Customize Learning with Student-generated Guiding Questions

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Abstract: Outlined in this article is the three-year journey of a middle school social studies department that led to a shift from teacher-led units of instruction (e.g., Reconstruction) to units that used student-generated questions (e.g., What was life like for former slaves?, How did Southerners’ lifestyles change?, Did the North and South cooperate?, How did they physically rebuild and pay for it?) to guide understanding of relevant core concepts (e.g., change). The journey was guided by the department’s belief that the ideal departing student is one who understands Big Ideas so deeply that he or she is able to spark further learning across contexts by questioning and investigating. Teachers led students to achieve these outcomes by focusing on Big Ideas, researching their practice, teaching with and for questioning, and creating consistency when needed.

Keywords: critical thinking, curriculum, middle school, motivation, retention

How do we hope to shape our students’ futures? What do we want them to take away from our courses? What are they able to do and how do they think? Our middle school principal posed these questions in our final staff development meeting at the start of a new school year, my first as social studies department chair. In response, faculty members called for students who were familiar with the Big Ideas and core processes within their teaching disciplines, who were able to ask relevant questions and launch focused inquiries, and who were able to connect learning across contexts.

The Association for Middle Level Education (AMLE; 2010, 1) asserts that middle grade experiences should support students in becoming “actively aware of the larger world, asking significant questions about that world and wrestling with big ideas and questions for which there may not be one right answer” (emphasis added). Congruently, Wiggins and McTighe (1998, 2005), authors of our school’s curriculum design structure, write that learning is about thinking and producing within content and subsequent application to issues and problems faced in other settings.

These powerful calls were in line with our initial informal responses, forcing questions of our formal practices: Do our courses focus on core concepts or more isolated facts? Do we provide opportunities and support for students to ask and investigate relevant questions at deep levels? Are we making purposeful connections between what is taught in class and application beyond school a top priority? Are we making these moves in ways that serve all students? It became our belief that students’ learning experiences needed to be customized in order for them to depart with the knowledge and skills necessary to positively shape their futures. We worked toward customization by making Big Ideas the focus of instruction and teaching with and for questioning. Outlined in this article is our three-year journey that led to a shift from teacher-led units of instruction (e.g., Reconstruction) to units that used student-generated questions (e.g., What was life like for former slaves?, How did Southerners’ lifestyles change?, Did the North and South cooperate?, How did they physically rebuild and pay for it?) to guide understanding of relevant core concepts (e.g., change).

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Focus on Big Ideas

Traditional instructional approaches are not geared toward understanding Big Ideas. Big Ideas are the concepts that endure across content and age (Wenzel and Wenzel 2014) and that are at the discipline’s core. Examples of Big Idea understandings that could launch focused inquiry include, “For every action there is an equal reaction” (Wiggins 2010) and we cannot control all changes, but we can control how we react. Our district’s social studies departments adopted change, citizenship, conflict, global connections, and power as the core concepts that are considered throughout students’ social studies courses. Traditional approaches, instead, are driven by coverage of finite bodies of text and facts that have self-contained units of study. These approaches have proven ineffective at generating learning that sticks with students or encourages future thinking beyond the classroom (Voekler and Armstrong 2013). Consequently, students often fail to connect learning across contexts and become disinterested (Obenchain, Orr, and Davis 2011).

It is important for students to view new topics as extensions of previous experiences because it is difficult for learning to be rich if the topic is always changing (Wiggins and McTighe 1998, 88). This is why McTighe and Wiggins (2013) call for Essential Questions to be “revisited again and again” (3). This advice is rarely followed, however, and is of no small concern:

The whole point of the Essential Question specifically (and teaching for understanding more generally) is that the exploration is designed to be spiral-like. In other words, we need to repeatedly return to the question to probe further, think more deeply, and arrive at more insightful understandings. (McTighe and Wiggins 2013, 44)

In comparison, Big Ideas should be explicitly considered at different levels throughout the learning experience in the same way that foundational skills in a sport (dribbling, passing, and shooting in basketball, for example) are practiced at varying levels of complexity by beginners, varsity athletes, and professionals alike.

In addition to being spiral-like, Big Idea-focused instructional strategies should connect core concepts to students’ interests. For example, when considering power, our 6th graders are investigating how it is gained, while our 8th graders debate how it is used. Or, when change is the Big Idea in the spring in our 7th-grade classrooms, students make connections to what they would like to see different in the school next year and develop action plans. Precise evaluation of students’ concerns allows learning to be customized to their needs.

Students are not regularly expected to apply learning from previous experiences. Therefore, if students are expected to reapply learning, the concept at a Big Idea’s core (power and change, in the preceding examples) should be emphasized so students can readily identify revisits. Further, in order to ask questions that will lead to rich learning, a person must be somewhat familiar with the topic being discussed. Employing a spiraling curriculum around Big Ideas provides the familiarity students need to lead their own learning. For example, students are better able to generate quality questions about the Industrial Revolution when they know that the unit is targeted at enhancing their understanding of the same Big Idea core concept (change) as when they studied Reconstruction. Similarly, students are more prepared to ask questions about “The New Global Age” when they know the unit is an extension of their learning about global connections from the expansion and immigration units.

