

# Testing Accommodations for Students with Disabilities

Benjamin J. Lovett, Ph.D.

# Learning Objectives

1

Describe common testing accommodations and contrast them with other test features and alterations.

2

Explain how appropriate accommodations reduce construct-irrelevant variance and increase fairness.

3

Apply Phillips's 5-question model to determine when accommodations are appropriate.

4

Describe best practices in accommodations and current common problems in practice.

5

Describe future directions in testing accommodations, particularly needed research.

# Experiences in the module

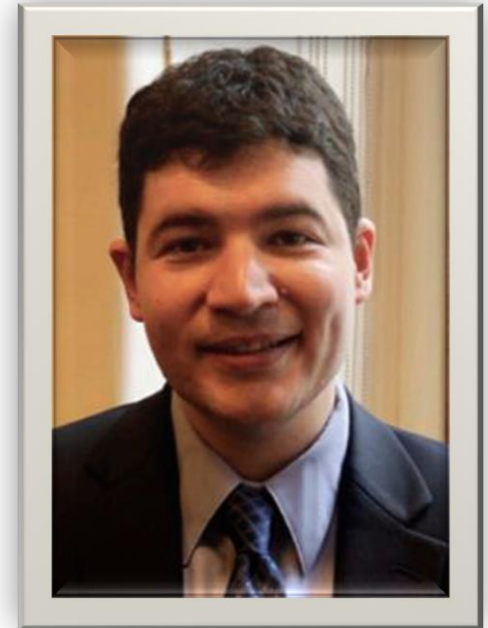
- 4 sections of content
- Exercises
  - Selected-response items
  - 2 sample accommodations cases
- Consider other ITEMS modules
  - E.g., Digital module #15 – Accessibility of Educational Assessments



# About the Author

## **Benjamin J. Lovett, Ph.D.**

- Associate Professor of Psychology and Education, Teachers College, Columbia University
- Teaches courses on assessment and measurement (and other topics) for school psychologists
- Research on diagnostic assessment of learning and attention problems; testing accommodations; and test anxiety
- Author of several books, including *Testing Accommodations for Students with Disabilities* (2015)
- Consultant psychologist to testing companies and schools



# Introduction to Testing Accommodations

1

# Section Learning Objectives

1

## Introduction to Testing Accommodations

Define testing accommodations and give examples of different types.

Contrast accommodations with alternate assessments, comfort measures, and universal design features.

Provide an overview of best practices in accommodation usage.

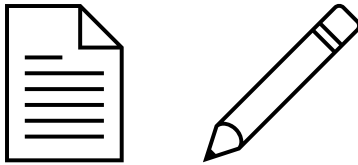
Describe several common problems with current accommodations practices.

# What are Testing Accommodations?

- Changes to the administration of a test that do not change the test content
- Their goal is to increase the validity of inferences regarding an examinee's levels of skills and/or other traits
- Often provided to students with disabilities or those who are not entirely fluent in the language of the test

# Accommodation Examples

High school student with a significant visual impairment



Exam in a U.S. History class

- Inferences about the student's history knowledge

→ School provides a test reader for student

A law school graduate with a traumatic brain injury that led to motor control problems



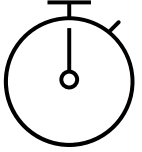
Bar exam

- Inferences about the examinee's qualifications for practicing law

→ State law board provides a laptop accommodation

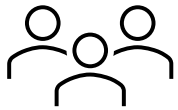


# Types of Accommodations (& Examples)



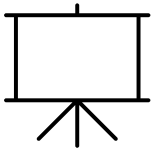
## Timing and Scheduling

- Additional testing time, breaks during test, tests scheduled in morning



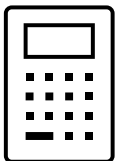
## Setting

- Small group, private room, seat close to teacher/proctor



## Presentation

- Tests read aloud, large print, Braille format



## Response format

- Access to calculator, access to scribe, access to laptop computer

# Accommodations and Modifications

- The 2014 *Standards for Educational and Psychological Testing* distinguishes between “accommodations” and “modifications”.
  - “Accommodations” maintain score comparability; “modifications” do not.
- The theoretical distinction is meaningful, but in practice, it is often unclear or unknown whether score comparability is maintained.
  - Therefore, this ITEMS module uses *accommodations* for both; it is always an empirical question whether score comparability is maintained, to what degree, and in what ways.

