

What Shifts in Thinking Are Imperative for Collaborative Curriculum Mapping?

You are today where your thoughts have brought you. You will be tomorrow where your thoughts take you.

—James Allen

During a regional curriculum mapping conference, Dr. Heidi Hayes Jacobs opened with a personal story (Jacobs, 2008). She shared that in her family, an entering-the-teen-years ritual for each nephew and niece is to come to New York and explore New York City with his or her aunt.

On a large screen, she displayed a bird's-eye-view photograph she took while on the observation deck of the Empire State Building. The image of the Manhattan streets and buildings captured the hustle and bustle of the fast-paced city life. Jacobs mentioned that, as she stood on the observation deck, the city's landscape reminded her of a district's bird's-eye view of its curriculum

work. Just as the city dwellers function synchronously concerning personal and collective actions, a district must do so as well.

Jacobs then pointed out that while one can appreciate a city's panoramic view, to truly know its residents, you must descend and walk through the streets and enter its buildings. She then displayed a café storefront photograph. She mentioned that this ground-level view captures the what, where, when, why, who, and how of a city's life. Educationally, this view represents the individual buildings and classrooms where administrators, teachers, and—most important—students learn and grow.

She concluded by informing the audience that curriculum mapping is similar to the two photographs. Time must be spent zooming out to get the big picture of a district's vertically aligned curriculum, and time must be spent zooming in to focus on the curriculum living in each school site and classroom.

COLLABORATIVE CURRICULUM DESIGN

If administrators and teacher leaders involved in implementing a curriculum mapping initiative are not trained initially and well-informed, their view of curriculum mapping may be that of a simple record-keeping model. If this is the thinking when planning and implementing the mapping process, the initiative will most likely fail.

Curriculum mapping is a *systemic* model. When implemented, it relates to or affects the entire learning organization. For curriculum mapping to be effective, a district and its individual schools must be willing to work together to design, apply, and modify curriculum in an ongoing manner.

An important shift in thinking is that curriculum mapping is a second-order change model (Hale, 2008). Marzano, Waters, and McNulty (2005) agree that “deep [second-order] change alters the system in fundamental ways, offering a dramatic shift in direction and requiring new ways of thinking and acting” (p. 66). Second-order change causes members of a learning organization to make personal and collective mental shifts that affect all aspects of curriculum work.

This differs from first-order change, where a product or program is purchased by a district or school, and its actual implementation can be in the short or long run individually embraced or disregarded. Because of this, the intended systemic, long-term benefits of most first-order implementations are never realized.

An Aspen Grove Mentality

Administrators and teacher leaders must embrace the reality that curriculum mapping requires a shift in thinking from *I* to *we*. It succeeds only in a collaborative environment. The entire learning organization must begin to function, or expand functioning, as one system. A tree grove analogy best expresses curriculum mapping's mutually supportive environment.

Before the onset of a curriculum mapping initiative, a school or district often functions like an oak grove. Each individual tree (teacher), or section of

the grove (grade level, department, or entire school), acts *independently* from the other trees in the grove. While it is true that an oak tree's roots run deep and work diligently to gain the necessary nourishment to sustain its branches and leaves, curriculum mapping asks an oak grove to morph into an aspen grove.

Aspen trees are the largest single organism in the world (Eldredge & Wynne, 2000). All the trees in a grove are related back to a single seedling. When you view the splendor of an aspen grove, you are, in essence, viewing one tree. The grove shares—and survives—based on one *interdependent* root system. If a portion of the root system is not functioning or communicating well, the entire grove is in jeopardy.

Curriculum maps housed in a web-based mapping system mimic the connectivity of an aspen grove's root system. Courses offered in a school or throughout a district are interconnected through relational units of studies. A student may experience 40 to 65 teachers in a K–12 academic experience (Jacobs, 2004). If students' K–12 teachers function as an oak grove rather than an aspen grove, they most likely will not receive the best possible, guaranteed, and most viable education (Jacobs, 1997, 2004; Marzano, 2003).

