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# THE LATEST RESEARCH ON EQUITABLE IDENTIFICATION OF GIFTED CHILDREN

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## Background Research: "The Lay of the Land"

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## Achievement Gaps--What Do We Know?

- Racial and SES gaps are long standing--since NAEP began in 1990s
- Race and SES make independent contributions to gaps (e.g. Some of the largest gaps are between high income Blacks and high income Whites!!!!)
- Degree and persistence of poverty matters—widens gaps
- Gaps start early--by Kindergarten and are evident in math, reading and science
- Gaps continue throughout all levels of schooling--into higher education

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## WHAT IS THE PICTURE FOR HIGHER ACHIEVING STUDENTS?

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## Excellence Gaps--What Do We Know?

- Low income and minority children are much less likely to perform at advanced levels of proficiency than their white or advantaged peers (Plucker, Burroughs & Song, 2008: Plucker, Hardesty & Burroughts, 2014; Plucker & Peters, 2017).
- Excellence gaps continue to grow between grades 3 and 8, especially in math.
- Minority achievement gaps widen at a greater rate (2X as much) between K to grade 5 for higher achieving students than for low achieving students (Reardon, 2008).

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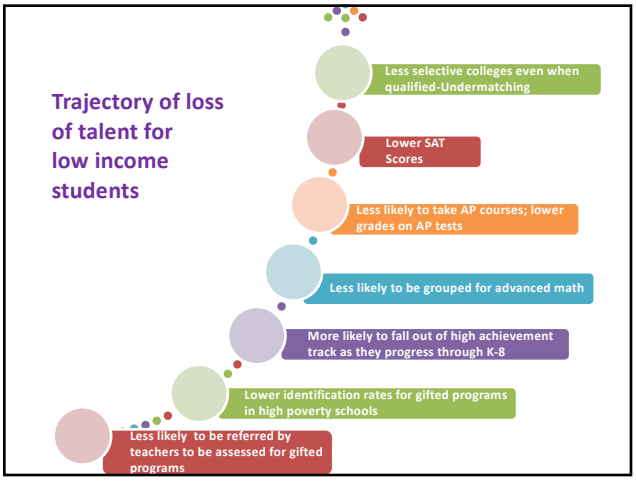


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## WHY???

- Primary Culprit
  - **Opportunities to learn** that differ both between schools and also WITHIN schools (Schmidt, Burroughs, Zoido & Houang, 2015)

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## Aspects of Opportunity to Learn

- Fewer advanced classes, fewer well-trained teachers, higher teacher turn-over (Rivkin, Hanushek & Kain, 2005)
- Limited family financial resources for supplemental, outside of school learning opportunities (Snellman, Silva, Frederick & Putnam, 2015)
- Less access to peer mentors, adult role models and contact with adult professionals (Snellman, Silva, Frederick & Putnam, 2015)
- Growing income activity engagement gap (Snellman, et al). Participation in extra-curricular activities associated with higher test scores, lower drop-out rates, higher occupational and educational attainment.
- Less qualified teacher; greater teacher turnover=poorer instruction

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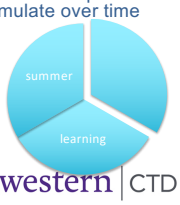
## Opportunity to Learn

- Lower income students make as much progress/growth during the school year as higher income students
- 2/3 of the achievement gaps between lower and higher income students in grade 9 can be attributed to disparities in summer learning opportunities that accumulate over time (www.summerlearning.org).
  - Summer camps
  - Vacations, enrichment at home

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## Do gifted programs help or exacerbate achievement gaps?

**CAN DIFFERENT IDENTIFICATION PROCEDURES HELP?**

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## IDENTIFICATION PRACTICES WITH UNDER-SERVED GIFTED STUDENTS: WHAT REALLY WORKS???

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## Gifted Identification

- Essential Question:
- Who/what are we identifying? (Students or students-for-services?)
  - Valid for the population
  - Eliminates/Avoids unwanted obstacles or gatekeepers
  - Matched to service/program
- Identification viewed as program placement that is based on educational need

wow!!!!

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## Teacher Referral Good or Bad?

- Very unreliable based on research Why???
  - Based on different views of giftedness
  - Tends to advantage "good" i.e. compliant students
  - Misses some of the most deserving students--e.g. under-achievers, 2E, low income
  - Overly restrictive typically
  - Yet, we want teachers involved!!!
  - Teachers are better at identifying talent within content areas than general intelligence!!!