# Accommodations and Alternate Assessments

- Students in K-12 schools with significant cognitive disabilities often receive *alternate assessments*, in which test content is deliberately changed, and responses are often scored based on different standards.
- In contrast, accommodations only alter the administration conditions of a test.
- Alternate assessments are only available under special education laws; they are not required under disability discrimination laws.

# Accommodations and Comfort Measures

- Comfort measures involve changing test administration conditions to reduce discomfort during testing, when such changes are not needed for access to the test.



- Comfort measures are at the discretion of test administrators.

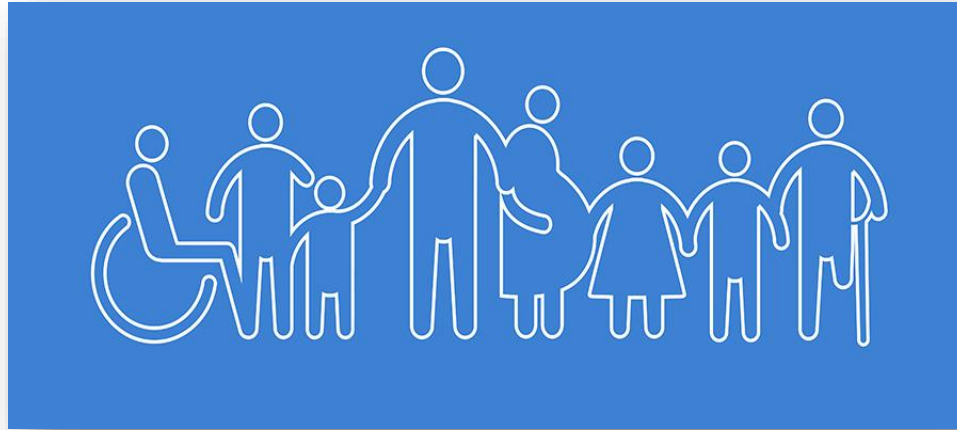
# Accommodations and Universal Design

## Universal Design (UD) Principles

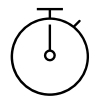


Ensure that tests...

- Are usable by people with diverse abilities
- Can be adjusted to a wide range of preferences and needs
- Require no cognitive or physical effort beyond what is necessary
- Have a high “tolerance for error” – can accommodate unusual situations

# Accommodations and Universal Design



## Examples of UD Principles in Action

-  Making generous time limits when speed is not part of the target construct
-  Presenting test items and instructions in multiple sensory modalities
-  Permitting multiple ways of responding to test items where possible

# Accommodations and Universal Design

- UD leaves many issues unaddressed
  - Some examinees will still need nonstandard (“manual”) accommodations
  - Efforts at UD can inadvertently make tests easier in inappropriate ways
- Individualized decisions about accommodations will remain common

# Best Practices in Accommodations: An Overview

1. Use UD principles appropriately in test design.
2. Develop procedures for implementing common accommodations when appropriate.
- 3. Review individual cases for accommodation needs, focusing on limitations in functional test access skills.
- 4. Ensure that proposed accommodations will not negatively affect validity of inferences.
- 5. Monitor accommodation usage; collect and analyze data on accommodation-related test phenomena.



# The Status Quo in Accommodations

Problems with current accommodations practices:

1. Many “accommodations” are actually comfort measures.

Example: some cases of test anxiety



# The Status Quo in Accommodations

Problems with current accommodations practices:

2. Testing entities often do not conduct sufficient research on accommodation provision, usage, and effects.



# The Status Quo in Accommodations

Problems with current accommodations practices:

