

Differentiating Instruction K-8 With Centers

in the
Gifted
Classroom

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TABLE OF CONTENTS

CHAPTER 1	
Getting Started Differentiating With Centers	1
<i>Julia Link Roberts and Julia Roberts Boggess</i>	
CHAPTER 2	
Strategies to Use When Differentiating Through Centers	7
<i>Julia Link Roberts and Julia Roberts Boggess</i>	
CHAPTER 3	
Language Arts: Differentiation Through Centers and Agendas	27
<i>Tracy Ford Inman</i>	
CHAPTER 4	
Using Learning Centers to Differentiate in Social Studies	49
<i>Jana Kirchner</i>	
CHAPTER 5	
Science: Differentiation Through Agendas and Centers	75
<i>Martha M. Day</i>	
CHAPTER 6	
Math Centers and Agendas	97
<i>Janet Lynne Tassell</i>	
CHAPTER 7	
Differentiation in Visual and Performing Arts: Using Multidisciplinary Agendas and Centers to Foster Continuous Progress.....	115
<i>Jan W. Lanham</i>	
CHAPTER 8	
Making Differentiation Through Centers Manageable	135
<i>Julia Link Roberts and Julia Roberts Boggess</i>	
CHAPTER 9	
Concluding Thoughts and Next Steps.....	141
<i>Julia Link Roberts and Julia Roberts Boggess</i>	
About the Editors.....	143
About the Authors	145

Chapter 2

Strategies to Use When Differentiating Through Centers

**Julia Link Roberts and
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When teachers differentiate, students who have gifts and talents are more likely to show themselves and be recognized.

—Susan K. Johnsen

Effective teachers make certain that all children and young people learn no matter how different they are. They translate differences into assets and allow students to soar. They remove the learning ceiling for all children, allowing them to learn what they are ready to learn. Ensuring that all students learn depends upon the teacher providing differentiated learning experiences. That statement holds true for a class of gifted children just as it does for other groupings of students, as children who are gifted and talented also approach a new unit of study with varying levels of readiness, a range of interests in the topic or concept, and different learning profiles.

SETTING THE STAGE FOR DIFFERENTIATION

Starting to differentiate at the beginning of the year is optimal. Starting early allows students to know that all children will not be doing identical assignments at that time or throughout the school year. Differentiating early on establishes the expectation that children will engage in a variety of learning experiences. In fact, parents and students must understand that it would be inappropriate, even wrong, for all students to be treated as one identical group. It makes no more sense to teach all children in a class with one set of lessons than it would for a pediatrician to prescribe one medication for all 11-year-olds just because they are that specific age—11 years old. That would seem foolish, and one assignment for all sixth graders makes no more sense.

Differentiating Instruction With Centers in the Gifted Classroom for Grades K–8

Phone Book Writing: What's in a Name?				
<p>We have read and discussed several written works in different genres that explore an individual person. It's now your turn to write. Skim through several phone books, jotting down names that interest you. Once you have decided on a name, you will write a fictional piece that explores that person—physically, emotionally, socially, etc. You will individualize the writing process by selecting one activity from each row below. Remember to incorporate important genre conventions.</p>				
Prewriting	Brainstorm characteristics, likes and dislikes, physical features, and life components (job, family, education, etc.) of your person.	Create a three-circle Venn labeling the three circles <i>physical characteristics</i> , <i>personality traits</i> , and <i>lifestyle</i> of your person.	Using a technique of your choice, prewrite for your piece. Be sure to address the physical, emotional, and social aspects of your person.	In a web, prewrite for your piece. Be sure to include the physical, emotional, and social aspects of your person.
Writing: <i>Task</i> <i>Audience</i> <i>Purpose</i>	Paying careful attention to the characteristics of the genre, compose a poem about your person. (explanatory)	Paying careful attention to the characteristics of the genre, compose a short story about your person. (narrative)	Paying careful attention to the characteristics of the genre, compose an essay about your person. (informative)	Paying careful attention to the characteristics of the genre, create an interview with your person including both questions and answers. (informative)
Revising/ Editing: <i>Development</i> <i>Organization</i> <i>Style</i>	Read and critique another student's work using the DAP Tool. Give specific suggestions to improve his or her writing.	Write questions you want answered about your work; team with another student to critique each other's work. Give specific suggestions to improve his or her writing.	Conference with the instructor for guidance and insight.	Find someone outside of class to use the DAP Tool on your piece. Be sure that person gives specific suggestions to improve the writing.
Publishing	Submit your piece to be printed in the school paper.	Read your piece aloud to the class.	Post your piece to the Internet.	Submit your piece to a contest or magazine.