Curriculum mapping's sustainability rate increases when administrators and teachers develop an aspen grove mentality. This is not necessarily an easy shift, but it is an important one for exercising the ongoing curriculum mapping process.

Teacher-Designed Curriculum

Curriculum mapping asks all teachers involved in student learning and instruction for individual or multiple disciplines to be intimately involved in the curriculum processes and procedures. Acting as an aspen grove, who better to determine the systemic student-learning expectations than those who are closest to and most intimate with the students (Jacobs, 2004)?

Another important mental shift in thinking for both administrators and teachers is that, within curriculum mapping, curriculum *work* can be divided into two focuses. Curriculum *design* is individually and collaboratively defining the *what, where, when, why, and who* of student learning. *Who* in this context is not a teacher; it is a *course*. For example, if a state has algebra course standards and a district or school offers an Algebra I and Algebra II course, defining which course (who) gets what learning based on breaking apart the standards is part of the design process. Sometimes, a standard statement or statements may span two or more years. Teachers must collegially determine the grade level or grade levels that will address the learning associated with the standard statement or statements.

Curriculum *practice* is a teacher's or teachers' choices for *how* to best deliver the instruction to ensure learning as well as measuring and evaluating the learning acquisition. While curriculum mapping views curriculum design and curriculum practice as symbiotic, when initially implemented mapping first and foremost focuses on horizontal and vertical articulation of the student-learning design and then blends in an ongoing focus on best-practice classroom instruction.

Teachers learning to become curriculum designers and writing curriculum maps often ask how lesson plans fit into the scheme or pattern of curriculum work. Lesson plans are used for planning *daily* instruction by teachers to prepare for their teaching. Approximately 90% of the information in lesson plans is instructional practice while approximately 10% of the information represents the learning focus or focuses. Curriculum maps are *monthly* records where the collective map elements represent approximately 90% learning and 10% practice (Figure 1.1).

It is natural for teachers to wrestle with the notion of focusing on curriculum design. Teachers are most often comfortable with, and well trained in, curriculum practice. Design is a *scheme or pattern that affects and controls function or development*. A significant shift in thinking is asking teachers to be in charge of defining a scheme or pattern for generating the articulated student learning throughout a school and district.

This may be a new responsibility for teachers. Many learning organizations have traditionally given this role to outside sources (e.g., companies) or administrative curriculum specialists and a few select teachers. Therefore, administrator and teacher leaders must be mindful of each map element’s connection to the concept of curriculum design versus instructional practice.

Design Elements

The first seven elements listed in Figure 1.1 are design elements directly related to learning and standards-based expectations. *Standards*, whether state, national, or self-generated, are what teachers must collegially work together to break apart and articulate using design-writing protocols to determine the remaining design elements.

Figure 1.1 Curriculum Map Elements Classification

Map Elements	Curriculum Design/Learning	Curriculum Practice/Teaching
Standards		
Unit Name		
Essential Questions/Supporting Questions		
Concepts		
Content		
Skills		
Assessments/Evaluations		
Resources		
Activities/Strategies		

Unit names, when applied systemically, refer to or are based on the terms included within *standards'* expectations. Reasons for considering this element with design in mind are explained in detail in Appendix A. It is important for teachers when designing curriculum to consider not only horizontal (one academic year) learning but vertical (series of academic years) learning as well. When planning for the design process, how to best house and access the organization of the articulated curriculum within a curriculum mapping system needs to be considered, which includes developing systemic unit names.

If a school or district is using *essential questions* and *supporting questions*, the intent and purpose for using these types of questions is to drive and focus the expected learning, therefore meeting the criterion for structural design.