Front and Center to Be Effective

For Big Ideas to be effectively learned, they must be brought to the center of the instructional stage. First, teachers identify the concepts that lie at the core of the subjects they teach; essentially, the real motivation for teaching what they do. Once identified, these concepts take the lead role. Big Ideas need to be the lens through which assessments are designed so that they are sufficiently robust and open-ended to allow for demonstration of conceptual and personalized learning. The “compelling why” (Kolis 2011) for engaging students in the Big Idea and supporting learning activities must be built through the same lens. Ultimately, all instructional practices must line up with what is valued—Big Ideas.

What Is Lost in Big Ideas?

Accompanying almost any promotion of Big Ideas is the long-lasting debate about whether depth of understanding or breadth of topics covered should be emphasized. Recent findings suggest that these options should not be viewed so dichotomously (e.g., Parker et al. 2011). Instead, they can be supportive in nature, because it is through strong conceptual understanding that factual knowledge is learned (Bain 2005, 179–84). For example, experts are more apt to remember specific details (factual knowledge) from a presentation or paper in their field than is someone with lesser conceptual understanding in the topic (Bransford, Brown, and Cocking 1999). The key implication here is that we do not need to mortgage one for the other—students can learn at both broad and deep levels simultaneously (for useful examples, see Newmann, Bryk, and Nagaoka 2001; Bransford, Brown, and Cocking 1999).

Case Study: Horizontal and Vertical Spiraling Increases Connections

In pursuit of deep understanding and molding students who grapple with Big Ideas across contexts, my teaching colleagues and I investigated the impact of
students revisiting Big Ideas after multiple learning segments within our courses. For example, in learning about the Civil War, students’ primary goal was to improve their understanding of conflict (What causes conflict? What is worth fighting for? Will there always be conflict?). An identical setup was then enacted for every subsequent unit focused on a conflict (e.g., World Wars I and II). The results of tracking the number of students making connections to previous learning when given the opportunity to revisit a Big Idea in light of new learning were instructive, as academic connections became more than six times more likely in written essay assessments, an indication of retention and application of learning (Figure 1) (Virign 2014, 207). Student surveys corroborated our assessment data, as 8 of every 10 students “agreed” or “strongly agreed” that revisiting the same Big Idea–based questions made learning more meaningful and organized.

Connections and student reporting of positive experiences further increased as a result of our department’s adoption of commonly held Big Idea Questions (a combination of Big Idea [Wiggins 2010] and Essential Question notions), which allow students to connect learning vertically between grade levels (Figure 2). Richer learning is now possible in 7th and 8th grades because students enter with more conceptual familiarity than they did in previous school years. Teachers in other disciplines report positive impacts of having these Big Ideas readily available and already placed in a familiar, compelling fashion in pushing students to think conceptually. One student reported to her parents and a teaching colleague from language arts during her student-led conference that, “Big Idea Questions help me make connections to things we’ve learned in other places and my life.” This is no small feat—students are applying what they learned across units, grade levels, and disciplines as a result of commonly held Big Ideas becoming the explicit learning target in multiple places. Although courses outside of social studies have not formally adopted these practices, this student’s experience is evidence of their powerful potential for interdisciplinary integration.

Unnatural Thinking: Personal Connections

Students did not reach the ideal of connecting learning beyond the classroom, however. Data revealed that revisiting Big Ideas only increased the proportion of students making personal connections in essay tests from 20 to 25 percent, despite personal connections being required to earn full credit. This concerned my colleagues and me because if students are unable to connect learning to their lives outside the school setting, much of the work done in our classrooms should be brought into question. If students do not see usefulness in what they are learning, it is unlikely to be retained (Bransford, Brown, and Cocking 1999, 48). Including students’ interests and concerns in the instructional decision-making process helps combat knowledge transfer challenges. Transfer boundaries are further mitigated when the learning experience is customized for and by the student via student-generated questions that launch focused inquiry toward understanding the Big Idea.

Teach with and for Questioning

It is unreasonable to think that teachers can customize learning for all students if teachers are in sole curricular control. That is, students will not connect in-school learning to out-of-school actions if teachers continue to decide for them what is important, as evidenced in
our study. Granted, results of that study were likely impacted by students being too rarely afforded sufficient opportunities to practice connected learning, a common problem in education (Dunlosky 2013, 18) and with Essential Questions, specifically (Kolis 2013, 43). However, it stands to reason that if students were directly included in the question-creation process, their curiosities would have been more closely addressed. Glasser’s (1985) application of choice theory (a human behavior theory) to the classroom made the case for addressing students’ concerns clearly—if students do not view what is taught as a skill or knowledge that will fulfill a personal need, they will not do the kind of learning we want, even if we try to externally force them. Our stakeholders support this notion—80 percent of nearly 500 parents and guardians surveyed by the district office indicated they would like students to have more curricular choice (Farmington Area Public Schools 2013).

