

G/T Teacher Toolkit II

A Set of Resources for Teachers of G/T, AP*, and Pre-AP* Classes

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Welcome Message

Welcome to the *Gifted/Talented (G/T) Teacher Toolkit II*, an online resource developed for educators teaching G/T, Advanced Placement (AP)*, and Pre-Advanced Placement (Pre-AP)* classes. The first *G/T Teacher Toolkit* was developed in 2006 to facilitate the teaching of research skills to G/T students. The purpose of this second toolkit is to aid educators in evaluating their curricula to determine where to differentiate course materials in order to add the depth and complexity that gifted students need.

According to the [Texas State Plan for the Education of Gifted/Talented Students \(State Plan\)](#), rigor, acceleration, and advanced coursework are only part of the equation for creating strong learning experiences for G/T students.¹ While AP and Pre-AP coursework offer advanced learning opportunities for all students and are part of many districts' array of services for G/T students, these courses alone are not always sufficient in meeting the needs of G/T students.

Therefore, the Texas Education Agency (TEA) developed an interactive curriculum evaluation tool, the *Advanced Academics Curriculum Evaluation System (AACES)*, to help educators uncover areas where curricula fall short of satisfying the needs of G/T learners. The tool offers one way of evaluating curricular materials and may be adapted to better address local or district-wide needs.

The foundation of this toolkit is built upon the work of the Advanced Academics Curriculum Evaluation (AACE) Task Force, a network of educators with expertise in G/T education. The task force was charged with evaluating AP courses with regard to the needs of G/T learners and defining the elements of depth, complexity, and pacing inherent in the course materials. Funded in 2003 by the AP/IB Project of the TEA, the AACE Task Force conducted an audit of curricula, with pairs of teachers evaluating four common advanced course offerings: AP Biology, AP Calculus AB, AP English Language and Composition, and AP U.S. History.

The work of the AACE Task Force not only provides the background information and context for the toolkit, but contains useful examples illustrating how a course evaluation might look. The examples are not definitive, and local evaluations of the same course may yield different results. However, the fundamental conclusions reached by the task force indicate a strong need for evaluating AP and Pre-AP courses as part of the array of G/T services, and differentiating those courses for G/T learners to meet all of their needs.

Acknowledgements

This toolkit is the culmination of years of work by dedicated individuals in the field. Special thanks are due to Dr. Cecelia Boswell, who coordinated the Advanced Academics Curriculum Evaluation (AACE) Task Force responsible for developing the materials guiding this project, and to the task force team whose work will touch gifted youth for years to come.

¹ Texas Education Agency. (2000). *Texas Plan for the Education of Gifted/Talented Students*. <http://tea.texas.gov/index2.aspx?id=6420>.

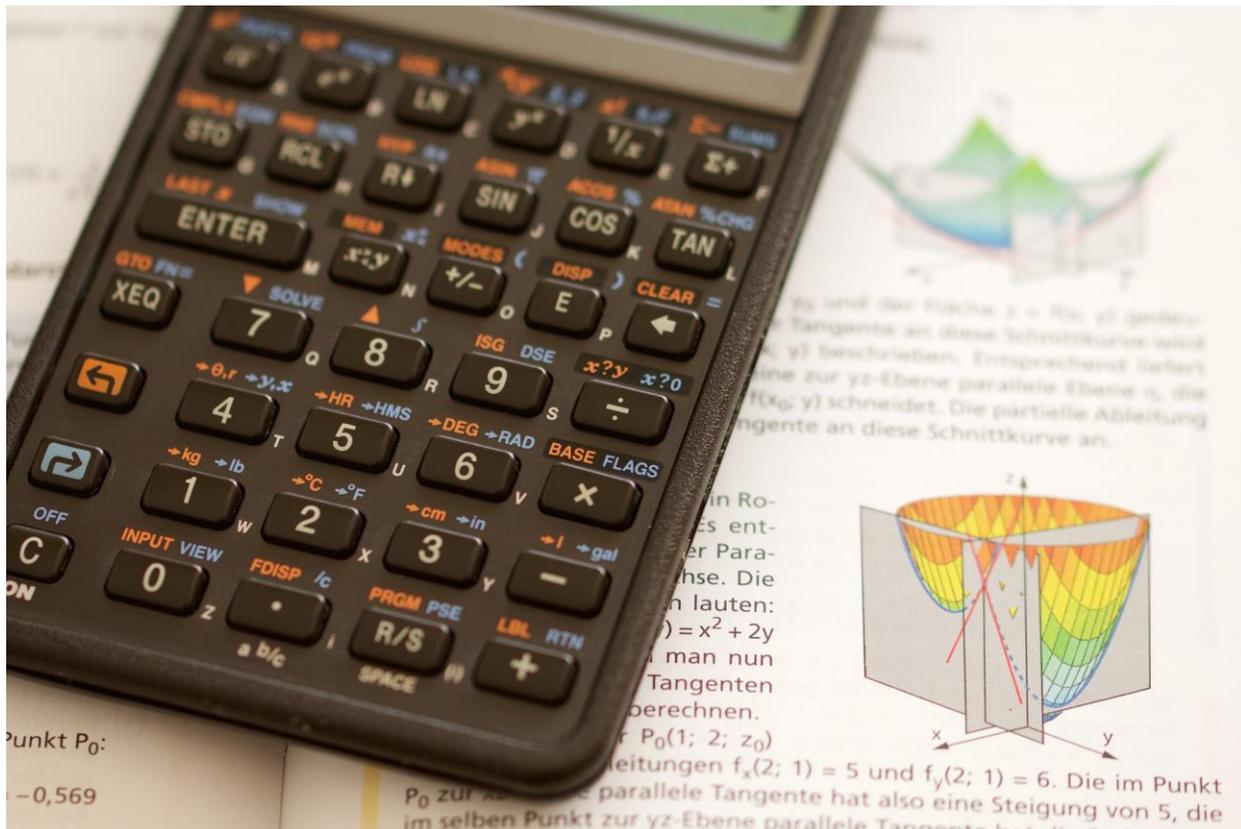
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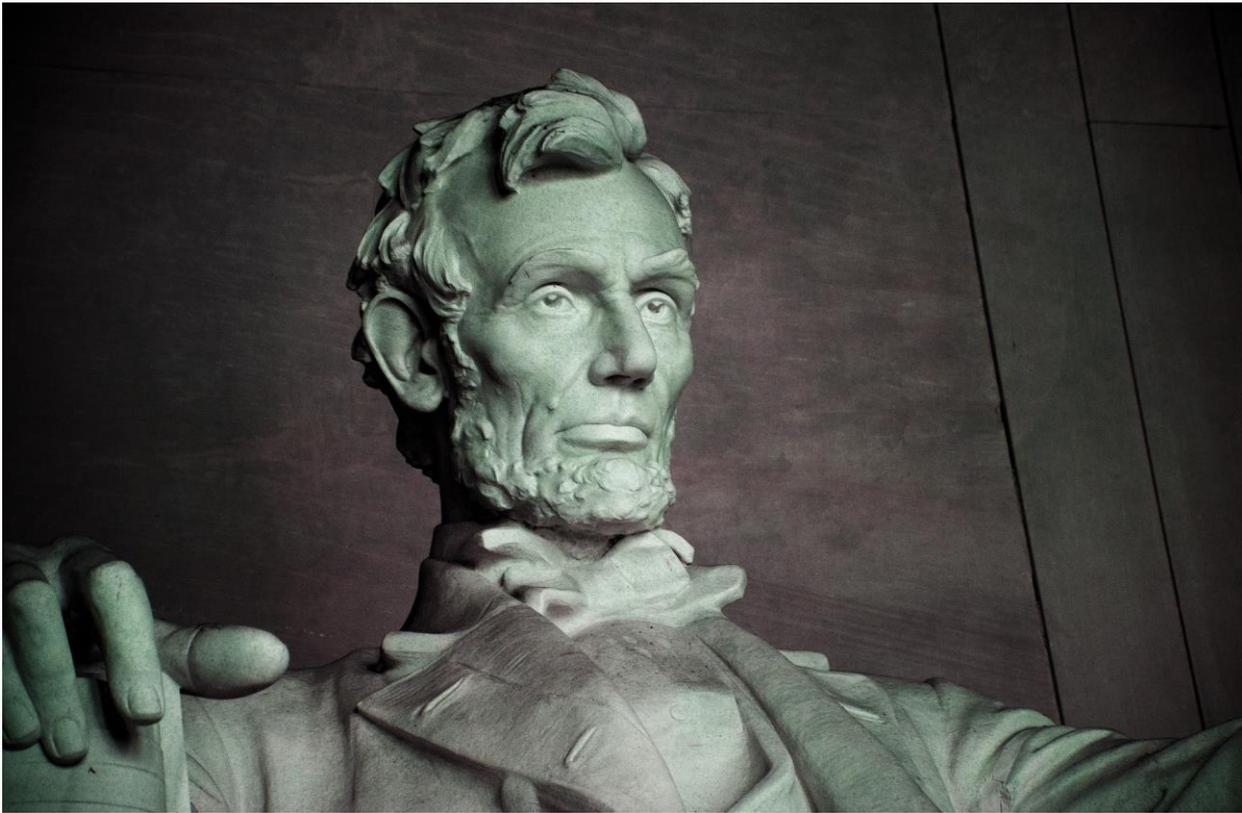
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How to Use the Toolkit

