Seeking Diverse Talent Using the SIG-2 Observational Checklist

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GiftED19

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How is that GT assessment going?
How is that GT assessment going?
Oh, and did I mention the new State Plan?
Session Goals

1. Review state policy guidelines for GT assessment.

2. Review research on using teacher/home rating forms in the process of GT assessment.

3. Describe the features of the Scales for the Identification of Gifted Students (SIGS) and the new SIGS-2.
What is Gifted?

Gifted are those who perform at or show the potential for performing at a remarkably high level of accomplishment when compared to others of the same age, experience, or environment and who:

(1) exhibit high performance capability in an intellectual, creative, or artistic area;
(2) possess an unusual capacity for leadership; or
(3) excel in a specific academic field.

Texas Education Code. Chapter 29. Subchapter D.
GT Screening and Selection

Student Assessment policies/practices must:

1) include provisions for ongoing screening and selection of students who perform or show potential for performing at remarkably high levels of accomplishment in the areas defined in the Texas Education Code, §29.121;
GT Screening and Selection

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Performers or Potential Performers

• How do you identify the performers?
• Separate from the performers, how do you identify potential performers?
GT Screening and Selection

Student Assessment policies/practices must:

2) include assessment measures collected from multiple sources according to each area defined in The Texas State Plan for the Education of Gifted/Talented Students; (page 24 of the State Plan)
GT Screening and Selection

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Multiple Sources According to Each Area Defined

• If you are identifying in math, you need multiple sources of math performance.
• Where do you find multiple sources from each of those areas defined?
GT Screening and Selection

Student Assessment policies/practices must:

Multiple Sources According to Each Area Defined
  • At least three (3) sources/measures (2.22)
  • Qualitative and Quantitative data (2.22)
  • Kindergarten does not require both qualitative and quantitative (2.21)
  • If services/screening includes leadership, artistic areas, and creativity, a minimum of three sources are to be used for those areas (2.23)
GT Screening and Selection

Student Assessment policies/practices must:

3) Include data and procedures designed to ensure that students from all populations in the district have access to assessment and, if identified, services in the gifted and talented program. (page 24 of the State Plan)
GT Screening and Selection

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Equitable Access to Assessment and Services

• How are you comparing students to others of the same age, experience, or environment?
• Are you doing this intentionally or just hoping the assessment does it for you?
How effective are rating scales?
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GT Screening and Selection

How accurate is teacher and parent information in the process of identifying students who perform or have the potential for performing at remarkably high levels of accomplishment?
GT Screening and Selection

Teacher ratings are generally recommended as effective.

The use of teacher judgment in the identification process of gifted students should be continued and expanded (Hodge & Cudmore, 1986).

Teacher ratings of students are similarly as effective/ineffective as cognitive ability tests, achievement tests, and school grades in the identification process (Gagné, 1994).
GT Screening and Selection

Teacher ratings are generally recommended as effective.

VanTassel-Baska (2008) and Stambaugh (2007) argue that teacher-rating instruments (e.g. SIGS/SIGS-2) have potential as screening tools for identifying students in typically underrepresented groups.

Teachers are in the best position to evaluate actual student performance over time in classroom contexts (Peterson, 1999).
GT Screening and Selection

Teacher ratings should be related to ability tests, but not so strongly that they yield redundant information (Peters & Gentry, 2012).

<table>
<thead>
<tr>
<th>SIGS Subscale</th>
<th>WISC-III</th>
<th>CogAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Intellectual Ability</td>
<td>.67</td>
<td>.48</td>
</tr>
<tr>
<td>Language Arts</td>
<td>.62</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>.47</td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>.56</td>
<td></td>
</tr>
<tr>
<td>Social Studies</td>
<td>.53</td>
<td></td>
</tr>
<tr>
<td>Creativity</td>
<td>.38</td>
<td></td>
</tr>
<tr>
<td>Leadership</td>
<td>.53</td>
<td></td>
</tr>
</tbody>
</table>
Consistency of Ratings

Ratings by teachers and parents are consistent and related (Chan, 2000).

<table>
<thead>
<tr>
<th>Domain (not SIGS)</th>
<th>Teachers</th>
<th>Parents</th>
<th>r (n=109)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning</td>
<td>4.77 (.53)***</td>
<td>4.51 (.64)</td>
<td>0.22*</td>
</tr>
<tr>
<td>Mathematics and Science</td>
<td>4.84 (.68)**</td>
<td>4.60 (.65)</td>
<td>0.29**</td>
</tr>
<tr>
<td>Creativity</td>
<td>4.41 (.60)</td>
<td>4.33 (.72)</td>
<td>0.27**</td>
</tr>
<tr>
<td>Leadership</td>
<td>4.93 (.68)</td>
<td>4.96 (.55)</td>
<td>0.33***</td>
</tr>
<tr>
<td>Motivation</td>
<td>5.09 (.59)</td>
<td>5.05 (.52)</td>
<td>0.40***</td>
</tr>
</tbody>
</table>

Note: *p<.05, **p<.01, ***p<.001.
Relationship with Intelligence and Leadership

Ratings by teachers and parents related to other measures of potential or performance (Chan, 2000).

- Cognitive Ability (IQ) could be significantly predicted ($r^2 = .19^*$) by teacher and parent ratings.
- Leadership could be significantly predicted ($r^2 = .20^*$) by teacher and parent ratings.
Relationship with Intelligence and Leadership

Teacher Ratings

Parents Ratings

Cognitive Ability & Leadership
Teacher ratings of creativity moderately predict students’ actual creative work (Kettler & Bower, 2017).