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## Research on Teacher Referral/Nomination

McBee, Peters, Miller, GCQ, 2016

- "Unless nomination stages are carefully constructed with high validity (which requires high reliability) and low cutoffs (low especially when compared to traditional gifted education cutoffs of 90th percentile or higher), they are almost always extremely detrimental to identification system performance" P. 273

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## Recommendations re: teacher referral McBee, et al

1. When teacher referral is used, teachers must have training to recognize qualities that will be assessed on the identification instrument including culturally specific ones
2. Formal nomination instruments should be selected that highly correlate with the scores on the identification instrument
3. Use lower nomination cutoffs--e.g. "all kids performing above average" or "top 25%"
4. Eliminate the nomination phase all together and use universal screening!!!!!!

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## Nomination Instruments: Good or Bad?

- *Scales for Identifying Gifted Students (SIGS)* Prufrock Press
- *Scales for Rating the Behavioral Characteristics of Superior Students-Revised* (SRBCSs-r), Prufrock Press
- *Screening Assessment for Gifted Elementary and Middle School Students* (Second Edition) , Pro-Ed
- *The Hope Scale* (Marcia Gentry and Scott Peters) Prufrock Press

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## Research on Screening/Nomination Instruments

Peters and Periera, 2017, Journal of Advanced Academics

- Looked at Hope Scale, Gifted Rating Scales and SIGS
- Conclusion:
  - "What the results of this study have shown is that even some of the long-standing and most rigorously developed instruments still fail to meet traditional guidelines for model fit and this could limit the ability of these instruments to yield valid data regarding who is in need of gifted and talented interventions" P. 115
  - The use of any of these instruments would contribute to decreased identification accuracy and increases in false negatives

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## Bottom Line on Teacher Nomination and Screening Instruments

- Cast a very wide net with screening--20% to 30% of students
- Train teachers, multi-cultural competencies
- Seek nominations broadly--from a variety of people--be inclusive
- Assess whether the nomination procedure is effective--does it miss students?

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## Defensible Identification Strategies: Using Local Norms

- Instead of using national norms cutoffs to identify children for a gifted program, use norms for groups that most closely match the student or school population
- Why?
- Norms for demographically similar groups will provide a comparison with students more equal on "opportunity to learn"

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## Local Norms

Peters and Gentry, 2012, *Journal of Advanced Academics*

- Studied the use of local norms on a state achievement test in reading, math and science
- Studied various cutoffs of 5%, 10%, 25% in reading and math for students on FRL compared to students not on FRL
- Resulted in increases in percentages of FRL students qualified for some type of gifted service--representation of these students was closer to their representation in the school population.
- **However, found great variability among the identified students--e.g. the top 5% of students on FRL were comparable in average achievement to the top 25% of students not on FRL**

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## Local Norms In Practice

- Compare students' scores to those of other students in the school with similar demographics
- Use norms for school or district if available, if school population is relatively homogeneous or if scores are broken down by subgroup
- If school population is not homogeneous, select top 10% of students in each under-represented group on academic achievement--sub group norms
- Be prepared to have to offer different programming for students with different levels of achievement

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## Local Norms

**Advantages**

- Selects students who likely need a more advanced curriculum
- Broadens the range of students receiving gifted services
- Meets students where they are and pushes them forward
- Gives higher achieving students contact with intellectual peers

**Challenges**

- Can result in a very heterogeneous group of students with varying academic readiness and needs
- Some might push back on varying standards for different groups of students
- Need to identify the goal of the program--e.g. to prepare students for future gifted programming?

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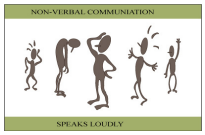
## Nonverbal Ability Tests: The Great Panacea???




- NNAT, UNIT, CogAT
- Evidence that nonverbal tests identify more minority students as gifted is equivocal
- Scores on nonverbal tests have lower predictive validity for academic achievement in school
  - Carman and Taylor (2010) examined the relationship between performance on the Naglieri Nonverbal Ability Test, SES, and ethnicity among a large sample of kindergarteners and through regression analysis determined that even after controlling for ethnicity, children from low-income families were half as likely to be identified as gifted based on their NNAT scores.

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## A Meta-Analysis of Gifted and Talented Identification Practices

Hodges, Tay, Maeda, and Gentry, 2018, *Gifted Child Quarterly*

- Looked at students identified via traditional (achievement and ability tests) vs. non traditional/non verbal (Raven, NNAT, CogAT NV) tests
- (54 different studies; 191,287,563 total students; 85 effect sizes)

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## Findings

- Regardless of what ID method was used, the probability of being identified for under-represented students was one-third of that of the overrepresented group
- African-American students are under-represented more severely than Hispanic students

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Using the Cognitive Abilities Test (CogAT) 7 Nonverbal Battery to Identify the Gifted/Talented: An Investigation of Demographic Effects and Norming Plans

- C. A Carman, C. A. P. Walther, R. A Bartsch, 2018, *Gifted Child Quarterly*
- 15,700+ kindergartners from a southern, urban school district
- Looked at scores on CogAT-NV using national, district-level and school level norms (top 5%)