Content, or as some choose to include, *concept*, is defined as *what the students must know*. In a curriculum map, a concept is written as a generalized statement. Content is written as a noun or noun phrase and descriptor (Hale, 2008). When designing concepts or content, teachers most often choose to structure student learning through the use of theme or topic learning, while others may choose to design curriculum using interdisciplinary learning, or when appropriate, student-centered learning (Jacobs, 1997, 2004).

Skills are intra-aligned to the appropriate content learning within a curriculum map, often through the use of alphabet intra-alignment coding. The writing protocol when designing skill statements is a *measurable verb-target-descriptor* (Hale, 2008). When writing this element, teachers and administrators often have a difficult time separating curriculum design from instructional practice. This is due to teachers having a comfort level and familiarity with writing lesson plans and administrators with reading lesson plans.

During a quality map-writing training phase, a fifth-grade teacher, Kelli, tried to apply the new learning to writing a personal science map for one month. She and 12 other teachers were meeting for a feedback session.

Kelli volunteered to display her map month on a large screen for a public facilitator-learner dialogue. Once the map month was displayed, all the teachers scanned her map to see what she had written given the map elements' writing protocols learned during their initial map-writing training sessions.

The facilitator, Jane, asked Kelli what element she would like to have the feedback focused on. She shared that she was struggling the most with writing skill statements. Jane began by reading aloud what was written in the content field:

Content

A. Earth's Layers: Continental Crust, Oceanic Crust, Upper Mantle, Mantle, Outer Core, Inner Core

She then read aloud the first intra-aligned skill statement:

A1. Identify visually and in writing 6 layers sequentially from outer to inner layers using an apple

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Jane turned to Kelli and asked her if she was pleased with how she had written this skill statement. Kelli said she was satisfied with its wording since she remembered to start with a measurable verb (*identify*) and included a target to inform map readers how the students are assessed (*visually and in writing*).

Jane asked her if she noticed anything that may be of concern in the descriptor *the six layers sequentially from outer to inner layers using an apple*.

Kelli contemplated the question for a moment and reread the descriptor a few times. She then mentioned she thought it was fine.

The facilitator informed her that the descriptor included an activity. Kelli scrunched her eyebrows while contemplating why Jane made this comment. A few teachers in the group began to whisper enthusiastically. As learners, they were excited because they knew the answer. Kelli noticed them talking and asked one of the teachers to tell her what she was not seeing. The teacher said she thought it was the word *apple*. She continued, "You can have your students use an apple. I can have my students use an orange; and someone else can use Play-Doh."

Jane nodded her head in agreement. She affirmed what the teacher mentioned and asked Kelli how she could revise her map to reflect the intent of the skill. Kelli thought for a moment and then exclaimed, "Model! Identify visually and in writing the six layers sequentially from outer to inner layers using a model."

Her face beamed as she realized what she had been doing. Kelli revised the skill statement immediately using the add/edit feature of the district mapping system while the rest of the teachers observed her revision on the large screen.

"A3 is an activity, isn't it?" Kelli inquired. The entire group read silently:

A3. Write a list in order of each layer's thickness

Jane asked Kelli why she asked this question. Kelli shared that what they just talked about for the first skill was making her wonder about this statement's opening *write a list*. "While *write a list* is measurable, is this really the skill I want from my students, or is it representing an activity?" she asked.

The teachers began to talk softly to one another while Kelli, deep in thought, began to rewrite the skill statement. The teachers and facilitator observed her revision on the screen:

A3. Identify in writing each layer's thickness using standard and metric measurement

"The word *list* really is just part of an activity, or even an assessment. What I really want the students to do is *identify* the thickness of each layer. I remember you sharing with us that when someone reads a map's aligned content and skills, if the elements are written with clear and precise descriptors, he or she should be able to design an assessment that accurately measures the aligned learning. When I reread my skill statement, I realized that when I test my students' ability they have to use both standard and metric measurements, which my map did not include. So, not only did I need to revise the measurable verb, I needed to revise the skill's descriptor," Kelli said, evaluating her revision by sharing her thoughts with Jane and the group.

