



ASSESSING GROWTH

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Note: This article is an extension of "The Use and Value of State Assessments of Learning," by C. A. Boswell, C. M. Adams, and M. M. Christopher, in S. K. Johnsen and J. VanTassel-Baska (Eds.), Handbook on Assessments for Gifted Learners: Identification, Learning Progress, and Evaluation (in press), 2022, Routledge.

INTRODUCTION

Let's start with "why." Over the past decade, Sinek's (2009) view of leadership has spread rapidly through businesses, nonprofits, and educational settings. His unique understanding of leadership conceptualized through The Golden Circle emerged from his study of successful leaders. Most schools begin with "what," stating that they encourage learning for all students, including gifted students. Then, they move to "how," sharing that they do this by providing differentiated instruction focused on clear learning objectives and by developing creative thinking and problem solving. Through observation and study, Sinek found that excellent leaders begin with "why." The "why" for advanced and gifted education focuses on positively influencing gifted students' growth, resulting in sustained interests, creative productivity, critical thinking, and increased postsecondary educational experiences. This is why we, as educators, advocate for advanced and gifted education for a diverse group of students. It is also why we must assess and report student academic growth.

The Every Student Succeeds Act (2015) holds states accountable for the learning growth of all students, including those at the advanced level (National Association for Gifted Children [NAGC], n.d.). Assessment of student growth in gifted learners is not an easy task, but state assessment standards and procedures cannot ignore the need to show growth in this population and only focus on minimal competency rather than excellence. The development and implementation of a plan to measure academic achievement falls to each state.

Several issues contribute to the ineffective use of state data to assess gifted learners and programs.

Among issues that contribute to the ineffective use of state data to assess gifted learners and programs are low-level questions and ceiling effect. Test questions that are not challenging do not show how gifted learners' performance is different from their age peers. Test questions that only ask for simple computation or easily found answers in a passage do not attest to complexity of thinking of gifted learners. Lack of difficulty cannot discern the actual learning of gifted students in a tested area. In addition to lack of difficulty, the ceiling effect impacts ability to show academic growth in gifted students. The ceiling effect occurs when there is an upper limit in which respondents score in an area. If students are continually scoring at the top of the state test, there is no room to show their academic growth (Lakin & Rambo-Hernandez, 2019; Lohman & Korb, 2006).





State data reflect efforts to determine minimum skills required by grade level. Unless students take above-level tests, the items may contain content the students already knew before entering a grade. NAGC (n.d.) provided points on measuring growth for this population.

The ceiling effect impacts many forms of assessment and curtails efforts to measure growth. Many state measures do not account for the ceiling effect that occurs when gifted students are already performing above grade level and achieve the maximum score on the test When gifted students take a test designed for average students, they may achieve a perfect score. Gifted students' academic growth cannot be measured on a later assessment because they achieved the maximum score on the first test. This issue can be addressed with above-level testing, computer-adaptive tests, or test items that assess critical thinking rather than knowledge and comprehension alone (NAGC, n.d.; Ryser & Rambo-Hernandez, 2014).

Two solutions for the problems related to assessment of growth of gifted learners are appropriate challenge in measurements and above-level testing. If the assessments include a balanced coverage of content with focus on high-achieving students alongside average students, they will provide enough questions at each level to determine what a student actually knows (McCoach et al., 2013). Vertically-scaled above-level testing reduces the ceiling effect and errors of measurement (Ryser & Rambo-Hernandez, 2014).

Assessment used to monitor academic and social-emotional growth of our gifted students remains essential. Researchers in the field of advanced and gifted education document the need to measure growth as a reflection of programs and services (Callahan et al., 2017; Cao et al., 2017; Robbins, 2019; Ryser & Rambo-Hernandez, 2014; VanTassel-Baska, 2006, 2019). What methods could educators of gifted students use to ensure continuing growth of students? This article looks at several ways to accomplish this goal.