- SIGS teacher ratings’ relationship to creative products was $r = .25^{**}$
- Renzulli Scales teacher ratings’ relationship to creative products was $r = .20^*$
- Gifted students scored higher than general education students ($d = 0.83$) on teacher ratings of creativity as well as on creative products ($d = 0.53$).
Relationship with Creative Production

SIGS Ratings

R-Scales Ratings

Creative Production
Summary

• Teacher and parent rating scales can yield consistent and valuable data.

• Ratings are more accurate when specific behavioral descriptions are provided.

• Rating scales have demonstrated relationships with other variables of interest such as cognitive ability, achievement, and creative outcomes.

• Rating scales are efficient in terms of human and fiscal resources.

• Rating scales should not be used alone, but rather as one of multiple sources.
Description of the SIGS-2

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SIGS-2 Scales

10-12 Items per Scale
- Language Arts (n = 44,516)
- Mathematics (n = 44,254)
- Science (n = 29,453)
- Social Studies (n = 29,050)
- Creativity (n = 35,367)
- Leadership (n = 31,016)
- General Intellectual Ability (n = 41,775)

Two Types of Ratings
- School (n = 235,387)
- Home (n = 19,378)
Psychometric Properties and Norms

- \( n = 50,490 \)
- \( n = 72,126 \)
- \( n = 126,193 \)
- \( n = 6,622 \)
Psychometric Properties and Norms

Race/Ethnicity
- White (n = 129,514)
- Hispanic or Latino (n = 33,522)
- Black or African American (n = 14,402)
- Asian (n = 12,800)
- American Indian and Alaska Native (n = 1,046)
- Two or More (n = 9,769)
- Other (n = 20,294)
- No Information (n = 34,084)

Sex
- Male (n = 135,877)
- Female (n = 116,841)

Testing for Differential Item Functioning (race and gender)
## Psychometric Properties and Norms

<table>
<thead>
<tr>
<th></th>
<th>Elementary (N = 221,746)</th>
<th>Secondary (N = 33,663)</th>
</tr>
</thead>
<tbody>
<tr>
<td>K (n = 30,252)</td>
<td></td>
<td>6 (n = 21,040)</td>
</tr>
<tr>
<td>1 (n = 34,367)</td>
<td></td>
<td>7 (n = 5,852)</td>
</tr>
<tr>
<td>2 (n = 49,046)</td>
<td></td>
<td>8 (n = 5,070)</td>
</tr>
<tr>
<td>3 (n = 39,655)</td>
<td></td>
<td>9 (n = 802)</td>
</tr>
<tr>
<td>4 (n = 32,810)</td>
<td></td>
<td>10 (n = 505)</td>
</tr>
<tr>
<td>5 (n = 35,516)</td>
<td></td>
<td>11 (n = 394)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 (n = 0)</td>
</tr>
</tbody>
</table>
Reliability and Validity

Reliability
  • Internal Consistency
  • Inter-Rater Reliability
    • Home/School and School/School
  • Test-Retest Reliability
    • Home and School

Validity
  • Convergent and Discriminant
    • NNAT
    • CogAT
    • IOWA
    • TTCT
Item Level Analysis

Reliability

• Internal Consistency
• Inter-Rater Reliability
  • Home/School and School/School
• Test-Retest Reliability
  • Home and School
Ways to Use the SIGS-2 Based on Research and Texas Policy

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How to Use the SIGS-2

Quantitative Data

• State Plan requires both qualitative and quantitative data.

• Each subscale yields a raw score, standard score, and percentile rank.

• SIGS-2 should never be used alone as the only source of data.
How to Use the SIGS-2

Domain-Specific Qualification

• Many schools have specific gifted programs for math, science, language arts, and social studies.

• SIGS-2 subscales could be used for domain-specific qualification.

• SIGS-2 subscales would be used with other measures of performance or potential in the specific domain of interest (e.g. used along with math achievement, and student interviews about math interest).
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How to Use the SIGS-2

Universal Screening

• Universal screening is a widely-recommended practice.

• SIGS-2 school and home forms could be used as part of universal screening.

• Recommend casting a wide-net
How to Use the SIGS-2

Identification Tool for 2e Students

• A recent study (Ritchotte & Zaghlawan, 2019) used SIGS sub-scale scores as a screener for 2e students.

• SIGS was used in this study to seek evidence of “high potential” among children with or at risk for a disability diagnosis.

• In this study standard scores of 110 or above were considered evidence of high potential.
How to Use the SIGS-2

Relevant Comparison to Students of Similar Age, Experience, or Environment

• SIGS-2 directions ask the rater to score the student as follows:

  To what degree does the student exhibit the behavior listed when compared with his or her grade peers?

• Each comparison should be based on the local, school-based peer group.
How to Use the SIGS-2

Actively Seek “Those who potentially perform at a remarkably high level of accomplishment.”

• The Texas definition of giftedness includes two categories (a) those who perform at a remarkably high level of accomplishment, and (b) those who potentially perform at a remarkably high level of accomplishment.

• SIGS-2 could be a great tool to seek potential performers whose achievement or ability metrics do not indicate actual performance at the time.
How to Use the SIGS-2

In Combination with Local Norms

• Peters and Gentry (2012) found that using local norms for low-income students will locate those students who demonstrate high achievement when compared to their peers.

• Moreover, they found that combining local norms with a rating form (like the SIGS-2) will yield more students than using local norms alone will.
No, the scores are not in yet. Any other questions?

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