

Leader's Guide

Practical Differentiation in Math

OAGC HQPD Topics:

- ***Differentiation in the Regular Classroom***

ODE Competencies:

- ***(a) The ability to differentiate instruction based on a student's readiness, knowledge, and skill level, including using accelerated content, complexity, depth, challenge, creativity, and abstractness***
- ***(b) The ability to select, adapt, or create a variety of differentiated curricula that incorporate advanced, conceptually challenging, in-depth, distinctive and complex content***



**High Quality Professional Development
For Classroom Teachers**

By Responsive Learning



OPTIONS FOR USING THIS TRAINING:

BLENDED LEARNING (BOTH ONLINE AND FACE TO FACE)

With this option, teachers will view the online learning module, on their own time, prior to a faculty or PLC meeting, where an administrator or other instructional leader will guide the teachers through meaningful discussions and activities regarding *Practical Differentiation in Math*.

We suggest the following process for implementation:

- 1) One week prior to the meeting, teachers are directed to login to their account and view the online module and any related video(s). They may also choose to use the additional resources.
- 2) Prior to the meeting, the administrator/instructional leaders will prepare for the meeting by reviewing the online module, additional resources, and this Leader's Guide.

ONLINE ONLY

Sometimes there just isn't enough time in the day to get everything done. An administrator may choose to use this as a standalone online training. Teachers will complete the course, the conference video, and additional resources on their own time.

With the online option, this Leader's Guide will not be used.

Whichever option is used, the campus administrator can track progress and completion of the online modules and conference videos.



One week prior to the Face-to-Face training

LOG IN TO YOUR ADMINISTRATOR ACCOUNT

You should have received an email with your login credentials for the Campus Administrator Account, where you will access all of the resources for this training. We recommend that you familiarize yourself with the training by previewing the online learning modules, and any related video(s).

In addition, look through this Leader's Guide to determine which discussion questions and activities you will use during the meeting.

ENROLLING TEACHERS IN THE GT IGNITE ONLINE SYSTEM

You should have received an email with instructions for how to register your teachers with the GT Ignite online system. Each teacher needs to create an account in the GT Ignite System.

Here's why:

- 1) During the online training, your teachers will complete Reflective Questions.
- 2) As the administrator, you will have access to all of your teachers' responses to the Reflective Questions, giving you more insight into their unique needs for additional support.
- 3) With this account, your teachers can review any of the training modules throughout the school year.

For your convenience, the email you received also included an email template for you to copy, paste into an email, to send to your teachers. The email has the registration code and instructions. All you have to do is send it.

To respect your teachers' time, it is important to send this email to your teacher at least 4 days prior to the faculty/PLC meeting, so they can complete the online module and be ready to participate in the discussion and activities.

If you need this email to be resent to you, simply submit a request to support@responsivelearning.com



One day prior to the Face-to-Face training

PRINT HANDOUTS

During the training, every teacher will need a hardcopy of the hand-outs. It is imperative that each teacher has a copy of the following documents:

- 1) Copy of the OAGC HQPD with alignment to NAGC standards and ODE competencies. (Included at end of this document)
- 2) Handouts from the video (*Practical Differentiation in Math*)
- 3) If applicable, teachers will want to have access to student data and curriculum standards.

SEND FINAL EMAIL TO TEACHERS

We recommend sending your teachers a reminder to complete the online learning module and the conference video prior to arriving at the meeting, tomorrow. Teachers need to come ready to discuss. This will make the training run more smoothly.

DETERMINE THE MOST EFFECTIVE DELIVERY OF TRAINING FORMAT

As the leader of this training, you have choices. The following suggested activities can be provided as a 45 minute group session (faculty meeting, PLC) or it can be tiered into three 15 minute separate activities. Additionally, the following suggested activities could serve as an outline for a 3 hour to full day professional development.



Practical Differentiation in Math: Discussion and Activities

Recommended Script:

Welcome everyone. Having gifted learners in a mixed-ability, regular classroom environment can be a challenge. Often, even the best and most experienced teachers have never had training specific to meeting the unique learning needs of this population. So, this meeting is just another way we are continuing our professional development and growing together as educators of all children.

Today, we are going to discuss planning and providing instruction within the math classroom. Specifically, we will address the OAGC recommend professional development topic of Differentiation in the Regular Classroom, as well as the ODE gifted professional development competenc(ies): a and b.