The *Gifted/Talented Teacher Toolkit II* combines information on the following:

- Curriculum evaluation, as related to differentiating Advanced Placement course materials for G/T students;
- The findings of the Advanced Academics Curriculum Evaluation (AACE) Task Force, which evaluated AP courses in the four core academic areas; and
- An interactive curriculum self-assessment tool to help educators assess the strengths and weaknesses of their curricula in meeting the needs of G/T learners.

Within the self-assessment tool, the criteria supplied for evaluation derive from the "[Principles of a Differentiated Curriculum for the Gifted and Talented](#)," as presented by the Curriculum Council of National/State Leadership Training Institute on the Gifted and Talented. These criteria lie within the dimensions of Content, Process, Product, Affect, Talent Development, and Program Design and Administration. Hyperlinked definitions and examples provide further contextual cues to illustrate the meaning of each criterion.

Users have access to the main menu at all times for navigation between the evaluation tool and the supporting task force findings and background information. The assessment data is temporarily stored in the local computer's Flash Player and may not be available from a computer different than the one originally used to complete the evaluation.

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Technical Requirements



Some features require the Adobe Acrobat PDF Reader, which can also be downloaded for free at <http://www.adobe.com/>. Additionally, for optimal viewing, the recommended display settings are a resolution of 1024 x 768 or higher.

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Contact Information

For additional information, contact your regional Education Service Center Gifted/Talented specialist (see http://tea.texas.gov/regional_services/esc/) or

The Special Populations Division

Gifted/Talented Education gtded@tea.texas.gov

512-463-9414

Curriculum Division

curriculum@tea.texas.gov

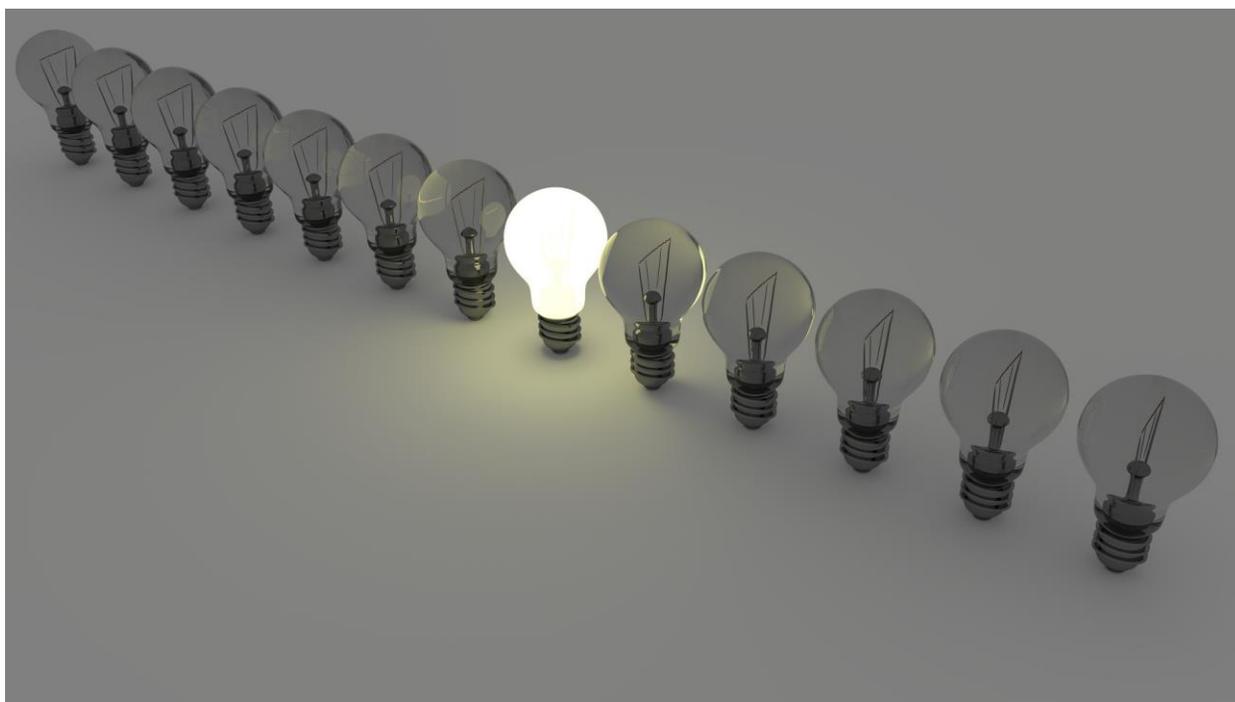
512-463-9581

AP/IB Incentives Program

AP-IB@tea.texas.gov

512-463-8864

Why Differentiate Advanced Placement Courses for Gifted/Talented Students?



Many Texas school districts serve Gifted/Talented (G/T) students through Advanced Placement (AP) and Pre-Advanced Placement (Pre-AP) courses in grades 6-12. While these classes may have enriched or accelerated curriculum, they are not designed specifically for G/T learners. Rather, AP courses are designed for all academically advanced students, and Pre-AP courses exist to increase the pool of students who will enter and be successful in AP courses later in their academic careers.

One [frequently asked question](#) regarding the [Texas State Plan for the Education of Gifted/Talented Students \(State Plan\)](#) is whether it is necessary for AP and Pre-AP teachers to differentiate instruction for G/T learners when these courses are offered as part of the array of G/T services in a district.² The Texas Education Agency (TEA) affirms that curriculum differentiation remains a necessity to best meet the learning needs of gifted students. According to the [National Association for Gifted Children \(NAGC\)](#), differentiation of curriculum and instruction is “an essential part of ensuring that high-ability learners are adequately challenged and make continuous progress.”³ The findings of the Advanced Academics Curriculum Evaluation (AACE) Task Force identify key limitations for AP courses with regard to fully satisfying the needs of G/T learners. These findings suggest modifications that will strengthen the learning experiences delivered through these courses.

As AP and Pre-AP courses are designed for all academically advanced learners, and AP and Pre-AP classrooms often consist of a diverse group of learners, including those identified as G/T, addressing this diversity translates to some form of differentiation or curricular modification. Without such customization, some learners are left behind. Thus, AP and Pre-AP programs used as part of gifted services should provide an experience more akin to “an escalator on which students

² Ibid

³ National Association for Gifted Children (NAGC). (2005). *Hot Topic: Differentiation of Curriculum and Instruction*. <http://www.nagc.org/sites/default/files/Position%20Statement/Differentiating%20Curriculum%20and%20Instruction.pdf><http://www.nagc.org/index.aspx?id=978>.

continually progress, rather than a series of stairs, with landings on which advanced learners consistently wait.”⁴

Advanced Placement Course Objectives and Gifted/Talented Students



Created in 1955, the College Board’s Advanced Placement (AP) Program consists of 35 courses in 20 subject areas designed to provide motivated secondary students with the opportunity to engage in college-level curricula and earn college credit.⁵ AP programs are open to all secondary students who possess the motivation and desire to engage in a more rigorous program of study.