Figure 3.2. Phone book writing: What's in a name?

Prior to distributing Phone Book Writing: What's in a Name? Think-Tac-Toe (Figure 3.2), share and discuss examples of writing that analyze, present, or explore a name. The Beatles' "Eleanor Rigby" and E. A. Robinson's "Richard Cory" are excellent for this purpose. Students have already been taught the components and characteristics of several genre types, so they should be able to discuss development, organization, and style of the genres as well as understand the roles that purpose and

Product List			
Kinesthetic Products:			
Diorama	Mask	Model	Sculpture
Oral Products:			
Debate	Interview	Monologue	Oral Presentation
Technological Products:			
Computer Graphic	Movie	Podcast	PowerPoint
Visual Products:			
Cartoon	Collage	Pamphlet	Poster
Written Products:			
Diary	Essay	Letter	Written Interview

Figure 3.15. Product list.

interests, or abilities are matched to content, process, or product in your classroom, the child blossoms. Pattou (2001) concludes *Mrs. Spitzer's Garden*, "And the year is over, and her job is done. But the plants will keep growing, uncurling their stems, stretching their leaves outward, and showing their faces to the sun" (pp. 25–26). Help your language arts students show their faces to the sun.

CHAPTER 3 RESOURCES

Analogies—<http://a4esl.org/q/f/z/zz67fck.htm>
Analogies (Set 1)—<http://www.quia.com/pop/14975.html>
Animoto—<http://animoto.com>
GIMP—<http://www.gimp.org>
PhotoPeach—<http://photopeach.com>
Pixia—<http://pixia.en.softonic.com>
Prezi—<http://prezi.com>
Storybird—<http://storybird.com>
Student Activity Center: Analogies—<http://www.sadlier-oxford.com/phonics/analogies/analogiesx.htm>
Xtranormal—<http://www.xtranormal.com>

REFERENCES

Anderson, L. W., & Krathwohl, D. R. (Eds.). (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives* (Abridged ed.). New York, NY: Longman.

Packing My Suitcase . . . My Special Place

Your Task: If you could travel to any country in the world, where would it be? Pick a country! Once you have chosen a country, you are to collect background information about that country. You may use books or online resources to research facts about your country.

Check the National Geographic Countries A–Z website for news and information about your country: <http://travel.nationalgeographic.com/travel/countries>. Find the following information:

- ♦ A map of your country, including the continent
- ♦ Type of economy with examples of goods produced there
- ♦ Climate and physical characteristics (such as mountains and rivers)
- ♦ Population
- ♦ Languages
- ♦ Religions
- ♦ A current event happening in your country
- ♦ Pictures of people or places located there

Your Product: Create a pamphlet or digital travel brochure that will persuade visitors to travel to your country. Your brochure must include physical and human characteristics of your special place.

Figure 4.2. Agenda for Packing My Suitcase . . . My Special Place center.

Locate period images from any Civil War digital collection website on these seven topics; place the images on posters around the room with a blank poster paper beside them. Have students spend 2–3 minutes at each station quietly recording their observations and questions about the images on the paper. Once they have rotated through all stations, have them choose a topic that interests them and explain their choice on an exit slip. The teacher can then organize research teams based on students' first or second interest choices.