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## Results

- There were group difference, by race and income on the CogAT 7-NV
- Using different norms reduced but did not eliminate these group differences
- The use of **school-level norms** was the most successful in accomplishing proportional representation of different groups of students as gifted

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## Bottom Line on NonVerbal Tests

- Nonverbal tests assess general reasoning ability nonverbally
- Good for assessing general cognitive ability, particularly for ELL students--not good for math or verbal programs if used alone
- Should be combined with subject area achievement tests for subject specific programs
- May be useful for screening or nomination, with low cutoffs
- Still may be necessary to use school level norms when employing non verbal tests

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## Universal Screening

- Purpose is to eliminate what is seen as a barrier for many children from culturally and linguistically diverse and low SES background--namely poor referral systems
- Idea is to screen all kids--skip the referral stage entirely

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## Universal Screening

- Study by two economists Card & Giuliano, 2015 (see issue of *Journal of Advanced Academics*, 27, 2016)
- Studied use of universal screening in large, diverse district in Florida, using NNAT with all second graders

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## Universal Screening

- Used lower cutoffs on the NNAT (115 versus 130) for ELL and FRL students --to identify students for further assessment with an IQ test by a district psychologist. (cast a wide net, local norms)
- Prior to implementation of universal screening, 3.3 percent of all students in the district were identified as gifted. After, the rate increased to 5.5 percent.
- This surge occurred without any relaxation in IQ eligibility standards.
- Before universal screening, Black and Hispanic students, FRL, ELL, and girls were all 'under-referred'. With universal screening, the number of disadvantaged and under-represented students increased by 180%.

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## Universal Screening

- The newly identified students performed as well on IQ tests as students nominated under the previous system, though they did score lower on standardized achievement tests.
- Skeptics of the new screening process expressed concern that the newly identified students would flounder in the gifted program. In fact, they showed greater gains on reading and math tests than those students referred under the traditional system
- Still only closed the achievement gap by 1/3

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## Universal Screening and the Representation of Historically Underrepresented Minority Students in Gifted Education

- Joni Lakin--co-author of CoGAT-- *Journal of Advanced Academics*
- Studied the validity of various universal screening tests for gifted placement--large district in Southwest, 3-6th graders
- CogAT V + Q used for placement
- http://www.hmhco.com/media-center/blogs/2017/october/universal-screening-gifted-talented-identification-implementing-overcoming-challenges

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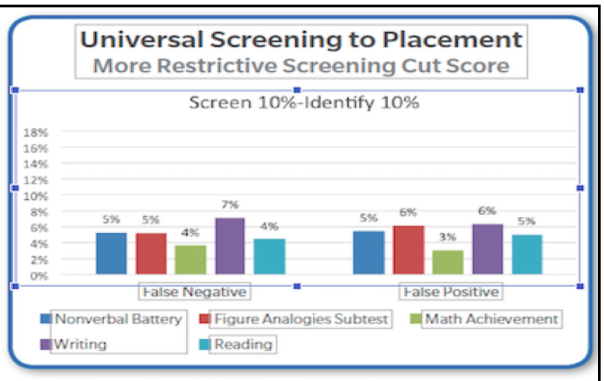
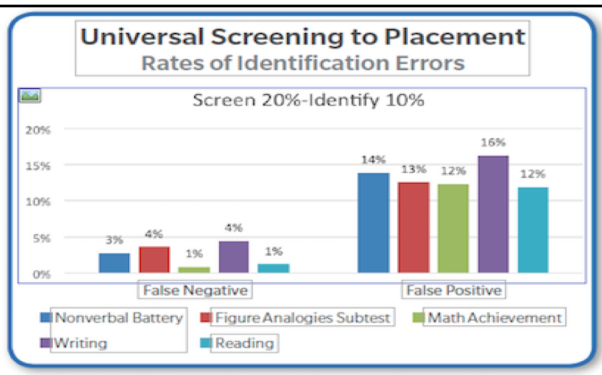
| Screener Test | Rationale | Relationship to Placement Test | Relative Reliability |
|---|---|---|---|
| A. *CogAT* Nonverbal Battery | Similar to *CogAT* Screener—battery of three tests that predict larger (more diverse) battery | Strong (r=0.8) | High |
| B. *CogAT* Figure Analogies Score (normalized by grade) | Fewer items, therefore less reliable than a full battery (A) | Medium (r=0.6) | Low |
| C. State Mathematics Achievement Test | Achievement scores highly correlated to screener | Strong (r=0.8) | High |
| D. State Reading | Similar to mathematics in terms of high correlation to screener | Strong (r=0.8) | High |
| E. State Writing | Achievement score moderately correlated to screener | Weak (r=0.5) | Medium |




False positive errors mean that students meet the cutoff at the initial stage for the screener test, but do not meet the cutoff on the placement test. False negative errors mean that students do not meet the cutoff on the screening test, but would have scored above the cutoff on the placement test.