Indeed, the concept that AP courses are designed for *all* students becomes an important distinction when analyzing course materials to address the needs of Gifted/Talented (G/T) students served through such classes. The [Texas State Plan for the Education of Gifted/Talented Students \(state plan\)](#) indicates that districts must “assure an array of learning opportunities that are commensurate with the abilities of Gifted/Talented students, and that emphasize content in the four (4) core academic areas.”⁶ Furthermore, the plan outlines indicators of curriculum and instruction that meet the needs of G/T students by modifying the depth, complexity, and pacing of the school program. An exemplary curriculum geared to G/T students “provides options in intellectual, creative, or artistic areas; leadership; and specific academic fields.”⁷ Finally, the *State Goal for Services for Gifted*

⁴ Tomlinson, C. (1997, May). *What it means to teach gifted learners well*. Instructional Leader. <http://www.nagc.org/index.aspx?id=659>.

⁵ College Board. (2007). *The Advanced Placement Program*. <http://apcentral.collegeboard.com/apc/public/program/index.html>.

⁶ Texas Education Agency. (2000). *Texas Plan for the Education of Gifted/Talented Students*. <http://tea.texas.gov/index2.aspx?id=6420>.

⁷ Ibid

Students states: “Students who participate in services designed for gifted students will demonstrate skills in self-directed learning, thinking, research, and communication as evidenced by the development of innovative products and performances that reflect individuality and creativity and are advanced in relation to students of similar age, experience, or environment. High school graduates who have participated in services for gifted students will have produced products and performances of professional quality as part of their program services.”

The central issue guiding the work of the AACE Task Force is determining the extent to which AP course materials can provide the opportunities and learning experiences that meet the needs of gifted learners as outlined by the [State Plan](#). This issue should also be the focal point for educators engaged in their own curriculum evaluation, either using the interactive assessment tool provided in this toolkit or through locally designed instruments. Because the [State Plan](#) focuses on the four core areas, AP courses in those areas can be one option districts may choose as they design their array of services for G/T learners. However, the [State Plan](#) indicates that when working with G/T students, educators must differentiate AP course materials to meet the specific needs of these learners.⁸ The findings of the AACE Task Force support this idea.

⁸ Ibid

Common Ground between Advanced Placement and Gifted/Talented

The Advanced Academics Curriculum Evaluation (AACE) Task Force work indicates that Advanced Placement (AP) courses can provide the rigor needed by Gifted/Talented (G/T) students; however, rigor is not all that these students need to reach their full potential. The task force work notes that AP courses can provide a springboard of knowledge and skills for the student to participate in the [Texas Performance Standards Project \(TPSP\)](#).



Each course addresses the needs of G/T students in varying ways. The goal of the AACE Task Force was to identify areas where four core AP courses (AP Biology, AP English Language and Composition, AP Calculus AB, and AP U.S. History) provide explicit differentiation strategies and meet the needs of G/T learners. The task force also focused on ways the teacher will need to modify the course(s) for those learners.

The task force based its analysis of course materials on materials easily accessible to all teachers of AP courses (Course Descriptions and Teachers' Guides) and designed their assessment around the [Texas State Plan for the Education of Gifted/Talented Students \(State Plan\)](#), the "[Principles of a Differentiated Curriculum for the Gifted and Talented](#)," and Dr. Sandra Kaplan's "[Facilitating the Understanding of Depth and Complexity](#)." The interactive curriculum self-assessment tool within this toolkit derives from the [AACE Task Force Checklist](#), created by the members of the AACE Task Force during their curriculum evaluation process. In order to understand the criteria included in the assessment tool, it is helpful for users to review the characteristics of G/T learners, methods for adding depth and complexity, and general considerations for G/T English Language learners, twice-exceptional students, and low-socioeconomic G/T students.

Characteristics of Gifted/Talented Learners



As educators consider customizing Advanced Placement (AP) course materials for Gifted/Talented learners, it is helpful to keep in mind some of the key characteristics of these learners that contrast with bright children who might also enroll in AP classes.

- [“Characteristics of Gifted and Talented Learners”](#)
- [Dr. Linda Silverman’s “Characteristics of Giftedness”](#)
- [“Renzulli Hartman Rating Scale”](#)
- [Characteristics of English Language Learners](#)
- [Characteristics of Economically Disadvantaged Gifted Learners](#)
- [Characteristics of Twice-Exceptional Learners](#)

Dimensions of Depth and Complexity

Dr. Sandra Kaplan has developed numerous resources linked to scholarly behaviors exhibited by Gifted/Talented (G/T) students and resources in learning theory as it applies to G/T education. Kaplan’s work can guide educators in differentiating the curriculum by infusing depth and complexity, thus providing learning experiences rich in content and suited to the G/T learners’ needs.

[“Facilitating the Understanding of Depth and Complexity”](#)

Evaluating Curriculum Materials for Gifted/Talented Students

Dr. E. Jean Gubbins' notes in a paper for the National Research Center on the Gifted and Talented, "Whether your district's program is relatively new or fully established, it is important to revisit why you developed specific programs and services and determine how these programs and services promote high-end learning opportunities."⁹ Thus, evaluation of curricula offered as part of a district's array of Gifted/Talented (G/T) services, including Advanced Placement (AP) and International Baccalaureate (IB) course materials, should hinge on how to address the needs of gifted learners and should align with the "[Principles of a Differentiated Curriculum for the Gifted and Talented](#)" put forth at the National Conference on Curricula for the Gifted/Talented.

According to the [National Association for Gifted Children](#), differentiation of curriculum and instruction for gifted learners should include not only acceleration of content materials (or pacing), but "in-depth study, a high degree of complexity, advanced content, and variety in content and form."¹⁰ Finally, the *State Goal for Services for Gifted Students* mandates that students who receive gifted services in Texas demonstrate advanced knowledge and skills through the development of professional-quality products or performances.¹¹

Thus, evaluating course materials and instructional strategies requires both formal and informal processes defined by local committees and/or teams of educators throughout a district, [The State Plan](#), the "[Principles of a Differentiated Curriculum for the Gifted and Talented](#)," as well as the scoring scale for programs like the [Texas Performance Standards Project](#), might serve as guides for developing evaluation rubrics or checklists. However, the evaluation effort should be ongoing and may include data collection ranging from interviews, portfolios, formal observations, program records, logs, journals, test scores, and other assessment tools.

⁹ Gubbins, J. (1998). *NRC/GT's Suggestions: Evaluating your Programs and Services*. <http://eric.ed.gov/ERICWebPortal/contentdelivery/servlet/ERICServlet?accno=ED424707>.

¹⁰ National Association for Gifted Children (March 22, 2014). *Differentiating Curriculum and Instruction for Gifted and Talented Students*. <https://www.nagc.org/sites/default/files/Position%20Statement/Differentiating%20Curriculum%20and%20Instruction.pdf>.



The task force designed the Advanced Academics Curriculum Evaluation System (AACES) by adapting indicators from three sources: the “[Principles of a Differentiated Curriculum for the Gifted and Talented](#),” “[Facilitating the Understanding of Depth and Complexity](#),” and the original [Texas Performance Standards Pilot Project Scoring Scale](#). The task force also employed measures specific to concerns related to gifted students from poverty. The original purpose of the tool was to guide the task force in their AP course evaluation work. Modified over the years, the tool now includes six sections:

- Content
- Process
- Product
- Affect
- Talent Development
- Program Design and Administration

For reference, the complete printer-friendly version of this evaluation tool is available for [download](#).

Educators often debate how best to evaluate curriculum materials. The ways each evaluator defines criteria, decides rules, and intuits or forms judgments can present significant challenges when the end goal is a consensus related to the applicability of course materials to a particular group of students’ needs. However, educators agree that evaluation should be deliberate and relate to student learning.

Four steps described by Deborah Fournier can provide a starting point for any evaluation:¹²

1. Establishing criteria of merit. *On what dimensions must the student do well?*

¹² Fournier, D.M. (Ed.). (1995, Winter). Reasoning in Evaluation: Inferential Links and Leaps. *New Directions for Evaluation*, 48.