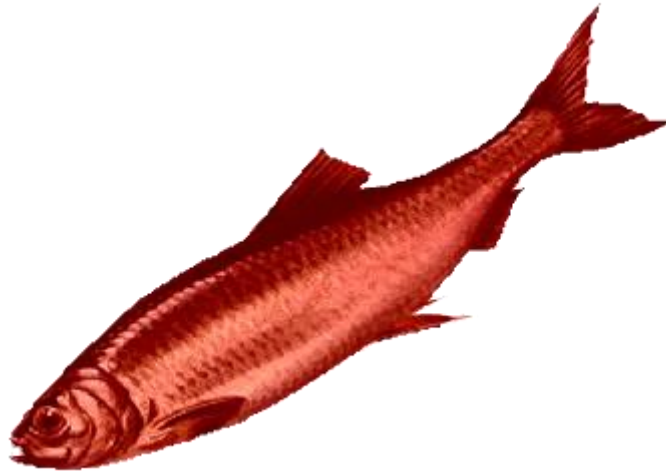
3. Test administrators in educational settings implement accommodations inconsistently.



# The Status Quo in Accommodations

Problems with current accommodations practices:

4. Validity issues are often not addressed by accommodation decision makers, who focus on factors that are not directly relevant.



(a “red herring”)

# Why Testing Accommodations?

2

# Section Learning Objectives

2

## Why Testing Accommodations?

Define and apply the distinction between target skills and access skills.

Describe how testing accommodations can affect construct-irrelevant variance and fairness in assessment.

Describe and apply a typical legal framework for providing testing accommodations.

Explain several concerns about the possible misuse of testing accommodations.

# Target Skills and Access Skills

- Doing well on a cognitive test requires two types of skills
  - Target skills: what a test is designed to measure
  - Access skills: what you need to participate meaningfully in testing
- Access skills are based on malleable requirements of the testing situation.

# Target Skills and Access Skills: An Example

**Target** skills on an exam in a psychometrics class – Students can:

- Explain and apply the formula in classical test theory,  $X = T + E$ .
- Describe different reliability coefficients and what sources of error they address.
- Calculate the standard error of measurement using a provided reliability coefficient and  $SD_X$ .
- Calculate confidence intervals around a test score using the standard error of measurement.

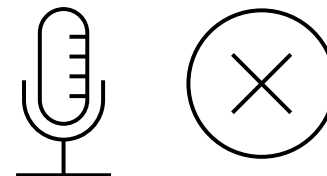
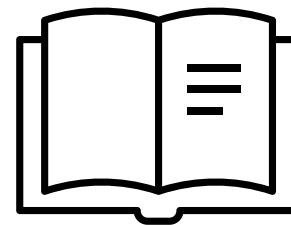
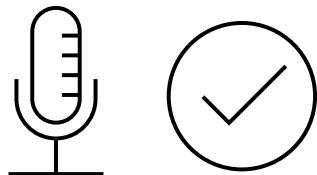
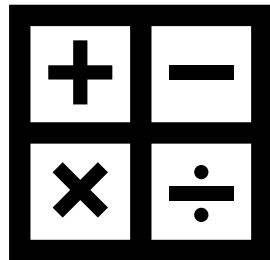
**Access** skills on an exam in a psychometrics class – Students can:

- See and read the exam items and instructions.
- Maintain sufficient attention throughout the entire exam time period.
- Use a #2 pencil to fill in circles on a Scantron sheet without drawing outside the circles.
- Recall learned information under time pressure and within a limited amount of time.



# Target Skills and Access Skills

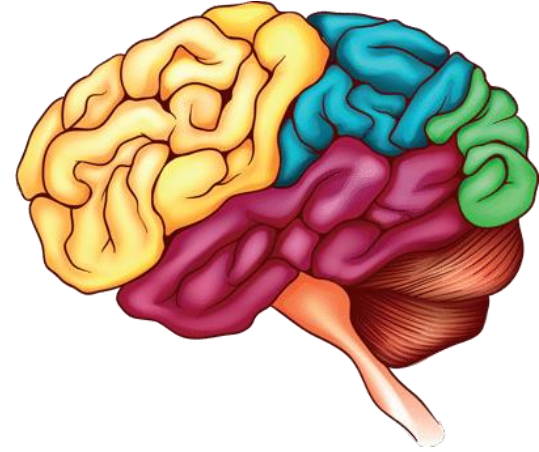
- Accommodations should address **access** skill deficits
- Accommodations should NOT be used to address target skill deficits.