Petrilli (2016) offered four elements that must be present if learners above the proficient level are prioritized in overall assessment approaches:

- give schools extra credit for getting students to the advanced levels on state tests;
- use a growth model, such as a value-added model, that looks at the progress of all students at all achievement levels, not just overall proficiency;
- make growth matter the most when determining summative school grades or ratings for entry to programs for the gifted; and
- include gifted students as a subgroup when reporting growth.

He cautioned that continuing to look at the lowest performing groups has the unintended consequence of making low achievers a higher priority than high achievers; in high-poverty schools, this hurts highachieving students from low-income backgrounds the most.

Boswell et al. (2022) addressed the use of state assessments in this way:

Using state assessments as one of several indicators of achievement for gifted students in a content area also increases their value. When state assessments are used alone, they do not generally provide the information necessary to determine the effectiveness of gifted programs and services. However, when used as one of several tools in a program evaluation, they can reveal areas of concern or commendation (Speirs Neumeister & Burney, 2018, p. 2552).





With the limitations found in using only the Texas state standard measures, STAAR, growth modeling is a way to track students' growth over time and to evaluate the programs and services that are provided to them. Growth models measure growth beyond proficiency, allowing gifted students to be challenged appropriately (Council for Exceptional Children, The Association for the Gifted, 2012).

THE USE OF GROWTH MODELS

Districts can begin the assessment of gifted programs using data already collected through teacher, parent, and student surveys. Additional questions can be added to include views of student achievement and growth. Although those data provide an annual evaluation of perceptions of the program, the district may use additional measures of growth in students' achievement.

Measuring student achievement over time creates a dynamic view of school effectiveness that closes the excellence gap, supports the addition of excellence to the minimum competency standard, and addresses accountability in gifted education (McCoach et al., 2013; Plucker et al., 2010). Growth models must follow certain criteria that support authentic assessment (see Figure 1). These models view achievement through a longitudinal frame "that describes initial status, measure growth, and capture variability within and between students" (McCoach et al., 2013, p. 56).

FIGURE 1

Criteria for Effective Growth Models

STATISTICALLY SOUND	Statistically sound growth models must have at least three observations using assessments that are psychometrically sound and comparable across time.		
VALUE-ADDED	Value-added growth models examine information about what affects growth, such as particular teachers or programs.		
FAIR ASSESSMENT	Growth models can be a fairer assessment of accountability because they involve scores across time rather than a single point.		
PROBLEM	The ceiling effect limits measurements of academic growth for advanced and gifted learners.		
CHALLENGE	Measures involve appropriate level of challenge.		

Growth modeling provides a process to track students' academic progress (McCoach et al., 2013; Rambo-Hernandez & McCoach, 2015; Ryser & Rambo-Hernandez, 2014). Growth models require that three observations, along with valid and reliable assessments, are used to show growth. Growth models allow for fair assessments because they offer information not only from one point on a single day, but also from varied times as determined by the educators (Robbins, 2019). In addition, particular attention must be paid to controls, such as program standards and practices, to understand what effects surround the assessment periods (Castellano & Ho, 2013).





Value-added growth models create another layer of issues in evaluating student achievement (Castellano & Ho, 2013). These models focus on determining the causes of growth for particular students. Does a particular teacher or a particular program add value by creating academic growth in students as compared to the expected growth for those students? Value-added growth models impact the assessment of gifted students who are above a proficient level. State assessments are designed to measure typical students with only a few items that measure what high-scoring students know (McCoach et al., 2013). Missing or guessing incorrectly on one of those few items skews the overall score of a student.

Effective tools for measuring growth must follow standards for fair assessment. Various types of assessment, such as "pre- and post-assessment, performance-based assessments, differentiated product assessments, out-of-level assessments and the use of assessment of develop individualized student profiles" (Robbins, 2019, p. 196), support part of gifted program evaluation to determine influences of student growth. Appropriate assessment must also include a measurement of growth over time often determined by several observations or evaluations because they provide evidence of the importance of particular services for advanced and gifted students (NAGC, n.d.; Ryser & Rambo-Hernandez, 2014).

