HOW TO USE THE PRIMARY TALENT DEVELOPMENT PRE-K – 2 EARLY LEARNING PROGRAM GUIDE

Early Talent Development: Beginning with the End in Mind

Today's pre-schoolers live and will work in a conceptual age where the competitive edge goes to expert thinkers who know how to identify and solve new problems for which there are no existing solutions. The pipeline that prepares tomorrow's workforce must produce creators, communicators, and inventors with skills that can not be duplicated by computers or outsourced to low-cost labor[1]. However, for the high-achieving, low-income students—an estimated 3.4 million nationally—it is difficult to enter and make it through the pipeline; they are less likely to maintain their high achievement, are more likely to drop out of high school, and less likely to finish college and graduate school than their more affluent peers.[2]

The need for *every* child with a high potential to gain access to high-level learning has never been greater. Since 2006, Maryland has acquired 60,000 highly specialized jobs through the Base Realignment and Closure (BRAC) initiative. School systems have been trying to feed the pipeline through gifted programs and STEM academies, and still, low income, African American, Hispanic, and students with special needs are underrepresented in advanced programs. Too often, these students do not find school mathematics, science, and technology programs engaging and are not choosing careers in science.[3] Their future is at-risk.

Four decades ago, E. Paul Torrance established that "creative teaching," using strategies such as divergent questioning and creative problem-solving, results in *creative learning*, a key factor in the achievement of students from diverse cultures.[4] The Primary Talent Development (PTD) Early Learning Program, PreK – 2, is predicated on this premise and has received national recognition as an exemplary approach for identifying and serving gifted and talented students from diverse backgrounds.[5]

PTD is a science-based expert thinking curriculum based on gifted education and early childhood education theory and practice.   The PTD methodology provides data about student achievement that may not be directly assessed by state proficiency tests but actually may be a more reliable predictor of what students can achieve in the real world. By the completion of Grade 2, each student has a cumulative PTD Behavioral Scale documented by

[1] Pink, D.H. (2006). *A whole new mind: Moving from the information age to the conceptual age*. New York: Penguin Group.

[2] Wyner, J.S., Bridgeland, J.M. & Diulio, Jr., D.J. (2006). *Achievement trap: How America is failing millions of high-achieving students from lower income families*. Lansdowne, VA: Jack Kent Cooke Foundation.

[3] Maryland Aerospace Steering Committee (2006). *Charting new directions: Maryland aerospace industry monograph*. Annapolis, MD: Governor's Workforce Investment Board.

[4] Torrance, E. & Myers, R.E. (1970). *Creative teaching and learning.* Dodd, Mead, and Co.: New York.

[5] Tomlinson, C. et. al. (2004). *In Search of the Dream: Designing School and Classrooms that Work for High Potential Students from Diverse Backgrounds.*

portfolio artifacts that can be used to make referrals for gifted and talented student identification.

Through a grant from the United States Department of Education Jacob K. Javits Gifted and Talented Education Program, the Maryland State Department of Education (MSDE) refined the PTD program and began to document its effects on the identification of gifted and talented students from underrepresented populations. The program was reimagined in 2018 through funding from the State Longitudinal Data Systems (SLDS) grant, at which point all modules and activities were aligned with current Standards and Frameworks, and the spring second-grade module, "Bubbleology," was replaced with one called "Thinking Big," which contained materials developed by the Frederick County Public School System's Office of Advanced Academics, under the direction of Ms. Meg Lee.

In the evaluation of the 2003 - 2008 MSDE Javits grant *Operation Evidence: Potential and Promise in Primary Students,* a quasi-experimental time-lagged study matching schools on demographic variables. When analyzing the representation of diverse student groups identified for gifted and talented education, Cohort 1 (PTD Year 1) made greater progress proportionately in closing the gaps than Cohort 2 (PTD Year 2).[6] A greater percentage of teachers in Cohort 1 reported evidence of high-performance expectations for the students from underrepresented groups (42%) when compared to Cohort 2 (22%).[7] When comparing the mean scores for second graders in the "expert thinking" PTD behaviors, Cohort 1 was significantly higher than Cohort 2, $p < .02$.[8]

What is Primary Talent Development?

The spirit of the Primary Talent Development (PTD) Early Learning Program is to empower teachers as facilitators of talent development throughout the early learning years. This Primary Talent Development PreK – 2 Program Guide uses a science platform to engage *all* students in open-ended, hands-on, problem-solving experiences. These experiences promote the learning behaviors associated with potential and advanced capabilities in young learners: perceptive, communicative, inquisitive, persistent, creative, resourceful, and leadership.

The two PTD modules within each grade focus on four of the seven learning behaviors. Each time one of the seven behaviors is introduced, the module includes a PTD behavior *Focus Lesson* to define and model the learning behavior. Students learn that these behaviors are valued in the learning community and are important tools for academic success and

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[6] Maryland State Department of Education (2007). *Operation evidence: Potential and promise in primary students annual performance report*. Baltimore, MD.