# Typical Access Skill Deficit Areas

## Neuropsychological model of skills

- Sensory functioning
- Attention
- Memory
- Executive functioning
- Motor output



## Academic skills

- Reading: decoding, comprehension, fluency
- Mathematics: calculation, application, fluency
- Writing: spelling, composition, fluency



# Access Skills and Construct-Irrelevant Variance

## Construct-irrelevant variance (CIV)

- Variability in test scores due to factors other than the constructs of interest

Disability-related access skill deficits are one potential CIV source

→ validity threats for all students, particularly on norm-referenced tests

**Appropriate** accommodations help to address this CIV...

...but inappropriate accommodations can *introduce* more CIV!

# Fairness, Equity, and Accommodations

Facets of fairness (in the Joint *Standards*)

- Fairness in treatment during the testing process
- Fairness as lack of measurement bias
- Fairness as validity of individual test score interpretations
- Fairness in access to the constructs as measured

Appropriate accommodations can improve all aspects of fairness

# Fairness, Equity, and Accommodations



- Equity of opportunity vs. equity of outcomes
- Appropriate accommodations will, by definition, increase equity of opportunity across students with and without disabilities.
- Since disability-related factors typically cause systematic measurement error in a single direction (i.e., lowering scores), accommodations will tend to increase equity of outcomes as well.

# Legal Frameworks for Accommodations

- The United States as an example
- The *Americans with Disabilities Act* (ADA, 1990, 2008)
  - Disability – an “impairment” that “substantially limits” a major life activity
  - The “general population” as a comparison standard
  - “Reasonable accommodations” as needed to prevent discrimination on the basis of a disability
  - “Access” rather than success as a criterion
  - Accommodations should not be “fundamental alterations”

# Concerns about Accommodations

## 1. Breaking standardized administration conditions

- What's a "standardized" test?
- Standardized administration acts as an aspect of fairness in all testing
- Implications of breaking standardization:
  - For norm-referenced score interpretations 
  - For criterion-referenced score interpretations 
- ∴ Standardization should be the default; there should be specific evidence of need before providing an accommodation.

# Concerns about Accommodations

## 2. Who Receives Accommodations?

- Empirical research findings about socioeconomic status and accommodations
- Implications for equity and fairness



# From *The New York Times* (July 2019)

“Need Extra Time on Tests? It Helps to Have Cash”

<b>School Income Level</b>	<b>% of Students with a Section 504 Accommodation Plan</b>
Top 1%	5.8
Middle 20%	2.3
Bottom 1%	1.5

Goldstein, D., & Patel, J. K. (2019, July 30). Need Extra Time on Tests? It Helps to Have Cash. *The New York Times*.  
<https://www.nytimes.com/2019/07/30/us/extra-time-504-sat-act.html>

# Concerns about Accommodations

## 2. Who Receives Accommodations?

- Empirical research findings about socioeconomic status and accommodations
- Implications for equity and fairness
- ∴ Testing entities should ensure equal access to information about accommodations and the process for seeking them, and rigorously review accommodation proposals/requests.

# Concerns about Accommodations

## 3. Consider *interventions* instead

- Many disability-related deficits are responsive to interventions
  - E.g., academic skill remediation, medication, psychotherapy, etc.
- Accommodations are typically logistically easier than interventions, making them more attractive.
  - But the long-term goals of independence and autonomy are sometimes better served by interventions.
- ∴ Educational entities should consider interventions before or alongside accommodations.

# A Framework for Decision-Making: Phillips's 5 Questions

A series of vertical bars of varying heights and colors (maroon, gold, and light maroon) on the left side of the slide.

3

A large maroon circle with a gold number 3 in the center.

### 3

## A Framework for Decision-Making: Phillips's 5 Questions

# Section Learning Objectives

Describe potential effects of accommodations on a test's psychometric characteristics.

Interpret data on differential benefit of accommodations (across students with different disability statuses).

Decompose test item demands into various response processes and identify which ones are construct-relevant.

Describe features that make accommodation decision-making procedures more or less reliable.

# S. E. Phillips (1994)

Phillips, S. E. (1994). High-Stakes Testing Accommodations: Validity Versus Disabled Rights. *Applied Measurement in Education*, 7(2), 93–120. [https://doi.org/10.1207/s15324818ame0702\\_1](https://doi.org/10.1207/s15324818ame0702_1)

Copyright © 1994, Lawrence Erlbaum Associates, Inc.