OTHER APPROACHES

Each Texas district makes the policy determination for their approach to Accountability. As per the Texas State Plan for the Education of Gifted/Talented Students (State Plan; Texas Education Agency, 2019), Section 1: Fidelity of Services includes the following:

1.5 Annual evaluation activities are conducted for the purpose of continued service development.

1.6 Long-range evaluation of services is based on evidence obtained through gifted/talentedappropriate performance measures such as those provided through the Texas Performance Standards Project (TPSP) (p. 9).

Assessment of students' individual TPSP for grades 1–10 labels six domains for evaluation: content knowledge and skills, analysis and synthesis, multiple perspectives, research, communication, and presentation of learning. Grades 9–12 add ethics/unanswered questions, methodology and use of resources, relevance and significance, and professional quality.

Students are provided the domains and the rubrics for evaluation. Use of the rubrics provides qualitative assessments for students' learning as they progress toward the standard set in the state goal. By having students access scoring tools prior to and during their work on projects, they self-evaluate and discuss the strengths and areas of need with their teacher or mentor who gives a final assessment. Growth can be measured through advancement in the rubrics.

To meet this requirement, schools may include data found on student, teacher, and parent surveys. Other measures could incorporate above-level state assessments in conjunction with other measurements, interviews, and observations. These are but a few of the ways that student growth can be quantified and qualified as appropriate for gifted learners.

Boswell et al. (in press, 2022) offered alternative approaches to state assessments to meet the requirements of state accountability and for growth modeling. Johnsen (2012) and VanTassel-Baska (2008) relate that interviews with stakeholders, document reviews, classroom observations, curriculum audits, and surveys are other tools that can be used to conduct an in-depth program evaluation. Other





assessment indicators useful in programs for the gifted have traditionally included performance-based measures such as writing assessments and project work and portfolios that illustrate students' perception of their own learning.

All of the suggested approaches add a broader picture of the students' growth, both academic and, when included in the documents, social-emotional. For example, a survey for students and/or parents could include questions relevant to both academic and social-emotional perspectives on individuals' growth. CASEL (https://casel.org/about-us), a social-emotional (SEL) collaborative, provides curriculum and assessment in the SEL realm.

As defined in 1.6 of Fidelity of Services of the State Plan (TEA, 2019), performance measures form a bases for evaluation of services. Section 3 of the State Plan states:

Curriculum and Instruction that districts meet the needs of gifted/talented students by modifying the depth, complexity, and pacing of the curriculum and instruction ordinarily provided by the school (p. 7).

The Accountability section defines instruction as an array of appropriately challenging learning experiences provided in core areas. Further, the State Plan states that students may pursue areas of interest within a continuum of services that lead to development of advanced-level products (TEA, 2019).

QUALITY MEASUREMENT TOOLS

Measurement tools, such as rubrics, support a range of assessments at the individual, group, program, school, district, or state level. These tools require intentional design to focus on consistency in scoring and clear expectations (Stanley, 2014). They set the direction for a student assignment or program goals and can allow us to determine growth over time.

The development of quality measurement tools requires focus and process. The following tenets support the development of rubrics used as measurement tools. This list includes the essential elements necessary for sound development and evaluation of measurement tools:

- 1. Articulate what is meant by quality work as opposed to mediocre work.
- 2. Collect samples of rubrics as models to adapt.
- 3. Determine potential criteria by viewing examples of a wide range of students' work and analyzing attributes common to different levels of proficiency.
- 4. Limit the number of criteria to four or five by focusing on the main ideas of the learning task.
- 5. Write descriptors for the degrees of proficiency exhibited in students' work.
- 6. Accent what to do in the proficiency levels of each criterion on the rubric rather than relating what is wrong or calculating the number of errors. Tell the student how to achieve a higher level instead of labeling the problem.
- 7. Clearly determine and communicate the degrees of success for each criterion. Avoid humorous or clever phrases.
- 8. Avoid generalities such as good-better-best or little-some-frequently.
- 9. Use points, percentages, or grades to weight each criterion. To designate the relative importance so students can focus their learning time and effort.
- 10. Ask colleagues to read or use constructed rubrics and offer improvement suggestions.