[7] Ibid.

[8] Maryland State Department of Education (2008). *Operation evidence: Potential and promise in primary students annual performance report*. Draft report in progress, Baltimore, MD.

lifelong achievement. Each module consists of six-to-eight sequenced lessons and a summative product-based *bridging experience*.

Three *Essential Strategies*, defined in Section 2 of this guide, are scaffolded across the modules to provide challenge and increase the intensity, frequency, and/or complexity of students' responses. The strategies include *analyzing attributes*, *questioning*, and *creative problem-solving*.

While implementing the Primary Talent Development (PTD) lessons, teachers observe, or "kidwatch" and record notes that document the targeted learning behavior for *all* students. These notes or work samples, called "artifacts," are analyzed and coded using the *Developmental Continuum of Behaviors* [Readiness Emergent Progressing and Independent (REPI)] located and explained in the *Student Portfolio* section of this guide. A portfolio of student artifacts, kept for each student, houses only PTD program documentation and moves with students across the PreK—2 grades. At the end of each school year, teachers refer to every student's portfolio to enter an informed final code on the PTD Cumulative Behavioral REPI Scale. This document becomes part of the student's cumulative record and provides data to support screening for gifted and talented education programming in the subsequent grades.

Along with implementing the PTD modules and collecting data on students' behavioral responses, teachers begin to use the strategies modeled in the lessons to provide a continued challenge. Teachers are encouraged to capture the learning behaviors as they are revealed using checklists embedded in lessons, sticky notes, or audio/video recordings as documentation for students' portfolios.

Goals of the Primary Talent Development Early Learning Program

- Provide opportunities for *all* children to develop and demonstrate advanced learning behaviors, including children from groups underrepresented in advanced programs.
- Build a profile of student strengths over time, prekindergarten – second grade, which can be used to document the need for differentiated instruction and gifted and talented education.
- Provide models of the Essential Strategies of analyzing attributes, questioning, and creative problem solving scaffolded across the early learning years, which are transferrable to new learning situations.

Summary of Modules, Learning Behaviors, and Essential Strategies

Prekindergarten

Module	Learning Behaviors	Essential Strategies
Making Sense of Our World	*Perceptive*	Analyzing Attributes
It Fits	*Communicative*	Analyzing Attributes

Kindergarten

Module	Learning Behaviors	Essential Strategies
All About Attributes	*Perceptive and Communicative*	Analyzing Attributes and Questioning
A Sense of Wonder	*Inquisitive* and *Persistent*	Analyzing Attributes and Questioning

First Grade

Module	Learning Behaviors	Essential Strategies
Design Dilemma	*Resourceful* and *Creative*	Analyzing Attributes, Questioning, and Creative Problem Solving
Thinking Big	*Perceptive* and *Persistent*	Analyzing Attributes and Questioning

Second Grade

Module	Learning Behaviors	Essential Strategies
Tremendous Trees	*Creative* and *Inquisitive*	Analyzing Attributes, Questioning, and Creative Problem Solving
Preservation Problem Solvers	*Leadership* and *Resourceful*	Analyzing Attributes, Questioning, and Creative Problem Solving

Using Primary Talent Development Data for Gifted and Talented Education Program Referrals

Among the goals of the PTD program is to collect student data for gifted and talented education identification. Students who exhibit ratings on the Cumulative Behavioral Scales of one or more "Independent, I" in combination with "Progressing, P" behaviors are candidates for review at the end of second grade. These data complement other sources, such as standardized testing and parent behavioral checklists. A systematic approach using traditional and non-traditional data sources provides a broad scope of evidence for documenting a need for gifted and talented services for students.

Strategies for Program Implementation

PTD is designed to be implemented systemically, PreK—2, as part of a comprehensive approach to talent identification and development, PreK—12. For this reason, the success of PTD implementation depends on obtaining buy-in from all stakeholders, including those from the gifted education, early childhood, science education, special education, and ESOL programs, as well as central office professional development staff and principals. An initial meeting with stakeholders and instructional leaders is significant to the success of the PTD program. Systematic implementation, prekindergarten through second grade, provides data on student growth over time.

A roll-out of at least two grades per year allows the teachers not yet implementing the PTD program to observe and prepare for the program the following year. For example, prekindergarten and kindergarten levels may begin the first year while the first and second grades start the next. The desired goals of the program cannot be achieved if it is used with a single grade or classroom because one module provides scaffolding for the next within and across grade levels.

A professional development plan for personnel is imperative. All PreK—2 classroom teachers implement the program. Resource teachers, para-educators, and parent volunteers may support the teacher's implementation; however, the PTD program cannot be implemented as a pull-out initiative. The classroom teacher observes the students' responses during the module and can apply the strategies used in the lessons across the curriculum. Kidwatching for the behaviors during instruction in other subject areas allows for further documentation of strengths.