Learning Starts with Questions

Facts are mastered by engaging students in questions that spark their curiosity and make them passionate about seeking answers (Wineburg, Martin, and Montesano 2011, 20). In social settings, questions are used to spark interest and launch deliberation. This is lost when teachers use closed-ended questions to determine what students know about a topic in the quest to “cover” (not understand) standardized curriculums. Teachers’ time-honored approach to questioning is fueled, in part, by frequent high-stakes tests and our broader culture that is more concerned with fast-paced, media-friendly talking points than with well thought out, long-range processes (Schlesinger 2009). Like Barton and Levstik (2004), I worry that answer-focused classrooms do not provide students with the inquisitive skills necessary for a democracy. Conversely, students asking questions are demonstrating critical and engaged thinking.

Who’s Asking?

Understanding by Design (Wiggins and McTighe 1998) has made starting lessons and units with Essential Questions common. However, despite teachers following the guidelines of carefully considering students’ interests, needs, and readiness in question-crafting, teachers are ultimately still in sole curricular control and, thus, still operate at best from a differentiated-instruction perspective and not a customized-learning perspective. It is logical to think that if learning starts with questions, and we want students to connect and apply their learning, that teachers should include students in question-crafting, a suggestion that many educators are accustomed to reading (e.g., Postman and Weingartner 1969) but that students are not accustomed to experiencing.

A look beyond educational settings to widely read political and social commentaries confirms the rationale for teaching students to ask and answer questions: “To thrive in a ‘flat-world’ (Friedman 2006), as employees during the ‘Conceptual Age’ (Pink 2006), and as citizens in a ‘post-American world’ (Zakaria 2008), students need an intellectual flexibility that allows them to generate a range of questions, as well as possible answers, to evaluate a subject from multiple perspectives” (Burke 2010, 3). With these outcomes in the balance, students deserve our openness to reimaging how we think about questions.

Teach Students Why They’re Becoming the Askers

Since students being granted the power to ask and investigate their own questions is a significant shift in role responsibility, they do not come to us ready to make the epistemological shift from question-answerer to question-asker. As a result, teachers should communicate the value of asking good questions. In doing so, it is a good idea to share with students that writing quality questions is a difficult task. Better yet, teachers should share in this challenge with their students. The process I have used for assisting students with question generation, known as the question formulation technique (QFT) and outlined in the next section, is grounded in the belief that effective curriculums develop skills for metacognition and convergent and divergent thinking so students can ask and answer pertinent questions in all contexts (Rothstein and Santana 2011). In other words, this approach intends to teach with and for questions, similar to calls for discussion in the classroom (Parker and Hess 2001). Additionally, by carefully crafting questions collaboratively with their classmates, students will increase their agency in learning and be better prepared to enter a world shaped by multiple perspectives.

Create a Process for Consistency

Students need consistency, especially when educators break from the norm. Make Just One Change: Teach Students to Ask Their Own Questions (Rothstein and Santana 2011) is a guidebook for student question-creation that I have found useful. Their QFT is:

1. Choose a question focus statement (e.g., The scientific method must be followed) (32)
2. Establish rules for producing questions (ask as many questions as you can, do not stop to discuss, judge, or answer any question) (19)
3. Students produce questions
4. Students improve questions (e.g., change close-ended questions to open)
5. Students prioritize questions (e.g., identify the three most researchable questions, identify the three questions most likely to recur)

Connecting to item 1, clearly position the Big Idea in the question focus (e.g., for a unit on Reconstruction: “The Civil War didn’t change much”). Students’ questions are then “guiding questions” toward their understanding of the recurring Big Idea.
Of course, student-led question development becomes more powerful when authentic investigation follows. That is, if teachers provide the same learning activities as when they were the question-crafters, significant changes in learner outcomes should not be expected. Creating learning teams based on the kinds of questions students ask is an effective strategy. Teams could be made up of students asking different questions, leading to small-group jigsaw activities; or, students asking similar questions could be teamed in preparation for teaching the rest of the class. Facilitating online environments (e.g., Google Drive; Schoology) help students interact with each other and the teacher. I recommend using a gradual release of responsibility model (i.e., I do, we do, you do) throughout the school year (Pearson and Gallagher 1983; Wiggins 2014). In the early units, the teacher determines the Big Idea and guiding questions while discussing her design rationale with students. As the year progresses and students engage in Big Ideas and questioning practices at deeper levels, students are able to generate guiding questions in small groups, and eventually they assume the opportunity to design all of the questions that will facilitate their learning.

Leading Learning That Shapes Students’ Futures

Current practices placing teachers in sole curricular control of learning segments that operate in isolation and that are focused on disjointed bits of information must change if we want students to leave our classrooms with rich learning that will remain with them. When students continuously explore Big Ideas, they are able to transfer knowledge across the school experience. When they generate their own guiding questions toward understanding a Big Idea, learning is customized and connected across multiple contexts. These are the outcomes that will best serve our students and democracy. Essentially, during the past three years my colleagues and I have come to believe that our ideal departing student is one who understands Big Ideas so deeply that he or she is able to spark further learning across contexts by questioning and investigating. This is an adolescent that can shape his or her own future.

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