- 11. Use the rubric with more than one class. Rewrite specific word choices based on those applications based on student suggestion for clarification.
- 12. Be comfortable reevaluating, revising, and rewriting rubrics. (Kingore, 2007, p. 122)

Gifted programs need tools to help assess gifted students' academic growth. Recently, the authors created a framework to begin the development of a potential assessment tool for measuring academic growth. During a recent conference, teachers and administrators worked in small groups to discuss appropriate criteria and develop a rubric that could tentatively measure academic growth. The authors asked that groups do the following:

- select evaluation areas,
- label levels of growth,
- write descriptors for expected level (proficient),
- adjust descriptors to show growth at other levels, and
- use rubric to assess 2–3 times per year.

Although this tool (see Figure 2) has not been piloted in an authentic setting or validated, it is ready to be used by educators to determine its effectiveness. We would appreciate your feedback and practical insights for its use, so we can further refine the rubric.

EVALUATION AREA	NOVICE	APPRENTICE	PROFICIENT	DISTINGUISHED
• Critical Thinking	 Basic or vague expression of critical thinking Lacks an understanding of the issues and consequences 	 Focuses on a single issue with limited examination of evidence Disregards consequences 	 Understands the scope of the problem using more than one issue Reflects with an examination of the evidence with some consideration of consequences 	 Clearly understands scope and issues while basing conclusions on examination of evidence Explores alternatives and consequences
• Creative Thinking	 Replicates existing models Limited ideation 	 Begins to demonstrate fluency, flexibility, originality, and elaboration but inconsistently May require external support 	 Approaches problems with fluency, flexibility, originality, and elaboration Willing to take risks and shows resiliency when faced with obstacles or challenges 	 Meets same criteria as proficiency Innovates viable solutions and products that have a real-world application

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• Depth and Breadth of Content	 Recall, Remember, Understand, and Leverage: Details Language of the Discipline 	 Apply and Leverage: Patterns Trends Big Idea 	 Analyze, Evaluate, and Leverage: Multiple Perspectives Trends 	 Synthesize and Create: Across Disciplines Ethics
• Social- Emotional Learning	 Identify and describe own emotions/ mindset Identifies and communicates personal feelings Limited work with peers 	 Recognizes and relates to feelings in others Beginning to work with peers 	 Displays and communicates empathy and understanding Works with peers to accomplish goals 	 Anticipates and adjusts personal feelings and behavior in response to others Strong use of group leadership skills with peers
Communication of Learning	 Limited use of academic vocabulary Surface knowledge evident Teacher- facilitated questions and answers 	 Developing use of academic vocabulary Some connected learning Questions and answers in controlled context/ predetermined 	 Appropriate use of academic vocabulary Applies knowledge across the discipline Entertains questions and knows source for unanswered questions 	 Verbal fluidity Captures essence of inquiry Able to explore unanswered questions

CONCLUSION

Although the State Plan (TEA, 2019) requires evaluation of student growth, the process remains difficult for Texas districts. Assessment beyond on-level state testing is required to adequately assess growth in our gifted learners and in the curriculum and instruction provided to them. Implementation of growth modeling and other suggested effective tools will support assessment of academic growth in gifted learners. McCoach et al. (2013) and Plucker et al. 2010 explained that measuring student achievement over time creates a view of school effectiveness that supports the addition of excellence to the minimum competency standard while addressing accountability in gifted education.