Assignment: At the beginning of the next lesson, give students their chosen topic assignment. Have them return to that collection of images and comments and circle the most interesting or important questions on the paper. They may also add their own if some other questions pique their interest. These questions will guide their research and presentations for the unit. They will work in teams to examine primary sources, secondary sources, and images of the period to create a hypothesis about their topic and answer the questions posed by their peers. For example, the group researching medicine might determine whether or not medical treatment was effective during the Civil War and why or why not. Require students to support their findings with evidence from both primary and secondary sources. Students could be allowed a choice of products to demonstrate their knowledge, and a DAP Tool could be used to assess that product (Roberts & Inman, 2009a).

Differentiating Instruction With Centers in the Gifted Classroom for Grades K–8

- d. Smithsonian American Art Museum’s Lure of the West—<http://americanart.si.edu/exhibitions/online/t2go/1lw>
3. Other Primary Sources:
 - a. Excerpts from Kate Dunlap’s diary entries on her journey from Iowa to Montana by horse team, 1864—<http://contentdm.lib.byu.edu/Diaries/image/4262.pdf> (These diary entries describe the geography of the route, food and camping conditions, encounters with Indian tribes, and trouble with thieves. Dunlap’s husband served as captain of the company, and Dunlap writes about her duties as cook and laundress for the company.)
 - b. Karen Baicker’s (2002) *The Westward Movement*—This book contains numerous examples of primary sources that would work at centers. Some useful examples are a pioneer train constitution, journal excerpts from pioneers, railroad schedules and advertisements, images of cowboys and pioneers, Chief Joseph’s speech, land advertisements, and a westward movement map.

Phase 2 assessment. The assessment tasks are organized into two leveled Think-Tac-Toe charts. To continue with the westward expansion theme, the Think-Tac-Toe with the train image contains lower level tasks (see Figure 4.12), while the higher level tasks are on the Think-Tac-Toe with the mountain image (see Figure 4.13). Teachers should assign different charts based on students’ readiness levels. Students should pick an assessment task from two out of the three rows (maps, images and paintings, and other primary sources).

Phase 3: What does your group think about westward expansion? What evidence leads you to this conclusion? (Choices of product based on learning styles). As a class, review the essential question for the unit: Was westward expansion good for the United States?

Tasks. Students will do the following:

- Discuss the content you learned with everyone in your group; share ideas and facts using your westward expansion clue packet (see Figure 4.11). Once everyone in your group has the information from all sources in Phase 2, you may choose a partner for this part of the unit.
- Take a position on the essential question from your group’s point of view. You may choose how you want to present your knowledge, but it must include evidence from sources to support your opinion. Refer to the preassessment for product choices. The product and partner choices must be approved by the teacher before you begin your work. Consult the DAP Tools or product rubrics as you create your project.

Your Task: You will produce a travel brochure that describes a plant or animal cell as if it were some type of travel attraction such as a shopping mall, ballpark, amusement park, city, farm, hotel, ski resort, museum, art gallery, and so forth. Once you have chosen a type of cell and type of attraction, you are to collect background information about the cell. You may use books or online resources to research facts about your plant or animal cell and type of attraction. Include the following information:

- ♦ The front cover of the brochure should include the name of your attraction and a graphic of your choice. Remember, you are trying to attract people to visit your cell so be sure that your cover is eye-catching and creative.
- ♦ The back cover of the brochure should contain a labeled diagram of your entire cell with fictional directions to the cell.
- ♦ The interior panels of your brochure should include descriptions of the structure and function of at least eight cell organelles using creative comparisons to show what part would be at your attraction. Example: *While visiting our hotel, please remember to turn our mitochondria off to conserve energy when it is not needed.*
- ♦ Include a real graphic of every part of the attraction you use as well as a graphic of what it is at your cell. Example: *A graphic of a light switch plate at the hotel and a graphic of the mitochondria*
- ♦ Please use appropriate grammar and spelling in your brochure.

Your Product: Create a trifold, six-panel paper or digital travel brochure that will persuade visitors to travel to your special attraction to investigate the wonders of cells.

Figure 5.2. Agenda for Exploring the Cell center.

(Anderson & Krathwohl, 2001). A key factor in using these tools effectively is for teachers to preassess students' ability and readiness levels prior to making assignments.