2. Constructing standards. *How well should the student perform?*
3. Measuring performance and comparing with standards. *How well did the student perform?*
4. Synthesizing and integrating data into a judgment of merit or worth. *What is the merit or worth of the student's work?*

The AACES addresses steps one and two. The evaluator should complete steps three and four as they relate to the learning needs of the school community following the self-assessment evaluation process. Furthermore, through the process of “[naturalistic generalizations](#),” educators can facilitate change and improve practice.¹³ At its core, in “naturalistic generalizations,” the evaluator combines all he/she knows with all that he/she can learn through a formal process in order to judge the value of the curriculum for the learners. The evaluator collects data on an observed value and compares that to a standard.¹⁴

History of the Texas Incentive Program for Advanced Placement and the Advanced Academic Curriculum Evaluation Task Force

During the 73rd Session of the Texas Legislature, lawmakers created the Texas Incentive Program for Advanced Placement (TEC §28.051-28.058) to reward students, campuses, and teachers for high performance on College Board Advanced Placement (AP) or International Baccalaureate (IB) program examinations. Following these efforts, the 77th Texas Legislature promoted increased access and enrollment in these programs for underserved and economically disadvantaged students. Today, the overall goal remains to increase participation and raise achievement levels in AP/IB classes as measured by numbers of students taking AP exams and scores received on those exams.

¹³ Stake, R. & Trumbull, D. (1982). *Naturalistic generalizations*. University of Illinois at Urbana-Champaign: Center for Instructional Research and Curriculum Evaluation.

¹⁴ Stake, R. (1973, October). Keynote presentation at a conference on “New Trends in Evaluation” at the Institute of Education at Goteborg University.



The Advanced Academics Curriculum Evaluation (AACE) Task Force was developed to address this goal of the 77th Legislature with regard to implementing the Texas Incentive Program for Advanced Placement, and the work of this collaborative was supported by additional funding designated for Gifted/Talented (G/T) services in the state. Additionally, the task force's work focused on the retention of students identified for G/T services in the secondary school years.

In order to enhance program services and retain G/T students, the task force evaluated current AP coursework for its relative strengths or limitations in addressing the needs of G/T learners through differentiated activities/strategies. As the [State Plan](#) places emphasis on the four core areas of mathematics, science, social studies, and language arts, the task force chose to evaluate four corresponding courses widely tested in Texas:

- AP Biology
- AP Calculus AB
- AP English Language and Composition
- AP U.S. History

Although the pool of evaluators comprising the task force consisted of a relatively small group of educators, the work of this group serves as an example and resource for AP teachers and consultants working through their own curricula evaluation process.

Task Force Purpose and Methods

The Advanced Academics Curriculum Evaluation (AACE) Task Force evaluated the courses using documents made available through the College Board to all Advanced Placement (AP) teachers, specifically the course descriptions, commonly called ACORN books, lab manuals (for AP Biology), and teacher's guides. Within these documents, each content area team focused on the following:

- Finding examples of differentiation within the AP objectives and guidelines
- Discovering explicit descriptions within the course overviews that are appropriate for gifted learners
- Summarizing the strengths and limitations of the courses in meeting the needs of Gifted/Talented (G/T) learners
- Making recommendations for areas where teachers should differentiate for G/T learners

2006 Advanced Academics Curriculum Evaluation Task Force Examples

Overall, the Advanced Academics Curriculum Evaluation (AACE) Task Force identified both strengths and limitations inherent within the Advanced Placement (AP) course materials with regard to differentiation for Gifted/Talented (G/T) students. Their findings indicate that the rigor and accelerated pacing of the content are present. However, differentiation for G/T learners must be directly addressed.

Using the [evaluation checklist](#), the task force specialists analyzed each AP course according to the following scale:

1. Indicates that the element was not present
2. Suggests that there is potential in the lesson, but the inclusion of the element is not overt
3. Signifies that the element is found

The AP Calculus AB course provided the least evidence of overt differentiation strategies in the course materials and would subsequently need the most modifications. Conversely, AP English Language and Composition provided the most overt opportunities for differentiating for G/T students. Among the four domains measured in the *Advanced Academics Curriculum Evaluation System* (AACES) evaluation, elements in the Affect area received low scores, while the Content area scored highest.

AVERAGE SCORES FROM THE AACE TASK FORCE EVALUATION

Category	AP Biology	Calculus AB	English Language and Composition	U.S. History
CONTENT	2.6	1.9	2.6	2.1
PROCESS	2.7	1.9	2.7	2.6
PRODUCT	2.3	1.5	2.7	1.7

AFFECT	1.7	1.0	2.7	2.7
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AACE TASK FORCE FINDINGS

Category	#	Descriptor	Bio	Calc	ELC	USH
CONTENT	1	Presents content related to broad issues, themes, or problems	3	3	3	3
CONTENT	2	Integrates multiple disciplines	3	3	3	2
CONTENT	3	Presents comprehensive, related, and mutually reinforcing experiences	3	3	3	2
CONTENT	4	Allows for in-depth learning of a self-selected topic	2	1	2	2
CONTENT	5	Addresses dilemmas, controversies, biases, and ethical questions involved in the discipline	3	1	3	3
CONTENT	6	Addresses "unanswered questions" or issues still not understood about this discipline	3	1	3	1
CONTENT	7	Requires students to formulate questions, predict and hypothesize about these questions, and then judge the credibility of these explanations	3	3	3	3
CONTENT	8	Fosters connection between content and potential career fields and/or leadership opportunities	3	2	2	1
CONTENT	9	Offers opportunities for students to engage in activities aligned with students' individual strengths, preferences, or interests	2	1	3	2
CONTENT	10	Pulls information from varied resources and media (such as texts, books, articles, and primary source material)	3	2	3	3
CONTENT	11	Allows for the acceleration of content in an area of strength	2	1	2	1
CONTENT	12	Integrates fine arts with content learning	1	1	1	2
CONTENT	13	Accelerates learning of basic skills through complex presentation	3	3	3	2
CONTENT	14	Links emotion and experience to learning	2	2	3	2

AVERAGES 2.6 1.9 2.6 2.1						
Category		Descriptor	Bio	Calc	ELC	USH
PROCESS	1	Develops independent or self-directed study skills	2	1	3	3
PROCESS	2	Focuses on open-ended tasks	3	1	3	2
PROCESS	3	Integrates basic skills with higher-level thinking skills	3	3	3	3
PROCESS	4	Develops complex, abstract, and/or higher-order thinking skills	3	3	3	3
PROCESS	5	Develops a research-oriented model for acquiring and synthesizing information	3	2	2	3
PROCESS	6	Encourages the acquisition of skills, methodologies, and dispositions of professionals practicing in the field	3	2	3	3
PROCESS	7	Offers an array of learning opportunities that include whole-class, small-group, and individual instruction and activities	3	2	3	2
PROCESS	8	Offers out-of-school learning options	2	1	2	1
PROCESS	9	Offers assignments that include visual and verbal components	3	3	3	3
PROCESS	10	Uses graphic organizers to develop concepts	2	1	2	3
AVERAGES 2.7 1.9 2.7 2.6						
Category		Descriptor	Bio	Calc	ELC	USH
PRODUCT	1	Develops products that challenge existing ideas and produce "new" ideas	3	1	3	1
PRODUCT	2	Develops products that use new techniques, materials, and forms	3	1	3	1
PRODUCT	3	Evaluates student outcomes through self-appraisal, criterion-referenced, and/or standardized instruments	3	2	3	3
PRODUCT	4	Develops products related to real-world applications or problem solving	3	2	2	2
PRODUCT	5	Offers opportunities for students to interact with role models, community resources, or professionals in the field	1	1	2	1

PRODUCT	6	Offers opportunities for in-class projects and homework	1	2	3	2	
			AVERAGES	2.3	1.5	2.7	1.7
Category		Descriptor	Bio	Calc	ELC	USH	
AFFECT	1	Encourages the development of self-understanding	2	1	3	2	
AFFECT	2	Encourages growth and change in the student's abilities and personal outlooks	2	1	3	3	
AFFECT	3	Includes mentors/tutors who share common interests and talents with students	1	1	2	3	
			AVERAGES	1.7	1.0	2.7	2.7

Cross-Disciplinary Strengths and Weaknesses

After assessing the curriculum per the scoring dimensions of the evaluation checklist, Wichita Falls High School educator Ward Roberts compiled the data and summarized the areas where the four courses were strongest in meeting the needs of gifted learners and the areas where additional instructional strategies were needed. Overall, strengths occurred only in the Content and Process domains. Weaknesses were found in the Product, Process, and Content domains.