REFERENCES

- Boswell, C. A., Adams, C. M., & Christopher, M. M. (2022). The use and value of state assessments of learning. In S. K. Johnsen & J. VanTassel-Baska (Eds.), Handbook on assessments for gifted learners: Identification, learning progress, and evaluation (in press). Routledge.
- Callahan, C. M., Moon, T. R., & Oh, S. (2017). Describing the status of programs for the gifted: A call for action. Journal for the Education of the Gifted, 40(1), 20–49. https://doi.org/10.1177/0162353216686215
- Cao, T. H., Jung, J. Y., & Lee, J. (2017). Assessment in gifted education: A review of the literature from 2005 to 2016. Journal of Advanced Academics, 28(3), 163–203. https://doi.org/10.1177%2F1932202X17714572
- Castellano, K. E., & Ho, A. D. (2013). A practitioner's guide to growth models. Council of Chief State School Officers.
- Council for Exceptional Children, The Association for the Gifted. (2012). Growth in achievement of advanced students. http://cectag.com/wpcontent/uploads/2012/04/Growth-Models.pdf
- Every Student Succeeds Act, 20 U.S.C. § 6301 (2015). https://congress. gov/114/plaws/publ95/PLAW-114publ95.pdf
- Johnsen, S. K. (Ed.). (2012). Using the NAGC Pre-K-Grade 12 gifted programming standards. Prufrock Press.
- Kingore, B. (2007). Assessment: Timesaving procedures for busy teachers (4th ed.). Professional Associates Publishing.
- Lakin, J. M., & Rambo-Hernandez, K. (2019). Fidelity of implementation: Understanding why and when programs work. Gifted Child Today 42(4), 205–214. https://doi.org/10.1177/1076217519862327
- Lohman, D. F., & Korb, K. A. (2006). Gifted today but not tomorrow? Longitudinal changes in ability and achievement during elementary school. Journal for the Education of the Gifted, 29(4), 451–484. https://doi.org/10.4219/jeg-2006-245
- McCoach, D. B., Rambo, K. E., & Welsh, M. (2013). Assessing the growth of gifted students. Gifted Child Quarterly, 57(1), 56–67. https://doi.org/10.1177/0016986212463873
- National Association for Gifted Children. (n.d.). Accountability, assessment, and learning growth for gifted students. https://www.nagc.org/sites/default/files/ administrators/Accountability%20for%20GT%20student%20learning%20(rev).pdf
- Petrilli, M. J. (2016, March 30). ESSA accountability: Don't forget the highachievers. Thomas B. Fordham Institute. https://fordhaminstitute.org/national/ commentary/essa-accountability-dont-forget-high-achievers
- Plucker, J. A., Burroughs, N., & Song, R. (2010). Mind the (other) gap! The growing excellence gap in K–12 Education. Center for Evaluation & Education Policy.
- Rambo-Hernandez, K. E., & McCoach, D. B. (2015). High-achieving and average students' reading growth: Contrasting school and summer trajectories. The Journal of Educational Research, 10(2), 112–129. https://doi.org/10.1080/00220671.2013.850398
- Robbins, J. I. (2019). Gifted program evaluation: Catalyst for change or keeper of the culture. Gifted Child Today, 42(4), 196–204. https://doi.org/10.1177%2F1076217519862326
- Ryser, G. R., & Rambo-Hernandez, K. E. (2014). Using growth models to measure school performance: Implications for gifted learners. Gifted Child Today, 37(1), 17–23. https://doi.org/10.1177/1076217513509617
- Sinek, S. (2009). Start with why: How great leaders inspire everyone to take action. Portfolio.
- Speirs Neumeister, K., & Burney, V. H. (2018). Colorado Springs District 11 gifted program evaluation. https://www.d11.org/Page/2552
- Speirs Neumeister, K., & Burney, V. H. (2019). Gifted program evaluation: A handbook for administrators and coordinators (2nd ed.). Prufrock Press.
- Stanley, T. (2014). Performance-based assessment for 21st-century skills. Prufrock Press.





- Texas Education Agency. (2019). Texas state plan for the education of gifted/ talented students. https://tea.texas.gov/Academics/Special_Student_Populations/ Gifted_and_Talented_Education/Gifted_Talented_Education
- VanTassel-Baska, J. (2006). A content analysis of evaluation findings across 20 school districts: A clarion call for enhanced gifted program development. Gifted Child Quarterly, 50(3), 339–341. https://doi.org/10.1177/001698620605000302
- VanTassel-Baska, J. (Ed.). (2019). Evaluating gifted education programs and services [Special issue]. Gifted Child Today, 42(4).