Teaching a class with multiple levels of learners can be very challenging. As the classroom teacher there are many things you need to consider including the physical set up of the room, classroom culture, procedures and routines, how to learn about your students readiness, grouping and the differentiation of the math content. We will take a look at each aspect, reflect on what is already going well in your classroom and what you can improve upon. Teacher's will take a look at how to differentiate skill work to make it more complex and when and how to assign replacement tasks.

Before we begin, let me give you an overview of what we will do during this meeting.

- 1. By now, everyone should have completed the online learning module. The first thing we will do is to take a few minutes to discuss and share what we learned.*
- 2. Next, we will work in groups to relate this learning to the OAGC standards and ODE competencies and apply it to classroom instruction.*
- 3. Finally, you will have time to plan a lesson for your students which integrates simple differentiation techniques for the math concepts needing more complexity.*

Ok, so let's get started.

ONLINE MODULE REVIEW (15 MINUTES)

Objective: Participants will review, reflect, and discuss various quotes about differentiation in the regular classroom.

Materials: Envelope and Differentiation quotes for every four participants.

Preparation: Each team or group (about 4 participants) will need an envelope with the Differentiation Quotes cut into individual slips.

Activity:

1. Divide participants into groups of 3-4.
2. First person in each group select a quote (at random) from the envelope and read aloud.
3. After thinking about the quote, reflect and share your thoughts about the quote.
4. Allow each group member to reflect, share and discuss.
5. Have the next person select a quote and continue the process until all quotes have been discussed.

ONLINE MODULE APPLICATION (15 MINUTES)

Objective: Reflect on current classroom procedures that are working well and identify a classroom procedure that is an area of growth.

Materials: none needed

Preparation: none needed

Activity:

1. Individually think about a classroom procedure that is a strength in your math classroom.
2. Talk with your group about why it is a strength.
3. Allow all group members to discuss and share.
4. Individually think about a math classroom procedure that is an area for growth.
5. Talk with your group on how you might turn it into a strength.
6. Allow all group members to discuss and share.

ONLINE MODULE INTEGRATION (15 MINUTES)

Objective: Participants will create differentiated math problems, questions, and/or activities.

Materials: Participants will need: sample problems from resources they know need to have an increased complexity, and access to the slides that discuss how to increase DOK and complexity within problems and concepts.

Preparation: Instruct participants to bring with them a problem, worksheet, section of a unit that needs more complexity for their gifted students.

Activity:

Part One:

1. What is a skill that you believe needs to be differentiated for your gifted math students?
2. Write down a traditional problem that you might find in your primary resource.
3. Ramp it up to a DOK 2 using one of the Kaplinsky's techniques.
4. Keep going! Now take it to a DOK 3.
5. Share your work with the people at your table.
6. Share your thoughts? How challenging is it to create this type of differentiated problem?

Part Two:

1. You can either stay with the same skill you worked on earlier or select another topic that needs to be differentiated for your gifted math students?
2. Select two ways to add complexity to them and create a new task/question.
3. Share your work with the people at your table.
4. Share your thoughts? How challenging is it to create this type of differentiated problem?



Professional Development Plan for General Education Teachers Providing Gifted Services in the Regular Classroom Revised June 2018

The original Professional Development Plan for General Education Teachers Providing Gifted Services in the Regular Classroom was based on best practices in gifted education research and adapted to reflect the Administrative Code changes made in 2017. The professional development section (D)(8)(b)(i–ii) for general education teachers was revised by the State Board of Education in February of 2018. Although the content and learning outcomes remain the same, there are new contact hours and time-frame requirements of 15 hours each year over a four-year period. The chart below reflects those changes and supports ongoing continued professional development that is part of OAC 3301-51-15 (D)(8)(b)(iii).

Learning Outcomes (based on 2013 Gifted and Talented Teacher Preparation Standards)

The general education teacher will:

- know and understand issues in gifted education.
- create learning environments that promote growth and development of gifted learners.
- apply learning strategies to meet gifted student's needs and interests as well as promote gifted students' learning.
- construct and use varied assessments to inform instruction and evaluate progress.
- communicate with students and families to support student learning.
- view professional development in gifted education as a career-long effort and responsibility.