		STRENGTHS
		Areas in which all four content area programs scored "3"
CONTENT	1	Presents content related to broad issues, themes, or problems
CONTENT	7	Requires students to formulate questions, predict and hypothesize about these questions, and then judge the credibility of these explanations
PROCESS	3	Integrates basic skills with higher-level thinking skills
PROCESS	4	Develops complex, abstract, and/or higher-order thinking skills
PROCESS	9	Offers assignments that include visual and verbal components

		STRENGTHS
		Areas in which three of the four content area programs scored "3"
CONTENT	2	Integrates multiple disciplines

CONTENT	3	Presents comprehensive, related, and mutually reinforcing experiences
CONTENT	10	Pulls information from varied resources and media (such as texts, books, articles, and primary source material)
CONTENT	13	Accelerates learning of basic skills through complex presentation
PROCESS	6	Encourages the acquisition of skills, methodologies, and dispositions of professionals practicing in the field

WEAKNESSES		
Areas in which three of four content area programs scored "1"		
CONTENT	12	Integrates fine arts with content learning
PRODUCT	5	Offers opportunities for students to interact with role models, community resources, or professionals in the field

WEAKNESSES		
Areas in which half of the content areas scored "1"		
CONTENT	4	Allows for in-depth learning of a self-selected topic
CONTENT	6	Addresses "unanswered questions" or issues still not understood about this discipline
CONTENT	11	Allows for the acceleration of content in an area of strength
PROCESS	8	Offers out-of-school learning options
PRODUCT	1	Develops products that challenge existing ideas and produce "new" ideas
PRODUCT	2	Develops products that use new techniques, materials, and forms

With regard to criteria in each domain, only AP Calculus scores indicated a lack of potential for differentiating according to Content. Scores from all four courses showed potential for differentiating according to Process. Further, scores from AP English Language and Composition and AP Biology indicated some potential for addressing criteria in the Product domain. In the Affect domain, neither the AP Biology nor AP Calculus AB courses scored well, indicating that educators need to supplement with additional strategies in these areas.

Overall, the AP English Language and Composition course consistently provides the most evidence of differentiation strategies in each category. The AP Calculus AB course consistently provides the

least evidence of differentiation in each category. The AP Biology course scores sufficiently in every category except Affect, and the AP U.S. History scores sufficiently in every category except Product.

Overall Implications for Gifted/Talented Students from Poverty

The Advanced Academics Curriculum Evaluation (AACE) Task Force compiled scores for the criteria of significance for addressing the needs of Gifted/Talented (G/T) students from poverty and found varying results. For example, the 2.0 average of scores for Advanced Placement (AP) Biology in the criteria pertinent to G/T students from poverty indicates that the course has potential to meet the needs of these learners, if educators supplement the instructional materials and strategies.

However, this score does not address enough of the needs of G/T students from poverty to be considered suitable without modification. Missing elements include integrating the fine arts with content learning. For AP Calculus AB, fine arts integration is also missing, in addition to a lack of support for use of graphic organizers and relationship building with mentors/tutors. Acceleration through basic skills and visual/verbal assignments are the strengths present in the AP Calculus AB course. The average indicates that there is potential for this population's needs to be met through the AP Calculus AB course, but that the special needs of this group are not built into the curriculum and need to be added by the individual educator.

Additionally, the task force found that for AP English Language and Composition, the only weak measure occurred under Content #1 (integrates the fine arts with content learning). Otherwise, this AP course indicated strong potential for addressing the needs of the Gifted/Talented students from poverty. Finally, the average of 2.4 showed positive results for AP U.S. History. The only element the task force found lacking for AP History was work with mentors/tutors.

ELEMENTS PARTICULAR TO STUDENTS FROM POVERTY						
ELEMENT	#	DESCRIPTOR	BIOLOGY	CALCULUS AB	ENGLISH L & C	U.S. HISTORY
CONTENT	12	Integrates fine arts with content learning	1	1	1	2
CONTENT	13	Accelerates learning of basic skills through complex presentation	3	3	3	2

CONTENT	14	Links emotion and experience to learning	2	2	3	2
PROCESS	7	Offers an array of learning opportunities that include whole-class, small-group, and individual instruction and activities	3	2	3	2
PROCESS	9	Offers assignments that include visual and verbal components	3	3	3	3
PROCESS	10	Uses graphic organizers to develop concepts	2	1	2	3
PRODUCT	6	Offers opportunities for in-class projects and homework	1	2	3	3
AFFECTIVE	3	Includes mentors/tutors who share common interests and talents with students	1	1	2	1

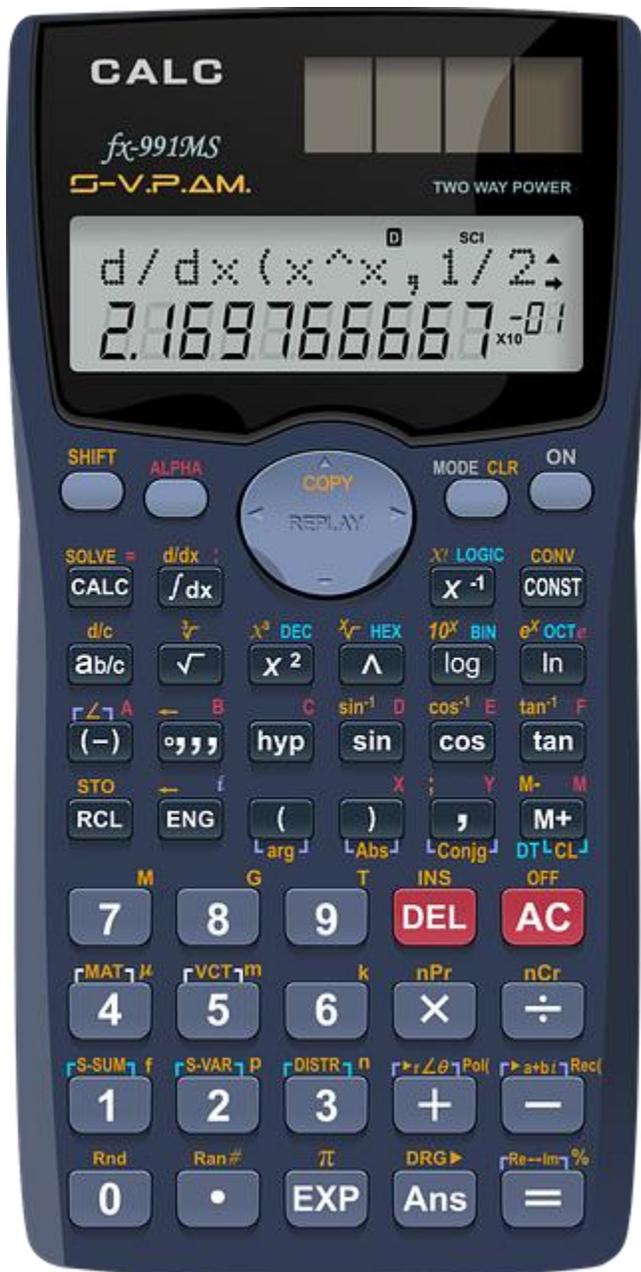
AP Biology Course Evaluation



The Advanced Academics Curriculum Evaluation (AACE) Task Force found specific evidence of strategies in Advanced Placement (AP) Biology aiding differentiation in the Process and Content domains. The lowest scores for AP Biology occurred in the Affect domain. Due to these low scores, the task force concluded that without modification, products developed in AP Biology do not meet the needs of Gifted/Talented (G/T) learners, especially with regard to developing personal interests and expressing creativity. Additional concerns included the amount of in-class time allowed for course projects, which could pose obstacles to differentiation in depth and complexity. Furthermore, there were no embedded strategies for mentoring students. Thus, teachers should modify the curriculum to allow for individual, creative project work and establish mentoring relationships with professionals from the community. Addressing these specific issues would satisfy the task force's primary concerns and would help differentiate the materials for G/T learners.