## High-Stakes Testing Accommodations: Validity Versus Disabled Rights

S. E. Phillips  
*Michigan State University*

Traditionally, measurement specialists have provided testing accommodations for examinees with physical disabilities such as blindness or impaired mobility. Following passage of the Americans with Disabilities Act of 1990, advocates for the disabled have argued that federal law also requires testing accommodations for mental disabilities such as dyslexia and other learning disabilities. Such requested accommodations have included readers, calculators, word processors, and additional time. But these accommodations may affect test validity, requiring measurement specialists to balance the social goal of integrating the disabled against the measurement goal of accurate test score interpretation. Although the courts have provided some guidance regarding testing accommodation requirements for the disabled, they have not yet addressed the issue of where to draw the line on accommodations for mental disabilities.

This article explores the measurement problems associated with granting accommodations for mental disabilities, uses existing case law to construct a legal framework for considering such accommodations, and discusses the advantages and disadvantages of alternative strategies for handling testing accommodation requests. Key questions that must be addressed by measurement specialists include: Why are accommodations for mental disabilities more problematic than those for physical disabilities? What are the characteristics of a valid accommodation? What are the legal standards for denying a requested test accommodation? What alternative policies are available to measurement specialists when responding to testing accommodation requests?

In recent years, concern for the treatment of the disabled has become a national issue. In 1992, the Americans with Disabilities Act (ADA, 1990) became effective and imposed on private entities the same requirements for dealing with the disabled as Section 504 of the Rehabilitation Act (1973) had

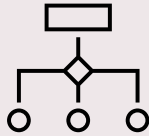
- Outlined 5 questions to be asked before deciding to break standardization and provide an accommodation
- This module uses updated versions of these questions

1

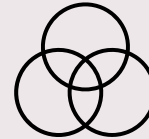
# Will the accommodation change the psychometric properties of the test?

$\alpha$

Reliability



Factor structure



Criterion-related  
validity



Item functioning

## Will the accommodation compromise measurement of target skills?

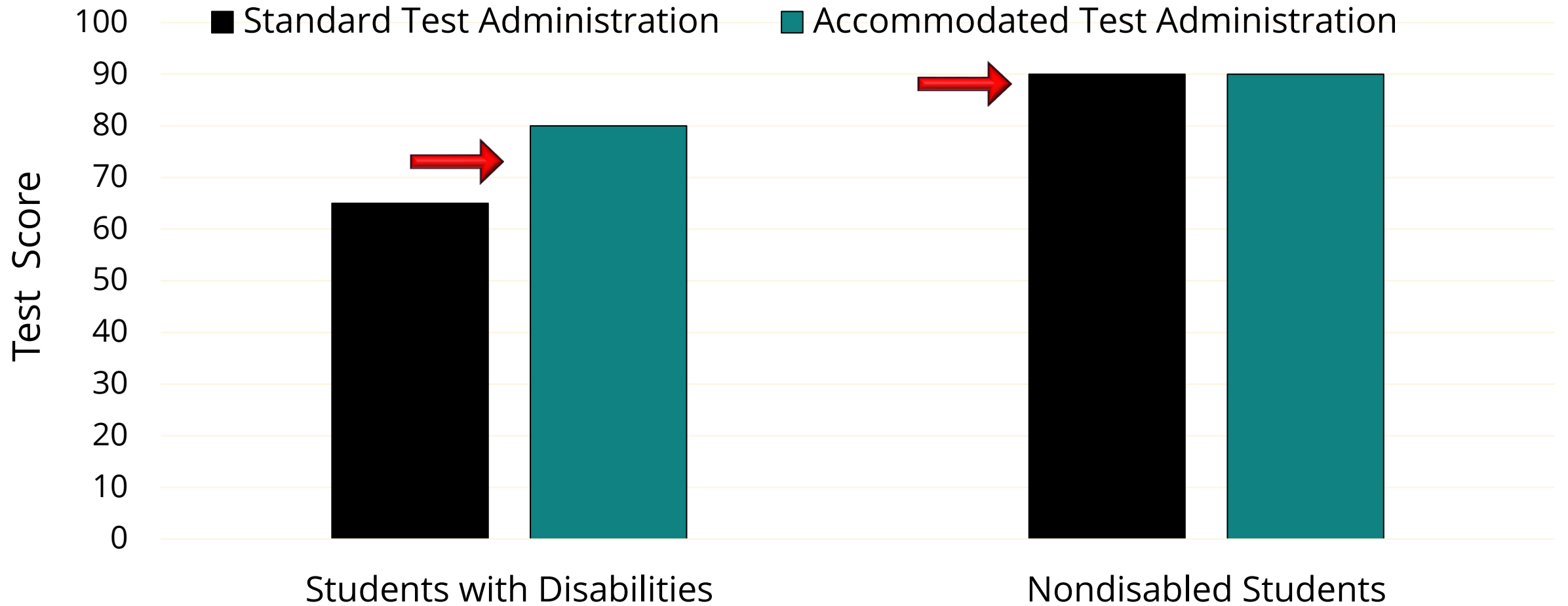
- The importance of test construct definition
- Breaking up test tasks into component response processes
- Seeking information from test developers *and score users*