ODE General Educator of Gifted Competencies (from 2018 Gifted Operating Standards)

The general education teacher will demonstrate:

- (a) The ability to differentiate instruction based on a student's readiness, knowledge, and skill level, including using accelerated content, complexity, depth, challenge, creativity, and abstractness;
- (b) The ability to select, adapt, or create a variety of differentiated curricula that incorporate advanced, conceptually challenging, in-depth, distinctive, and complex content;
- (c) The ability to provide an extension or replacement of the general education curricula, to modify the learning process through strategies such as curriculum compacting, and to select alternative assignments and projects based on individual student needs;
- (d) The ability to understand the social and emotional needs of students who are gifted and to address the impact of those needs on student learning;
- (e) The ability to recognize and respond to characteristics and needs of students from traditionally underrepresented populations who are gifted and create safe and culturally responsive learning environments;
- (f) The ability to use data from a variety of sources to measure and monitor the growth of students who are gifted;
- (g) The ability to select, use, and interpret technically sound formal and informal assessments for the purpose of academic decision making; and
- (h) The ability to participate in the development of the Written Education Plan.

The professional development plan should be used in conjunction with the assessment chart, which provides guidance for content as well as measurement and evidence of effectiveness of professional development efforts within the general education classroom. Professional development should include resources such as the NAGC and CEC webpages as well as OAGC publications such as "What to Expect When You're Teaching a Gifted Child."

National Association for Gifted Children [www.NAGC.org](http://www.nagc.org)
<http://www.nagc.org/information-publications>

Center for Exceptional Children [www.CEC.sped.org](http://www.cec.sped.org)
<https://www.cec.sped.org/Search?q=gifted+and+talented>

Ohio Association for Gifted Children [www.OAGC.com](http://www.oagc.com)
<http://www.oagc.com/files/OAGCTeacherHandbook.pdf>

Year One Professional Development Plan

15 contact Hours

General education teachers must participate in 15 hours of professional development in gifted education with ongoing support from a licensed gifted intervention specialist or coordinator with gifted licensure for gifted students to be counted as served.

Content	NAGC/CEC Teacher Preparation Standards in Gifted and Talented Education (2013)	PD Hours
Identification of Gifted Students <i>ODE Competencies e, g</i>	<p>4.1 Beginning gifted education professionals understand that some groups of individuals with gifts and talents have been underrepresented in gifted education programs and select and use technically sound formal and informal assessments that minimize bias in identifying students for gifted educational programs and services.</p> <p>4.2 Beginning gifted education professionals use knowledge of measurement principles and practices to differentiate assessments and interpret results to guide educational decisions for individuals with gifts and talents.</p> <p>4.3 Beginning gifted education professionals collaborate with colleagues and families in using multiple types of assessment information and learning process decisions and to minimize bias in assessments and decision making.</p>	1 hour
Development of Written Education Plans <i>ODE Competencies f, g, h</i> <i>(Part I: Emphasis on writing goals based on identification areas)</i>	<p>4.4 Beginning gifted education professionals use assessment results to develop long and short-range goals and objectives that take into consideration an individual's abilities and needs, the learning environments, and other factors related to diversity.</p>	1 hour
Characteristics of Gifted Students <i>ODE Competencies d, e</i> <i>(Part I: Emphasis on common myths about gifted and talented students, behavioral traits among diverse populations, asynchrony, intense sensitivities, and introduction to motivation and relationships)</i>	<p>1.1 Beginning gifted education professionals understand how language, culture, economic status, family background, and/or area of disability can influence the learning of individuals with gifts and talents.</p> <p>1.2 Beginning gifted education professionals use understanding of development and individual differences to respond to the needs of individuals with gifts and talents.</p> <p>2.1 Beginning gifted educational professionals create safe, inclusive, and culturally responsive learning environments that engage individuals with gifts and talents in meaningful and rigorous learning activities and social interactions.</p> <p>5.5 Beginning gifted education professionals use instructional strategies that enhance the affective development of individuals with gifts and talents.</p>	4 hours
Higher-Level Thinking and Complexity <i>ODE Competencies a, b</i> <i>(Part I: Emphasis on depth, complexity, critical thinking, and creative thinking)</i> <i>**Include practical application to classroom settings.</i>	<p>3.1 Beginning gifted education professionals understand the role of central concepts, structures of the discipline, and tools of inquiry of the content areas they teach and use their understanding to organize knowledge, integrate cross-disciplinary skills, and develop meaningful learning progressions within and across grade levels.</p> <p>5.1 Beginning gifted education professionals know principles of evidence-based, differentiated, and accelerated practices and possess a repertoire of instructional strategies to enhance the critical and creative thinking, problem solving, and performance skills of individuals with gifts and talents.</p> <p>5.2 Beginning gifted education professionals apply appropriate technologies to support instructional assessment, planning, and delivery for individuals with gifts and talents.</p>	9 hours