[Download the full table of scores.](#)

AP Calculus AB Course Evaluation



According to the Advanced Academics Curriculum Evaluation (AACE) Task Force, Advanced Placement (AP) Calculus AB scored best in the Content and Process domains. Some items in the Product domain indicated potential for differentiation, but the Affect domain yielded no overt strategies for meeting the needs of gifted learners. Furthermore, career connections and varied resources were not explicit in the course materials. Including connections to math-related career fields and providing more varied resources and manipulatives could increase Gifted/Talented (G/T) students' understanding in the content and process domains, as well as develop personal interests as noted in the Affect domain. Further recommendations by the task force's mathematics specialists included providing gifted learners with alternative upper-level mathematics courses, like AP Statistics, which have a greater potential for differentiation strategies, such as AP Statistics.

[Download the full table of scores.](#)

AP English Language and Composition Course Evaluation



Of the courses evaluated by the Advanced Academics Curriculum Evaluation (AACE) Task Force, Advanced Placement (AP) English Language and Composition scored highest in terms of providing evidence of explicit differentiation strategies across all domains. Thus, this course came closest to meeting the needs of Gifted/Talented (G/T) learners without further modification. However, the course did not provide for mentoring opportunities or necessarily allow students to pursue individual creative pursuits. The course also failed to integrate fine arts into content learning, a strategy particularly relevant to G/T learners from poverty. Thus, the task force recommended that educators:

- organize the content thematically around a broad-based idea or contemporary issue to add complexity,
- allow for student choice in reading and/or writing assignments to help learners connect with their individual interests,
- strengthen individual ideas through partnerships with mentors involved with English Language and Composition-related careers,
- provide students the opportunities to work with mentors in publishing works, and
- integrate the unit with fine arts content learning and skills.

Additionally, the task force's AP English Language specialists recommended that AP teachers attend G/T training sessions in order to best understand how to meet the needs of G/T learners, including G/T students from poverty, in their classrooms.

[Download the full table of scores.](#)

AP U.S. History Course Evaluation



Advanced Placement (AP) U.S. History appeared strong in the Process and Affect areas, with weaknesses in the Product and Content areas. The content in AP U.S. History focused on dilemmas, controversies, and ethical questions, yet allowed little opportunity for development of innovative products, according to the Advanced Academics Curriculum Evaluation (AACE) Task Force. Furthermore, the curricular focus on human and social systems helped students develop self-understanding and fostered personal growth, as required in the Affect domain. However, the task force recommended that educators organize the content around interdisciplinary themes to strengthen the differentiation potential in the Content domain. Also, educators must address the constraints of limited class time and expertise in aiding students who plan to develop innovative products. AP U.S. History products could form a foundation for students to build on for the Texas Performance Standards Project (TPSP). If students, especially those from poverty, are provided the opportunity to work with mentors on a TPSP in AP U.S. History, the educator can strengthen elements in the Affect domain. Additionally, educators could greatly enhance the applicability of the Content and Process domain items in AP U.S. History. Professional development related to implementing differentiation strategies for Gifted/Talented (G/T) learners, especially gifted learners from poverty, would facilitate this.

[Download the full table of scores.](#)

Promoting Depth and Complexity in the Classroom

Addressing the needs of Gifted/Talented (G/T) students within the context of an Advanced Placement (AP) course comprised of learners with a range of abilities can present challenges to busy educators. Fortunately, numerous resources exist for promoting depth and complexity and differentiating curricula for the G/T student.

Complete List of Websites

The *Advanced Academics Curriculum Evaluation System (AACES)* contains both links to source documents used in defining areas for differentiation, and links to websites to help educators implement these strategies.

[*Achieving Academic Excellence Through Rigor and Relevance*](#)

[*Addressing Underrepresentation of Gifted Minority Children Using the Naglieri Nonverbal Ability Test*](#)

[*Benefits of Integrating Fine Arts Across the Curriculum*](#)

[*Bloom's Taxonomy*](#)

[*Bridging the Gap: A Tool and Technique to Analyze and Evaluate Gifted Education and Curricular Units*](#)

[*Case Study of Rockview High School: Thinking Across Disciplines*](#)

[*Defining 'Fine': Communicating Academic Progress to Parents Commentary*](#)

[*Developing Research Skills*](#)

[*Development of Scientific Reasoning Skills*](#)

[*Differentiated Instruction*](#)

[*Equity in Gifted Education*](#)

[*Establishing Classroom Management for Cooperative Learning: 3 Cases*](#)

[*Facilitating the Understanding of Depth and Complexity*](#)

[*Getting Started with Academic Skills*](#)

[*Graphic Organizers*](#)

[*Importance of Fine Arts Education*](#)

[*Infusing Multicultural Content into the Curriculum for Gifted Students*](#)

[*Instructional Strategies: Curriculum Compacting, Resources for Compacting*](#)

[*Integrating the Arts into the Curriculum for Gifted Students*](#)

[*Joy and Loss: The Emotional Lives of Gifted Children: The Virtue/Vice of Perfectionism*](#)

[*Kennedy Center Arts Integration Guide*](#)

[*Learning Styles*](#)

[Mapping a Route Toward Differentiated Instruction](#)

[Meeting the Needs of Gifted and Talented Minority Language Students](#)

[Mentors, Role Models, and Heroes in the Lives of Gifted Children](#)

[Open Ended Tasks](#)

[Position Statement: Acceleration](#)

[Principles of a Differentiated Curriculum for the Gifted and Talented](#)

[Questions and Answers on the State Plan: Student Assessment Real World Learning](#)

[TEA Gifted/Talented Education Website](#)

[Texas Performance Standards Project High School Tasks](#)

[Texas Performance Standards Project: High School Assessment Rubric](#)

[Texas State Plan for the Education of Gifted/Talented Students](#)

[Understanding the Emotional, Intellectual, and Social Uniqueness of Growing Up Gifted](#)

[Universal Design for Learning](#)

[Visual/Verbal Learners](#)

[What Is a Mentor: The Mentoring Relationship](#)

References and Further Reading

A complete list of works used by the Advanced Academics Curriculum Evaluation (AACE) Task Force in the development of this toolkit follows:

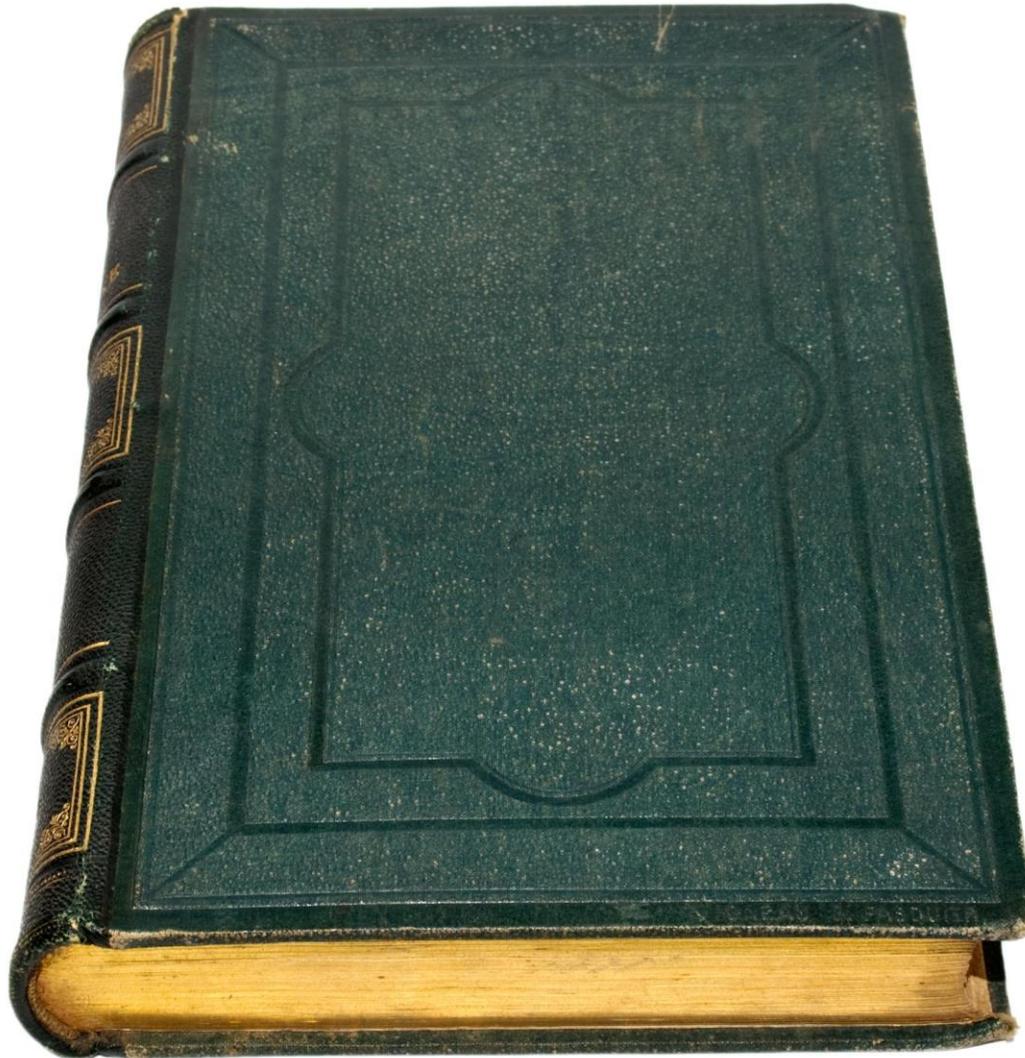
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Texas Education Agency. (2000). *Texas Plan for the Education of Gifted/Talented Students*. <http://tea.texas.gov/index2.aspx?id=6420>.