States of Matter (Grade K)

Standards Addressed: NSES K–4 Physical Science Content Standard B: Properties of Objects and Materials; Science as Inquiry Content Standard A: Abilities necessary to do scientific inquiry and understandings about scientific inquiry.

Lesson Hook: Read and discuss *Solids, Liquids, and Gases* by Ginger Garrett (2005) with basic level learners to investigate properties of matter. Read and discuss *What Is the World Made of? All About Solids, Liquids and Gases* by Kathleen Weidner Zoehfeld and Paul Meisel (1998) with students who need a higher level of complexity with the investigation of properties of matter.

Assignment: Students should work at tiered centers to investigate the properties of matter. Prior to giving the Bloom tasks in Figure 5.4 to the students, the teacher should separate the Bloom chart into handout strips and position the tasks at vari-

cards. A red card is negative and a black card is positive, giving practice with sums or products of positive and negative numbers.

Can You Catch It?: Write equations on a beach ball. The format of the equations needs to have a variable to solve for and a position for a constant announced to be placed. For example, with $2x + n = 10$, the student would plug in the announced number into the “n” position and solve for “x.” Have a student announce a classmate’s name and announce a number. The student throws the ball to that person. The catcher plugs in the announced number for “n” and solves for “x.” The catcher becomes the pitcher and announces a new number and name and throws. A variation could be to have the students take these equations and create a problem that would match.

DIFFERENTIATION OF PROCESS VIA ABILITY AND READINESS LEVEL

Try differentiating the process through ability and readiness level. This approach can provide the most focused instruction and aligns well with Response to Intervention philosophy. Due to the fact that gifted children’s educational needs differ from other children with regard to pace and complexity (Daniel & Cox, 1988; Kaplan, 2007; Maker, 1982; Parke, 1992), this gives these children an opportunity to achieve at a more rigorous cognitive level (Gavin, Casa, Adelson, Carroll, & Sheffield, 2009). With this differentiation design, everyone can be studying the same content topic at the same time, yet some will experience and learn on different levels than others. The levels for the examples are shown for beginning, practicing, and stretching. By pre-assessing the students over the content, it is possible to plan and focus on meeting children’s needs.

The leveled centers that follow should be run simultaneously in the classroom. The design for this may vary when incorporating the different levels of students and determining how to do the rotations. However, consider dividing the room into the three opportunity/level areas. One way to do this is for the teacher to work with the beginning group, while the practicing and stretching group work independently. Or, the teacher may have all groups working in the levels, circulating and facilitating, while using a checklist to note skills observed. If any one level is too large to be one group, split those students into more than one group.

Mind Your Measurement (Grades K–2)

Standard Addressed: Common Core Standard: First Grade Measurement and Data.

Chapter 9

Concluding Thoughts and Next Steps

**Julia Link Roberts and
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Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime.

—Chinese Proverb

As the proverb states, this book is intended to help teachers “learn how to fish” or, rather, how to begin to use centers or how to improve and enhance their use of centers as a strategy to engage students in learning. Teachers must keep in mind that the goal for all children, including those who are gifted and talented, is to become lifelong learners. Doing so will make it possible for children to reach their potential and for our society to benefit from them becoming artists, scientists, mathematicians, social scientists, mothers and fathers, community leaders, innovators, entrepreneurs, and anything else they choose to become.

All children deserve opportunities to have learning that is worth their time and effort. The work must be at an appropriate level of challenge. The appropriate level of challenge requires effort to reach that learning goal, but the goal must be at an academic level that is reachable for individual students. Those levels will seldom be the same for an entire class, even if it is a class of advanced learners. Excellence is the target, as expectations are high for all students.

Differentiation is the overall strategy that will allow all children to make appropriate continuous progress. Teachers need to find other teachers interested in differentiating and plan with them. They can form study groups to look at differentiation and learn about various strategies for effectively differentiating. As they implement differentiation strategies and their students flourish, other teachers will begin to ask questions and express interest.

Another way to learn more about differentiation and gifted children is to study and use the *NAGC Pre-K–Grade 12 Gifted Education Programming Standards* (National