Year Two Professional Development Plan 15 contact hours General education teachers must participate in 15 hours of professional development in gifted education with ongoing support from a licensed gifted intervention specialist or coordinator with gifted licensure for gifted students to be counted as served.		
Content	NAGC/CEC Teacher Preparation Standards in Gifted and Talented Education (2013)	PD Hours
Characteristics of Gifted Students <i>ODE Competencies d, e</i> <i>(Part II: Emphasis on Motivation, Underachievement, Perfectionism, and Relationships)</i>	1.2 Beginning gifted education professionals use understanding of development and individual differences to respond to the needs of individuals with gifts and talents. 2.1 Beginning gifted educational professionals create safe, inclusive, culturally responsive learning environments that engage individuals with gifts and talents in meaningful and rigorous learning activities and social interactions.	3 hours
Lesson Design for Gifted and Talented Students: Application of Complexity to Curriculum <i>ODE Competencies b, c, f, g</i> <i>**Include practical application to classroom settings.</i>	2.2 Beginning gifted education professionals use communications and motivational and instructional strategies to facilitate understanding of subject matter and to teach individuals with gifts and talents how to adapt to different environments and develop ethical leadership skills. 3.3 Beginning gifted education professionals use assessments to select, adapt, and create materials to differentiate instructional strategies and general and specialized curricula to challenge individuals with gifts and talents. 3.4 Beginning gifted education professionals understand that individuals with gifts and talents demonstrate a wide range of advanced knowledge and performance levels and modify the general or specialized curriculum appropriately.	9 hours
Higher-Level Thinking and Complexity <i>ODE Competencies a, b</i> <i>(Part II: Emphasis on Higher Level Thinking at the core of unit design)</i> <i>**Include practical application to classroom settings.</i>	3.4 Beginning gifted education professionals understand that individuals with gifts and talents demonstrate a wide range of advanced knowledge and performance levels and modify the general or specialized curriculum appropriately.	2 hours
Development of Written Education Plans <i>ODE Competencies f, g, h</i> <i>(Part II: Emphasis on affective considerations in WEP design)</i>	5.5 Beginning gifted education professionals use instructional strategies that enhance the affective development of individuals with gifts and talents.	1 hour

Year Three Professional Development Plan 15 contact hours General education teachers must participate in 15 hours of professional development in gifted education with ongoing support from a licensed gifted intervention specialist or coordinator with gifted licensure for gifted students to be counted as served.		
Content	NAGC/CEC Teacher Preparation Standards in Gifted and Talented Education (2013)	PD Hours
Higher-Level Thinking and Complexity <i>ODE Competencies a, b</i> <i>(Part III: Emphasis on creativity and creative problem solving)</i>	<p>3.2 Beginning gifted education professionals design appropriate learning and performance modifications for individuals with gifts and talents that enhance creativity, acceleration, depth, and complexity in academic subject matter and specialized domains.</p> <p>5.1 Beginning gifted education professionals know principles of evidence-based, differentiated, and accelerated practices and possess a repertoire of instructional strategies to enhance the critical and creative thinking, problem solving, and performance skills of individuals with gifts and talents.</p>	2 hours
Differentiation in the Regular Classroom <i>ODE Competencies a, b, c, f, g</i> <i>(Part I: Emphasis on modifying content, process, and product based on preassessment)</i>	<p>2.2 Beginning gifted education professionals use communications and motivational and instructional strategies to facilitate understanding of subject matter and to teach individuals with gifts and talents how to adapt to different environments and develop ethical leadership skills.</p> <p>2.3 Beginning gifted education professionals adjust their communication to an individual's language proficiency and cultural and linguistic differences.</p> <p>3.1 Beginning gifted education professionals understand the role of central concepts, structures of the discipline, and tools of inquiry of the content areas they teach and use their understanding to organize knowledge, integrate cross-disciplinary skills, and develop meaningful learning progressions within and across grade levels.</p> <p>3.2 Beginning gifted education professionals design appropriate learning and performance modifications for individuals with gifts and talents that enhance creativity, acceleration, depth, and complexity in academic subject matter and specialized domains.</p> <p>3.3 Beginning gifted education professionals use assessments to select, adapt, and create materials to differentiate instructional strategies and general and specialized curricula to challenge individuals with gifts and talents.</p> <p>3.4 Beginning gifted education professionals understand that individuals with gifts and talents demonstrate a wide range of advanced knowledge and performance levels and modify the general or specialized curriculum appropriately.</p>	10 hours
Development of Written Education Plans <i>ODE Competencies f, g, h</i> <i>(Part III: Emphasis on incorporation of student interest and ongoing assessment to monitor progress)</i>	<p>4.3 Beginning gifted education professionals collaborate with colleagues and families in using multiple types of assessment information to make identification and learning progress decisions and to minimize bias in assessment and decision making.</p> <p>4.5 Beginning gifted education professionals engage individuals with gifts and talents in assessing the quality of their own learning and performance and in setting future goals and objectives.</p> <p>5.3 Beginning gifted education professionals collaborate with families, professional colleagues, and other educators to select, adapt, and use evidence-based strategies that promote challenging learning opportunities in general and specialized curricula.</p> <p>5.5 Beginning gifted education professionals use instructional strategies that enhance the affective development of individuals with gifts and talents.</p>	3 hours

