Gifted Assessments and Underrepresented Students: What is the Best Means of Assessment?

Julie Kim
kim2152@purdue.edu

Madeline Gavin
gavinm@purdue.edu

Follow this and additional works at: https://docs.lib.purdue.edu/purc

Recommended Citation
Kim, Julie and Gavin, Madeline, "Gifted Assessments and Underrepresented Students: What is the Best Means of Assessment?" (2019). Purdue Undergraduate Research Conference. 5.
https://docs.lib.purdue.edu/purc/2019/Posters/5

This document has been made available through Purdue e-Pubs, a service of the Purdue University Libraries. Please contact epubs@purdue.edu for additional information.
STATEMENT OF THE PROBLEM

• Underrepresentation of gifted students at the elementary level is an issue that is commonly overlooked. Many factors, such as teachers’ traditional views of giftedness, along with societal biases, can contribute to this underrepresentation.

• For future educators, understanding the characteristics of gifted students and being knowledgeable about the measures and approaches that are appropriate for identification purposes is key to providing students with teaching that meets their needs.

Therefore, it is critical to examine assessments currently used at the elementary level in order to document their appropriateness for different age groups, as well as for students from culturally and socioeconomically diverse backgrounds.

DEFINITION AND ASSESSMENT OF GIFTEDNESS

Giftedness, as defined by the National Association for Gifted Children, is described as “when [children’s] ability is significantly above the norm for their age,” meaning students could be seen as being gifted in many different domains such as “intellectual, creative, artistic, leadership, or in a specific academic field such as language arts, mathematics or science” (NAGC, n.d.).

In the elementary level, the issue of underrepresentation of gifted students is commonly overlooked. Although we recognize that this issue is multi-determined, we focus on assessments that are currently used and might be considered ideal for detecting giftedness in elementary school students. Through detailed evaluation of six quantitative and qualitative assessments, we examine factors that may limit each assessment’s accuracy in identifying gifted students. Our analysis highlights how each assessment gauges giftedness by addressing the purpose of each assessment, its uses, and psychometric properties. We suggest that multiple means of assessment may be the best way to accurately identify gifted students from culturally and economically diverse backgrounds.

Incorporating a mix of both quantitative and qualitative assessments in the identification process is needed to reflect the multi-potentiality of students’ giftedness. Our findings have implications for practice, as well as for the development and use of these assessments for research purposes.

Identification of Sources

• Conducted searches primarily from the following databases: Education Resources Information Center, ResearchGate, and SAGE Journals

• Used only published studies on the assessments of interest for giftedness

• Limited the search to sources that were published after the year 2000 to compare recent research studies on popular gifted assessments

Evaluation Criteria

Within our thematic review, we aim to evaluate the strengths and weaknesses of prominent and varying assessments for giftedness.

Specifically, we address:

• The purpose of each assessment

• The extent to which each assessment is used and what it measures

• The technical characteristics (i.e., the reliability evidence) of each assessment

• Each assessment’s appropriateness for identifying diverse gifted students that may be underrepresented within the gifted community

Analysis and Interpretation of Findings

<table>
<thead>
<tr>
<th>Audience</th>
<th>Purpose</th>
<th>Methods</th>
<th>Reliability</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stanford-Binet Intelligence Scale (HMH)</td>
<td>Used by the general population on the basis of an individual’s ability (age 3 to 17, adult).</td>
<td>Measures children’s general intelligence and intuitive reasoning abilities.</td>
<td>Contains a variety of subtests that assess verbal and nonverbal skills. The scores are then calculated and converted to an IQ score.</td>
<td>Provides conclusions with an intelligence quotient (IQ) score.</td>
</tr>
<tr>
<td>Wechsler-Bellevue Intelligence Scale (WISC)</td>
<td>Children between the ages of 6 to 14.</td>
<td>Form of measuring IQ (e.g., verbal, performance, full scale) used.</td>
<td>Provides a full IQ score and subtest scores.</td>
<td>Consistent with the standards of the Wechsler scoring system.</td>
</tr>
<tr>
<td>Woodcock-Johnson Tests of Cognitive Abilities (WIAT)</td>
<td>Students of any age.</td>
<td>Measures children’s cognitive abilities, including both verbal and nonverbal skills.</td>
<td>Scores are calculated and transformed to age and grade equivalents.</td>
<td>Suitable for students of varying ages.</td>
</tr>
<tr>
<td>Hope Scale</td>
<td>Students of any age.</td>
<td>Measures students’ attitudes and expectations related to their future educational and vocational goals.</td>
<td>Scales for measuring students’ attitudes and expectations related to their future educational and vocational goals may be given during or before gifted assessment.</td>
<td>Provides conclusions with an intelligence quotient (IQ) score.</td>
</tr>
<tr>
<td>Naglieri Nonverbal Ability Test (NNT)</td>
<td>Students of any age.</td>
<td>Measures students’ abilities to interpret visual stimuli, solve problems, and analyze concepts.</td>
<td>Provides a profile of students’ cognitive abilities.</td>
<td>Provides conclusions with an intelligence quotient (IQ) score.</td>
</tr>
<tr>
<td>Cognitive Abilities Test (CogAT)</td>
<td>Students of grades 1 through 12.</td>
<td>Measures students’ abilities to “detect patterns, make logical inferences, draw conclusions, solve problems, and think critically.”</td>
<td>Provides a comprehensive profile of students’ cognitive abilities.</td>
<td>Provides conclusions with an intelligence quotient (IQ) score.</td>
</tr>
</tbody>
</table>

Conclusions and Future Directions

The assessments reviewed here provide views of giftedness from different angles. We found that:

• Assessments vary with respect to which they take into account different aspects of giftedness, including intelligence, cognitive skills, reasoning abilities, as well as functioning within both social and academic domains.

• Most assessments are based on student responses, whereas one measure (the HOPE Scale) uses information from teachers who are asked to evaluate students on social and academic domains.

• Both verbal and nonverbal scales have been constructed, making it possible to assess different aspects of giftedness.

There is no clear consensus for which assessment is the most effective in identifying diverse gifted students, as we did find assessments, like the Naglieri Nonverbal Ability Test, that showed consistency between the scores of students of different ethnicities, verbal ability is significantly above the norm (the HOPE Scale). Increasing minority children’s participation in gifted classes using the NNAT: A response to the identification process is needed to reflect the multi-potentiality of students’ giftedness.

However, we believe that multiple means of assessment that take into account the different aspects of giftedness may be the best way to accurately gauge gifted qualities of students who are both culturally and economically diverse.