Differentiate Instruction

by Deborah J. Short

In Panorama, we want students to get their hands dirty, digging deep into rich, authentic, relevant text to pull out meaning and cultivate new ideas. We have crafted our units around big ideas in science. The units include real, grade-level text, both nonfiction and fiction.

We want students to grapple with the complex scientific ideas presented in these texts, but we realize that at times we need to provide support while they do so. We want to build their knowledge and skills, so they can read more independently, deriving meaning and making connections on their own over time.

When students struggled with comprehending grade-level text, research shows that teachers found texts at lower reading levels for students or read the texts aloud and explained the concepts to the students. Neither strategy advanced the students’ own reading comprehension skills (Kamil, 2011). They were not scaffolds that moved students to independence; they were crutches that kept them hobbled. In contrast, in today’s world we need students and workers who have strong comprehension skills and who can apply scientific knowledge to society’s challenges (NGSS Lead States., 2013).

Therefore, in Panorama we do not differentiate the text. Instead we differentiate the instruction around the complex, academic text for students of multiple ability levels and stages of English language development at all grade levels. The goal is to enhance all students’ reading skills, and we do so at varying points in the program. Differentiation, for example, can happen with teacher and student talk, with pre-reading activities, with supports during reading, and with post-reading activities.

Teachers can guide students to construct meaning from texts and to understand complex content concepts by scaffolding instruction and promoting social interaction (Bruner, 1983). This kind of contextualized communication enhances learning (Vygotsky, 1978). We illustrate this below with suggestions for differentiation around the text—at various stages of the meaning-making process.

Before Reading

Before students start to read a text, we can increase their access through several pre-reading activities. One critical way is to build background and make connections to prior knowledge. When readers have schema, that is familiarity with and accurate information about a text’s topic or storyline, they can process the information they read more easily (Neuman, Kaefer & Pinkham, 2014). The National Geographic video clips provide an excellent introduction to the key science topics and a first pass at the Big Question students will be exploring. The visual and audio support that are inherent in the video clips will bring the topic to life for all students. For those who are struggling readers or English learners, these clips are an invaluable way to convey background information.

Life Science
Animals in Their Habitats
with Thandine Mweetwa
National Geographic Explorer
During Reading

While students are reading, additional differentiation may be needed. Key features like visuals and captions support student comprehension. Teachers may want to check in with some students as they read sections of a text. The Before You Move On questions are ideal for this as they are text-dependent and assess comprehension. They may call attention to new vocabulary words used in context, suggest a reading skill or strategy that can be employed to make meaning, or encourage students to connect the text they are reading with another they have read. Teacher prompts during the reading process can also direct students to textual support for the Focus Questions they seek to answer.

Keeping track of all the information in a text can be a challenge, particularly in the upper elementary grades when texts are longer and denser. When students read a text the first time, the goal is to get the gist of the story, or article, or poem. Then we engage students with purposeful rereading to delve deeper. To assist, we offer graphic organizers and charts for students to record the key ideas. These organizers are useful later when students have to cite evidence, draw inferences, or generate conclusions.

We also ask students to do a close reading. This involves a targeted deep dive, perhaps into the author’s purpose, the author’s style and word choice, the implications of the information, and more. The process is also a scaffold for independent reading so students learn to unpack the complexity of text (Serafini, 2014). They use collaborative discussions and an interactive worktext to annotate, collect, share, and test their ideas and understandings.

After Reading

Once students have finished a selection, they can begin to make connections to other texts, confirm or disconfirm their predictions, marvel at the plot, appreciate a character’s traits, or recognize new ideas that have extended their thinking about a scientific topic. All these mental processes can be shared with others orally and in writing. We know from research on language development that strengthening one domain strengthens others (August & Shanahan, 2006). So if students write about what they have read, they increase their understanding of the text (Graham & Hebert, 2010). If students read more and read diverse genres, they are exposed to models that can improve their writing. While talking about a text beforehand may stimulate students’ interest in the topic or build knowledge that will help guide them through the article or story, talking after reading can help solidify their ideas, perhaps confirming a prediction or changing an opinion (Baker et al., 2010).
In *Panorama* students collaboratively converse with their teacher and classmates and refer to the text to show how it generated new knowledge or justified an opinion they had. Because they have a Big Question and a Focus Question to consider, the completion of the reading gives them material to craft a response aided by prompts from the teacher and academic language frames. Writing activities are an integral part of the learning process too. Students learn to write to sources and to write responses to the key questions, based on evidence in texts.

The tasks we ask students to accomplish after they have completed the reading can be differentiated in several ways. Depending on the purpose, the task may be written, oral, pictorial, kinesthetic, or a combination of these. A writing task can be adjusted for a student with low proficiency in English, for example, with home language supports, word and phrase banks, pre-writing organizers, and partner pairing. The writing task for an above-level student might be the same but omit the supports because that student does not need them.

How we group students to participate in post-reading activities can also be varied. At times, students clustered by reading levels may make sense for targeted teacher interventions, but at other times grouping the learners by interest (who wants to make a poster? who wants to record a public service announcement?), by native language (so they can research information in that language), or by a skill that needs more practice can be more productive. The decisions should always be based on the learning objectives and the students’ learning needs.

**Conclusion**

Our school systems demand academic rigor in the classroom in order to prepare all students for colleges and careers. Each state has standards for language arts and literacy, mathematics, science, and English language development that teachers develop lessons around. Our goal with *Panorama* is to help students develop academic literacy skills using authentic and meaningful text. Students explore science topics that link to national and state science standards and build standards-based language and literacy skills at the same time. They have the opportunity to develop the habits of mind of scientists and to strengthen their critical thinking skills.

*Panorama* is designed to be engaging and flexible, a reading program that joins authentic literature with informational text to address grade-appropriate science topics. We know that some students, English learners and struggling readers for instance, need supports to access these texts. Therefore, this program offers teachers specific guidance on how to differentiate lessons for students at multiple ability levels and stages of English language development. As students make progress in mastering reading skills and strategies, the scaffolds can be adjusted until, ideally, they are no longer needed.
References