False positive errors mean that students meet the cutoff at the initial stage for the screener test, but do not meet the cutoff on the placement test. False negative errors mean that students do not meet the cutoff on the screener, but would have scored above the cutoff on the placement test.

| Key point | Rationale |
|---|---|
| Cut-score on screening test | Decreasing the cut-score (to be more lenient) may increase program diversity, but will increase the number of students initially selected for further evaluation. |
| Cut-score on placement/ confirmation test | More accurate screening was obtained by setting a relatively liberal cut-score on the screening test and a more restrictive cut-score on the placement test. |
| Relationship between screening and placement battery | In addition to the cut-score used, the correlation between the screener and placement assessment, as well as the reliability of both instruments and their relevance to the target program, will also impact the number of both false positive and false negative errors in the identification process. |

## Universal Screening

**Advantages**

- Avoids referral process that likely under-refers low income, CLD gifted children
- Can help to identify potential/ability in traditionally under-identified students
- Reduces somewhat effects of differences in opportunity to learn
- Yields helpful information on all kids, even if not gifted

**Challenges**

- Costly, perhaps
- Standardized tests are still influenced by opportunity to learn--helps, does not eliminate
- Still have to worry that assessment matches the program
- Might need to combine with local norms

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Challenges of Combining Scores Across Tests for Identification

- Making the Cut in Gifted Selection: Score Combination Rules and Their Impact on Program Diversity (J. Lakin. 2018 *Gifted Child Quarterly*)

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## Methods

- Reanalyzed data from CogAT norming sample
- Investigated the effect of using
  - ”And” --meets cutoff (national norm) on all subtests
  - ”Or”--meets cutoff on any of the subtests
  - ”Average”--mean of scores on subtests meets a cutoff

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## Results

- "Or" resulted in the greatest diversity and largest number of identified students (10X for "And" group); increased number of African American and Hispanic students by ratio of 17; increased number of FRL by ratio of 18
- "And" group had the highest scores, followed by "Average" group, followed by "Or" group
- "Or" group IQ scores were 1 SD below "And" group

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## Held the number of identified students constant

- Had to lower percentile for "And" group to 76% tile
- Had to increase percentile for "Or" group to 96%

Result: The "Average" group had the most homogeneity. The ""And" and "Or" were comparable in terms of diversity and average scores

- The three different rules identified 96% to 98% of the same students
- The "Or" rule increases diversity by increasing the number of students identified--but can you serve them???

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## "And ----Or"?????

## Multiple Criteria

**And**

- Leads to greater homogeneity for students
- Highly selective
- Best for most accelerative options with greatest consequences for misidentification

**Or**

- Results in greater heterogeneity
- More inclusive
- Best suited for a levels of service approach to programming
- Use with two criteria that relate to program focus

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## Above Grade Level Testing

- *Gifted Child Quarterly*--Peters, et all, 2017, 61 (3).
- Using 4 data sets (1 national, 3 state-level)
- 20% to 49% of elementary and high school students performed on achievement tests one or more years above grade level
- 14% to 37% in mathematics

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## Bottom Line

- Universally Screen if possible--on available assessments
- Use global measures such as IQ primarily with young students or ELL students
- Consider NON verbal ability tests as global measures of reasoning ability--best as a screening tool and with English learners
- Avoid Teacher referral unless using a valid assessment with trained teachers
- Use tests/assessments that match the content of the class or program
- Use "or" rather than "And"
- Cast a wide net with screening measures to reduce false negtives
- Use local norms
- Use a Levels of Service Approach to Programming

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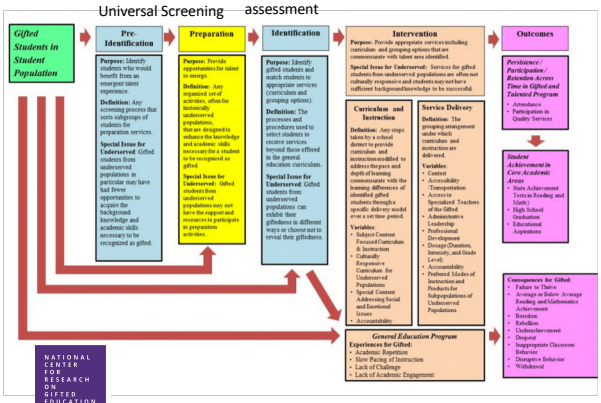
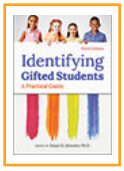
Enrichment for all
Universal Screening

Domain specific
assessment




National Center for Research on Gifted Education




## IDENTIFICATION PROCESSES: BEST PRACTICES

Johnsen, Susan

Identifying Gifted Students: A Practical Guide

Prufrock Press

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