Year Four Professional Development Plan 15 contact hours General education teachers must participate in 15 hours of professional development in gifted education with ongoing support from a licensed gifted intervention specialist or coordinator with gifted licensure for gifted students to be counted as served.		
Content	NAGC/CEC Teacher Preparation Standards in Gifted and Talented Education (2013)	PD Hours
Differentiation in the Regular Classroom <i>ODE Competencies a, b, c, f, g</i> <i>(Part III: Emphasis on differentiation for twice-exceptional learners and use of technology)</i>	<p>2.2 Beginning gifted education professionals use communications and motivational and instructional strategies to facilitate understanding of subject matter and to teach individuals with gifts and talents how to adapt to different environments and develop ethical leadership skills.</p> <p>2.3 Beginning gifted education professionals adjust their communication to an individual's language proficiency and cultural and linguistic differences.</p> <p>5.1 Beginning gifted education professionals know principles of evidence-based, differentiated, and accelerated practices and possess a repertoire of instructional strategies to enhance the critical and creative thinking, problem solving, and performance skills of individuals with gifts and talents.</p> <p>5.2 Beginning gifted education professionals apply appropriate technologies to support the instructional assessment, planning, and delivery for individuals with gifts and talents.</p>	5 hours
Acceleration <i>ODE Competencies a, f, g</i>	<p>2.4 Beginning gifted education professionals demonstrate understanding of the multiple environments that are part of a continuum of services for individuals with gifts and talents, including the advantages and disadvantages of various settings, and teach students to adapt to these environments.</p> <p>5.1 Beginning gifted education professionals know principles of evidence-based, differentiated, and accelerated practices and possess a repertoire of instructional strategies to enhance the critical and creative thinking, problem solving, and performance skills of individuals with gifts and talents.</p>	10 hours: Distribution based on the need of professional learning community
In-depth or Independent Study <i>ODE Competencies a, b, c</i>	<p>2.4 Beginning gifted education professionals demonstrate understanding of the multiple environments that are part of a continuum of services for individuals with gifts and talents, including the advantages and disadvantages of various settings, and teach students to adapt to these environments.</p> <p>5.4 Beginning gifted education professionals emphasize the development, practice, and transfer of advanced knowledge and skills across environments throughout the lifespan, leading to creative, productive careers in a multicultural society for individuals with gifts and talents.</p>	
Mentorships <i>ODE Competencies c, e</i>	<p>2.4 Beginning gifted education professionals demonstrate understanding of the multiple environments that are part of a continuum of services for individuals with gifts and talents, including the advantages and disadvantages of various settings, and teach students to adapt to these environments.</p>	

Year FIVE and Beyond Professional Development Plan

To remain current in gifted education and allow students in a teacher's classroom to be counted as served, general education teachers must have ongoing professional development in gifted education and the continued support of a licensed gifted intervention specialist or coordinator with gifted licensure.

Content	NAGC /CEC Teacher Preparation Standards in Gifted and Talented Education (2013)	PD Hours
Professional Growth	<p>6.1 Beginning gifted education professionals use professional ethical principles and specialized program standards to guide their practice.</p> <p>6.4 Beginning gifted education professionals are aware of their own professional learning needs, understand the significance of lifelong learning, and participate in professional activities and learning communities.</p> <p>6.5 Beginning gifted education professionals advance the profession by engaging in activities such as advocacy and mentoring.</p> <p>7.1 Beginning gifted education professionals apply elements of effective collaboration.</p> <p>7.2 Beginning gifted education professionals serve as a collaborative resource to colleagues.</p> <p>7.3 Beginning gifted education professionals use collaboration to promote the well-being of individuals with gifts and talents across a wide range of settings, experiences, and collaborators.</p>	Hours to be determined by the district but must be documented.