Suggested Professional Development Model for Year One		
Topic	**Audience**	**Activities**
Stakeholders' Overview: What is PTD? (Central location; 1½ hours)	Instructional leaders in gifted, early childhood, science education, special education, and ESOL programs; elementary school administrators, professional development staff, assistant superintendent of instruction.	• View the PTD video and use discussion guide questions. See the *Resources* section of this guide for information. • Present overview of the program and implementation plan. • Complete a hands-on strategy lesson such as the bridging experience, "Odd One Out," in the first kindergarten module *All About Attributes.* • Scheduling teachers' release time for grade-level planning, assessment of student work, and portfolio reviews.
Teachers' Overview: What is PTD? (Central location; 2½ hours)	All PreK—2 classroom teachers, school administrators, and para-educators	• View the PTD video and use discussion guide questions. See the *Resources* section of this guide for information. • Present overview of the program. • Break into grade levels. • Walkthrough the sections of the guide. • Explore each lesson in the first module. • Complete a hands-on lesson featured in the module. • Discuss Student Portfolios and materials.
What do Our PTD Student Artifacts Say? (School-based, 1 hour)	PreK-2 classroom teachers	• After implementing at least one lesson from the first module, meet as a grade-level team to organize, share, and discuss portfolios containing collected notes and student work samples. • Share tips on note-taking and using instructional strategies across subject areas.

How Can the PTD REPI Scale Influence Instruction? (Central location; 2½ hours)	PreK—2 classroom teachers, school administrators, and depending on the size of the group, para-educators	• Teachers ring student portfolios containing collected notes and artifacts from all lessons in Module I to the meeting.
		• Presenters' review the REPI Scale and contents of the Student Portfolio.
		• Presenters' model applying the REPI scale to student artifacts that demonstrate a full range of responses from readiness to independent.
		• Teachers break into small groups by grade level group to:
		    ○ collaboratively discuss a sample student's artifact provided by a volunteer and apply the REPI scale. Discuss more samples as needed.
		    ○ reflect on specific ways to meet the needs of students by using challenging instruction to move them along the REPI continuum.
		    ○ take time to begin applying a REPI scale to their student artifacts in their portfolios.

Collaborative Discussion of Student Work Improves Assessment (School-based, 1 hour)	All PreK – 2 classroom teachers and depending on availability, para-educators.	Teachers meet in grade-level teams to: • share reflections on specific ways to meet the needs of students by using challenging instruction and assessment to move students across the REPI continuum. • collaborate and discuss student artifacts to apply the REPI scale, • prepare for the Portfolio Review, and reference the Rubric.
Mid-Year Portfolio Review Results (School-based, ½ hour)	School administrators and PreK—2 classroom teachers	• Administrators share with teachers the scores from the Portfolio Review as a school and by grade level (see the Student Portfolio section of this guide). Individual teacher scores may be discussed privately as needed. • Teachers discuss what the data reveals and set goals for future record keeping.

What is Module II? (School-based, 1 hour)	All classroom teachers and depending on availability, para-educators	• Meet as a grade level to discuss materials and explore each lesson in the second module. • Complete at least one hands-on lesson featured in the module. • Discuss materials.
Summative Data: Cumulative Behavioral Scale (School-based, 1½ hours)	Second-grade teachers	• Complete the *Cumulative Behavioral Scale* and file data in students' permanent folders and/or enter data in the system's electronic data bank. • Discuss students whose PTD data, along with other performance data, may suggest screening for gifted and talented education services. • Remove from the portfolio student artifacts collected from PreK to second grade Attach the *Taking the Behaviors Home* sheet (from the Resources section of the guide) to artifacts for students to take home to parents or guardians. • Reuse or recycle the portfolio folders.
Formative Data: Cumulative Behavioral Scale Data (*1 hour*)	PreK, kindergarten and first-grade teachers	• Complete the *Cumulative Behavioral Scale* for the year and file data in students' permanent folders and/or enter data in the system's electronic data bank. • Discuss students whose PTD data may indicate a need for enrichment. • Paper clip the *Grade Level Checklist* to student artifacts collected from the school year and keep inside the portfolio. • Store portfolios for distribution to teachers once students are assigned new classes the following school year.

Suggested Professional Development for Year Two and Beyond

Continuing professional development is essential to achieve the goals of the Primary Talent Development Early Learning Program. It is necessary to repeat components of the Year 1 plan each year for new teachers. The following activities/topics are recommended to continue to develop the competencies of primary teachers:

Teacher Needs Assessment Survey
- Effective Kidwatching Techniques and the REPI Scale
- Collaborative Discussion of Student Work
- Giftedness in Poverty
- Integrating the Essential Strategies Across the Curriculum
- Implementing a PTD Enrichment Fair
- How To Communicate with Parent Newsletters
- Using Portfolios in the GT Referral and Review Process
- Classroom Walk-Throughs
- PTD Portfolio Reviews
- Creating a Central Student Portfolio Database
- Continuing Professional Development (CPD) Courses (May be available online or face-to-face. Contact the Maryland State Department of Education)