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Additional Resources for Extending Curricula

Besides resources available throughout this toolkit, educators can check out these additional resources to discover professional development opportunities, Gifted/Talented (G/T) programs, and information on instructional strategies and materials for adding depth and complexity to existing curricula.

Professional Development Opportunities

[Rice University Advanced Placement \(AP\) Institutes](#)

Siva Kumari at Rice University has initiated a workshop for integrating Gifted/Talented (G/T) education strategies with AP Institute material.

[AP Institutes](#)

The College Board may include gifted education with official AP Institutes or two-day workshops.

[Education Service Center \(ESC\) Workshops](#)

Education Service Centers throughout the state host workshops on curriculum and instructional strategies for educating G/T learners.

[Texas Association of Gifted and Talented \(TAGT\) Workshops](#)

Additionally, TAGT workshops on curriculum compacting or creating thematic units can benefit Pre-AP and AP educators.

Instructional Strategies, Curriculum, Assessments, and Online Resources

[Texas Performance Standards Project](#)

The Texas Performance Standards Project (TPSP) is a statewide standards and assessment system for capturing the high levels of achievement of Gifted/Talented (G/T) students. The goal of the TPSP is for students to create work that reflects the professional quality that the [Texas State Plan for the Education of Gifted/Talented Students \(State Plan\)](#) requires. Student projects are Texas Essential Knowledge and Skills (TEKS)-based and focus on the core content areas of English language arts, mathematics, science, and social studies, with interdisciplinary connections.

[Texas Education Agency \(TEA\) Lighthouse Initiative](#)

The Lighthouse Initiative was created **by teachers for teachers** to help plan and coordinate middle school and high school academic programs to enable all students to participate in advanced classes. The Lighthouse documents are not created for differentiation and do not provide appropriate examples of curriculum for G/T students. They do provide curriculum examples that can be modified for G/T students.

[Equity in Gifted Education](#)

In June 2003, the TEA convened a task force for the purpose of examining trends and practices in G/T programs in Texas. Specifically, this group focused on patterns and trends with regards to identifying students from different racial/ethnic, socioeconomic, and cultural groups who are underrepresented in programs for G/T students. As a result of the task force's findings, a *G/T Equity Toolkit* has been designed to provide educators with the tools and understanding they need to ensure equitable access to G/T services among all populations in Texas.

[Gifted/Talented Teacher Toolkit I](#)

The first *G/T Teacher Toolkit I* was developed in 2006 to facilitate the teaching of research skills to G/T students. Originally designed as a CD application, the toolkit is now available through [the TEA website](#).

Glossary

Many of the terms in this section derive from the [Texas State Plan for the Education of Gifted/Talented Students](#) (State Plan) (2009).

Acceleration

See *Pacing*. Acceleration can also refer to grade skipping.

Array of Learning Experiences

A menu of challenging learning experiences or opportunities that fits the unique interests and abilities of advanced level students

Complexity

Extending content in, between, and across disciplines through the study of themes, problems, and issues; seeing relationships between and among ideas in/within the topic and disciplines; examining relationships in, between, and across disciplines over time, and from multiple points of view (For additional examples see "[Facilitating the Understanding of Depth and Complexity](#)").

Continuum of Learning Experiences

Articulated learning experiences that provide planned experiences that build upon one another each year a student is in school

Depth

Exploration of content within a discipline; analyzing from the concrete to the abstract, familiar to the unfamiliar, known to the unknown; exploring the discipline by going past facts and concepts into generalizations, principles, theories, and laws; investigating the layers of experience within a discipline through details, patterns, trends, unanswered questions, and ethical considerations (For additional examples, see "[Facilitating the Understanding of Depth and Complexity](#)")

Pacing

Modifications so that curriculum is presented either more quickly or more slowly than the general classroom pace, in order to accelerate or allow for deep interest that requires more time

Performance Standards

A set of research-based standards and an accompanying assessment system that captures the high levels of achievement that Gifted/Talented (G/T) students are able to exhibit (For complete details, visit the Texas Performance Standards Project [website](#)).

Research

The search for truth; systematic approaches to determine a conclusion that can be duplicated with statistical integrity

Theme

A unifying or dominant idea

Universal themes are those broad-based ideas or issues that permeate all disciplines (e.g., change, structure, conflict, systems, etc.). A universal theme may be incorporated with a discipline to specify its point of view; for example, historical changes, biological changes, mathematical changes, or language changes.

Topic

The question or area of study that is the focus of the project

The topic is narrow enough in scope to allow for an in-depth, original study utilizing some degree of primary sources and analysis.

Advanced Academics Curriculum Evaluation System

Highlighted cells indicate elements with particular importance to gifted students from poverty.

CONTENT		
Indicator	Primary Resource(s)	Supplemental Resource(s)
1. Presents content related to broad issues, themes, or problems	<i>Principles of a Differentiated Curriculum for the Gifted and Talented</i> <i>Facilitating the Understanding of Depth and Complexity</i>	
2. Integrates multiple disciplines	<i>Principles of a Differentiated Curriculum for the Gifted and Talented</i> <i>Facilitating the Understanding of Depth and Complexity</i>	<i>Differentiated Instruction</i> <i>Mapping a Route Toward Differentiated Instruction</i>
3. Presents comprehensive, related, and mutually reinforcing experiences	<i>Principles of a Differentiated Curriculum for the Gifted and Talented</i>	<i>Case Study of Rockview High School: Thinking Across Disciplines</i>
4. Allows for in-depth learning of a self-selected topic	<i>Facilitating the Understanding of Depth and Complexity</i>	
5. Addresses dilemmas, controversies, biases, and ethical questions involved in the discipline	<i>Facilitating the Understanding of Depth and Complexity: Ethics</i>	
6. Addresses “unanswered questions,” or issues still not understood about this discipline	<i>Facilitating the Understanding of Depth and Complexity: Unanswered Questions</i>	
7. Requires students to formulate questions, predict and hypothesize about these questions, and judge the credibility of these explanations	<i>Facilitating the Understanding of Depth and Complexity: Details, Rules, Patterns, Trends, Unanswered Questions, Big Idea, Over Time</i>	
8. Fosters connection between content and potential career fields and/or leadership opportunities	<i>Facilitating the Understanding of Depth and Complexity: Big Idea</i>	<i>Achieving Academic Excellence through Rigor and Relevance (pp. 2-3)</i>

