is often difficult for SMEs to get their minds around initially
- All legally defensible pass points are intended to identify the test score associated with this minimum level of competence
The Angoff Method
Angoff Method

• Can be used for exams that contain a wide variety of items.
  – Multiple choice
  – Fill-in-the-blank
  – Short answer
  – True-false
Pass Point Setting Best Practices

1. Utilize 7-12 SMEs
2. Provide job analysis results; specifically the KSAs being assessed
3. Provide a copy of the examination
4. Review the mechanics of the examination
5. Clarify the intent when defining a minimally acceptable applicant
Steps for calculating and Angoff Pass Point

• Ensure the SMEs who are familiar with the requirements of the job
• SMEs review each test item and identify the probability that a minimally acceptable candidate would answer the item correctly
• Ratings for each item are averaged across SMEs
• Averaged item ratings are then averaged across the entire test
The primary question:

• Looking at item X, out of 100% of minimally qualified applicants, what percent would answer this item correctly?

• Suppose you have 100 minimally qualified applicants, about how many do you feel will answer this item correctly?
Example

<table>
<thead>
<tr>
<th>Item #</th>
<th>SME 1</th>
<th>SME 2</th>
<th>SME 3</th>
<th>SME 4</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>70</td>
<td>65</td>
<td>75</td>
<td>70</td>
<td>70.25</td>
</tr>
<tr>
<td>2</td>
<td>45</td>
<td>53</td>
<td>40</td>
<td>47</td>
<td>46.25</td>
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<tr>
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<td>5</td>
<td>79</td>
<td>65</td>
<td>76</td>
<td>77</td>
<td>74.25</td>
</tr>
</tbody>
</table>

**Pass Point**: 67
Angoff Method

Angoff Method is preferred because:

• It’s easily understandable by SMEs.
• Applicants can be convinced of it’s validity.
• Courts have regularly endorsed it.
Some Pass Point Setting Best Practices

• SMEs will provide their ratings (e.g. probability, relevance, difficulty) based on a thorough understanding of the requirements of the job.

• Group discussion – share ratings, debate them.

• Check for outliers.
The Modified Angoff Method
The Standard Error of Measurement (SEM)

• SEM is an estimate of error.

• A test score is an estimate of a person’s “true” test performance.
  – If a single examinee were to take the same test repeatedly (with no new learning taking place between testing and no memory of question effects), the average deviations of his/her repeated test scores is the SEM.
SEM Formula

- The SEM not only indicates how accurate your test is, but can be used to adjust your pass point based on that accuracy.
- SEM is provided on the standard item analysis report!! And it is expressed in the same units as the test scores.

\[
SEM = SD \sqrt{1 - \alpha}
\]

\[\alpha = \text{Reliability of the test}\]

Reducing your pass point by 1, 2 or 3 SEMs takes into account the fact that there is error in the test scores.
SEM Example

100 item test (one point each)
Pass point: 64
SEM: 3

• Dropping the pass point one SEM would change the passing score to 61.
• Remember, the smaller your SEM, the more confident you can be that you have captured the candidate’s true score.
SEM Key Points

• SEMs are expressed in the same units as test scores, provides direct information about how accurate the measurement is

• The decision to use 1, 2, or 3 SEMs below the average should be based on a variety of statistical, human, and other factors

• As the reliability of a test increases, the SEM decreases

• The smaller the SEM, the more confidence you can place in a candidate’s score
Considerations When Setting Pass Points
Test Validity

• Depends not only on the validity of the test's content, but also on the validity of the score selected as the passing, or cut-off, score.

• To maximize validity, preliminary pass points should be set with SMEs before exam administration; the final pass point/cut-score should be set once applicants have taken the exam.
  – Review performance
  – Monitor Adverse Impact

• This is particularly true when selection ratios are small (i.e., organization is very selective).
Reliability

The extent to which an exam is a consistent and accurate measurement of what it says it measures.

• An applicant’s score on a reliable exam will allow the analyst to accurately predict a second score by that same applicant. That is, the scores should be consistent, or relatively similar.

• Increased exam reliability = increased pass point accuracy.
Banding & Ranking

Banding
• Distributional method for grouping individuals into similar ability groups.
• Takes into account that error exists in test results.

Ranking
• Candidates’ placement on lists is based on their performance on an exam.
Exam Statistics

Conduct Post-Administration Analyses following a pilot test and/or following exam administration.

• Item-Level Analyses
  – Point Biserials
  – Item difficulty
  – Differential Item Functioning
CONCLUSIÓN
Parting Thoughts

• Valid pass points help to identify applicants likely to be successful on the job
• When set appropriately, they can provide a solid defense against some claims of hiring discrimination
• The Angoff and Modified Angoff are generally accepted by the courts as valid pass point setting methods
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