## Would the accommodation boost the performance of nondisabled students?

- The importance of specificity of benefit
- The “interaction hypothesis” and accommodation effects

## An Interaction between Disability Status and Accommodation Effects



## Would the accommodation boost the performance of nondisabled students?

- The importance of specificity of benefit
- The “interaction hypothesis” and accommodation effects
- If benefits are more general, return to Question #2 or consider making the accommodation a universal design element.

## Can students with disabilities adapt to standard test administration conditions?

- Accommodations are for need, not for comfort
- The case for maturation and resilience
- Remediation, medication, and other interventions

- What standards for disability are being used?
- What are the standards for accommodation needs?

# Applying the 5-Questions Model: An Example

A student is applying for an extended time accommodation on a certification test for a health care profession.

Question	Evidence to be Sought in Answering Question
1	Examine research on score comparability of standard vs. extended time administrations of the test or similar tests.
2	Speak to content experts, score users, etc., about whether speed is part of the target skill constructs.
3	Examine research on the benefits of extended time for students with <i>and without</i> disabilities on this test or similar tests.
4	Review student's disability documentation to determine the evidence for extended time as a <i>need</i> versus a preference.
5	Examine standards for documenting disability diagnosis and accommodations needs, as well as the protocol for reviewing documentation.

# Future Directions in Testing Accommodations

# Section Learning Objectives

4

## Future Directions in Testing Accommodations

Describe the tension between test access features and generalization to other situations.

Apply an “interventions first” strategy of improving examinees’ test access.

Discuss ways of addressing test-related anxiety and its resulting pressure for accommodations.

Describe several areas of needed research related to testing accommodations.



# Tension Between Access and Generalizability



- Accommodations can keep test performance from generalizing to other situations where accommodations are not available/relevant.
  - An issue for Universal Design principles as well
- E.g., Test scores and future occupational performance
- “Flagging” scores as a (problematic) solution



# Managing Test-Related Anxiety

- High stakes can motivate, but also cause anxiety
- Anxiety-performance relationships are modest, but still lead to pressure for accommodations
- General solutions:
  - Interventions for examinees with anxiety – therapy procedures, etc.
  - Publicizing information about test anxiety
  - Addressing societal/environmental pressure for performance

# The Courage to Change

- When working in educational settings with students who have disabilities, a key question is whether the disability-related access skill deficits can be changed.
  - Yes? → Intervention
  - No? → Accommodation
- Adopting an “interventions first” approach to facilitate independence and autonomy
  - It requires some courage!

# Needed Research

- Research on accommodations eligibility, use, and effects that is specific to different:
  - Tests
  - Disability types
  - Accommodations
- Intervention research that looks specifically at accommodation benefits as a dependent variable
- Research on the value of different data sources (including examinee reports) in predicting accommodation appropriateness

You have reached the end of this section

Lovett, B. J. (2023). Testing accommodations for students with disabilities [Digital ITEMS Module 31]. *Educational Measurement: Issues and Practice*, 42(1), 112-113.