9. Offers opportunities for students to engage in activities aligned with students' individual strengths, preferences, or interests	<u>Excerpts from <i>Bridging the Gap: A Tool and Technique to Analyze and Evaluate Gifted Education and Curricular Units</i></u> <u>Texas Performance Standards High School Tasks</u>	<u>Learning Styles</u> <u>Universal Design for Learning</u> <u>Infusing Multicultural Content into the Curriculum for Gifted Students</u>
10. Pulls information from varied resources and media (such as text books, articles, and primary source material)	<u>Excerpts from <i>Bridging the Gap: A Tool and Technique to Analyze and Evaluate Gifted Education and Curricular Units</i></u> <u>Texas Performance Standards Project: High School Tasks</u>	<u>Research Skills (pp. 5-8)</u> <u>Elements of Depth and Complexity: Resources</u>
11. Allows for the acceleration of content in an area of strength		<u>Instructional Strategies: Curriculum Compacting, Resources for Compacting</u> <u>Position Statement: Acceleration</u>

12. Integrates fine arts with content learning	<u>Equity in Gifted & Talented Education</u> <u>Integrating the Arts into the Curriculum for Gifted Students</u> <u>Curriculum: Fine Arts</u> <u>Center for Educator Development in Fine Arts (CEDFA)</u>	<u>Benefits of Integrating Fine Arts across the Curriculum</u> <u>The Importance of Fine Arts Education</u> <u>Kennedy Center Arts Integration Guide</u>
13. Accelerates learning of basic skills through complex presentation	<u>Equity in Gifted & Talented Education</u>	
14. Links emotion and experience to learning	<u>Equity in Gifted & Talented Education</u> <u>TEA Gifted/Talented Education Website</u>	<u>Understanding the Emotional, Intellectual, and Social Uniqueness of Growing Up Gifted</u> <u>Joy and Loss: The Emotional Lives of Gifted Children: The Virtue/Vice of Perfectionism.</u>

PROCESS

Indicator	Primary Resource(s)	Supplemental Resource(s)
1. Develops independent or self-directed study skills	<u>Principles of a Differentiated Curriculum for the Gifted and Talented Section 2: Process</u>	<u>Getting Started with Academic Skills</u>
2. Focuses on open-ended tasks	<u>Principles of a Differentiated Curriculum for the Gifted and Talented Section 2: Process</u>	<u>Open Ended Tasks</u>
3. Integrates basic skills and higher-level thinking skills	<u>Principles of a Differentiated Curriculum for the Gifted and Talented Section 2: Process</u>	<u>Bloom's Taxonomy</u>
4. Develops complex, abstract, and/or higher-order thinking skills	<u>Principles of a Differentiated Curriculum for the Gifted and Talented</u>	<u>Facilitating the Understanding of Depth Complexity</u>
5. Develops a research-oriented model for	<u>Developing Research Skills</u>	<u>Facilitating the Understanding of Depth Complexity</u>

acquiring and synthesizing information		
6. Encourages the acquisition of skills, methodologies, and dispositions of professionals practicing in the field	<u>Excerpts from <i>Bridging the Gap: A Tool and Technique to Analyze and Evaluate Gifted Education and Curricular Units</i></u>	<u><i>The Development of Scientific Reasoning Skills</i> 3-5, 8-11, 86-89</u>
7. Offers an array of learning opportunities that include whole-class, small-group, and individual instruction and activities	<u><i>Texas State Plan for the Education of Gifted/Talented Students Section 2: Program Design</i></u>	<u><i>Establishing Classroom Management for Cooperative Learning: 3 Cases</i></u>
8. Offers out-of-school learning options	<u><i>Texas State Plan for the Education of Gifted/Talented Students</i></u>	<u><i>What are some options that would meet the requirement of having out-of-school options when possible?</i></u>
9. Offers assignments that include visual and verbal components	<u><i>Equity in Gifted & Talented Education</i></u>	<u><i>Visual/Verbal Learners</i></u> <u><i>Integrating the Arts into the Curriculum for Gifted Students</i></u>
10. Uses graphic organizers to develop concepts	<u><i>Equity in Gifted & Talented Education</i></u>	<u><i>Graphic Organizers</i></u>

PRODUCT

Indicator	Primary Resource(s)	Supplemental Resource(s)
1. Develops products that challenge existing ideas and produce "new" ideas	<u><i>Principles of a Differentiated Curriculum for the Gifted and Talented Section 3: Product</i></u>	<u><i>Texas Performance Standards Project: High School Tasks</i></u>
2. Develops products that use new techniques, materials, and forms	<u><i>Principles of a Differentiated Curriculum for the Gifted and Talented Section 3: Product</i></u>	<u><i>Texas Performance Standards Project: High School Tasks</i></u>
3. Evaluates student outcomes through self-appraisal, criterion-referenced, and/or standardized instruments	<u><i>Principles of a Differentiated Curriculum for the Gifted and Talented Section 3: Product</i></u>	<u><i>Questions and Answers on the State Plan: Student Assessment</i></u>
4. Develops products related to real-world applications or problem solving	<u>Excerpts from <i>Bridging the Gap: A Tool and Technique to Analyze and Evaluate Gifted Education and Curricular Units</i></u>	<u><i>Texas Performance Standards Project: High School Assessment</i></u> <u><i>Real World Learning</i></u>
5. Offers opportunities for students to interact with role models, community resources, or professionals in the field	<u>Excerpts from <i>Bridging the Gap: A Tool and Technique to Analyze and Evaluate Gifted Education and Curricular Units</i></u>	<u><i>What Is a Mentor, The Mentoring Relationship</i></u>

6. Offers opportunities for in-class projects and homework	Texas Performance Standards Project	Instructional Strategies
AFFECT		
Indicator	Primary Resource(s)	Supplemental Resource(s)
1. Encourages the development of self-understanding	Principles of a Differentiated Curriculum for the Gifted and Talented	Gifted Children and Students Policy (pp. 5-6)
2. Encourages growth and change in the student's abilities toward self-actualization	Excerpts from Bridging the Gap: A Tool and Technique to Analyze and Evaluate Gifted Education and Curricular Units	Gifted Children and Students Policy (pp. 5-6) Principles of a Differentiated Curriculum for the Gifted and Talented
3. Includes mentors/tutors who share common interests with students	Equity in Gifted & Talented Education Mentors, role models, and heroes in the lives of gifted children	What Is a Mentor, The Mentoring Relationship Tips for Parents: Finding a Mentor for Your Gifted Child (p. 23)
TALENT DEVELOPMENT		
Indicator	Primary Resource(s)	Supplemental Resource(s)
1. Offers opportunities for students to engage in activities aligned with students' individual preferences, strengths, or interests	Texas Performance Standards Project: High School Tasks	Learning Styles Universal Design for Learning
2. Fosters connection between content and potential career fields and/or leadership opportunities	Texas Performance Standards Project: High School Tasks	Achieving Academic Excellence through Rigor and Relevance (pp. 2-3)
3. Offers opportunities for students to interact with role models, community resources, or professionals in the field	Texas Performance Standards Project: High School Tasks	What Is a Mentor, The Mentoring Relationship
4. Encourages the acquisition of skills, methodologies, and dispositions of professionals practicing in the field	Texas Performance Standards High School Tasks	The Development of Scientific Reasoning Skills (pp. 3-5, 8-11, 86-89)
PROGRAM DESIGN AND ADMINISTRATION		
Indicator	Primary Resource(s)	Supplemental Resource(s)
1. Offers opportunities for advanced teacher training	Texas State Plan for the Education of Gifted/Talented Students: Professional Development	Professional Development Professional Development Center

<p>2. Promotes the communication of students' progress to parents</p>	<p><u>Texas State Plan for the Education of Gifted/Talented Students: Family-Community Involvement</u></p>	<p><u>Defining 'Fine': Communicating Academic Progress to Parents Commentary</u></p>
<p>3. Describes policies for identification of students which include multiple criteria (qualitative and quantitative) in order to meet the needs of and encouragement of all student populations' participation</p>	<p><u>Texas State Plan for the Education of Gifted/Talented Students: Student Assessment</u></p>	<p><u>Texas Education Agency Gifted/Talented Education Website</u></p> <p><u>Equity in Gifted Education</u></p> <p><u>Addressing Underrepresentation of Gifted Minority Children Using the Naglieri Nonverbal Ability Test</u></p> <p><u>Meeting the Needs of Gifted and Talented Minority Language Students</u></p>