Jane and Kelli proceeded to read aloud and revise, with audience interaction, a few more skill statements. To bring closure to Kelli's feedback session, Jane asked her to share with the group what she had learned most from the session. Kelli expressed that it was not as easy as she thought it was going to be to write curriculum maps—especially skill statements. She added that she is a good teacher, but this is something that had never been asked of her before. She felt that while writing curriculum with design in mind was extremely frustrating at times, she found the analytical thought process beneficial to her, and ultimately for her students, because it forces her to question and reflect on what it is that she really wants them to know and be able to do.

She then mentioned that, when teachers begin to work together to design collaborative maps, the thought process will be the centerpiece to their conversations. Kelli concluded by sharing, "If I or we cannot articulate what students must know and be able to do when designing maps, how can we articulate it well when we are in front of them?"

Curriculum maps are not pseudo lesson plans. Administrators must be trained alongside teacher leaders and teachers in the ability to apply the design protocols and processes necessary to develop quality curriculum maps as the writing expectations differ from writing lesson plans.

For example, after initial training focused on writing skill statements, it takes teachers a significant amount of time to consistently write skill statements reflecting design. It is not as easy as administrators and teacher leaders often assume it is for teachers to learn the art of designing skill statements.

If administrators have not been trained well in the complexities and intentions of curriculum mapping, it can be detrimental to establishing an atmosphere of mutual respect. For example, a principal intends to provide design feedback focusing on writing quality skill statements. Instead of reviewing a teacher's map to make certain each skill statement does not include any reference to an activity, the principal reads through the teacher's map and shares that the skill statements need to consistently begin with a capital letter. This teacher, and others, will quickly become turned off and see no meaningful purpose for writing maps to aid in improving student learning. It is therefore crucial that adequate personal practice-application time and collegial discussion focused on how to write quality map months with *design in mind* is provided to administrators and teacher leaders.

Those responsible for leading the curriculum mapping initiative must be given adequate time to (1) personally apply their learning through writing sample map months, often referred to as *practice mapping*; (2) be provided quality feedback on the personal practice-map-writing attempts; and (3) eventually model providing quality map-writing feedback to others using a facilitator-learner forum to aid in gaining confidence using the language of mapping when articulating areas of quality and needed improvements to a map's elements. This should take place prior to administrators and teacher leaders leading and supporting all teachers in the district involvement in the mapping process.

Assessments/evaluations is the remaining design element. It is unique in that it is classified as both design and practice. The design aspect refers to the necessity

that what students must know and be able to do (content and skills) needs to have an assessment designed to accurately measure the learning expectations. A teacher is not going to test students on Greek roots if they have been learning Latin roots. Likewise, a teacher is not going to ask students to test a self-generated hypothesis if they have not first learned the steps involved in the scientific process.

If two or more teachers are teaching in separate classrooms and responsible for different students, they may or may not come to agreement on assessments used to measure content and skill learning. In other words, teachers may or may not agree on *how* to test the expected learning. For example, one teacher may choose to give a multiple-choice test, another chooses to have students write an expository report, and a third teacher chooses to have students create and post a podcast on the Internet.

Practice Elements

As teachers are often allowed personal choice in creating or selecting *assessments* and *evaluations*, the assessments and evaluations element also falls into the classification of curriculum practice. For example, there may be a teacher task-force-designed rubric that must be used by all teachers when measuring a specific grade level's ability to write a memoir. If so, the use of the rubric is a practice choice. Design plays a role in the development of the rubric to ensure that it accurately evaluates the content and skill learning expectations.

Resources are considered curriculum practice. This is often a shift in thinking for teachers, teacher leaders, and administrators. Hale (2008) states,

In curriculum mapping, textbooks, kits, and materials are not perceived as the curriculum. They are resources that enable or enhance the curriculum and the learning process. Curriculum mapping recognizes teacher determined concepts, content, skills, and assessments aligned to strategically analyzed national, state, local, or self-generated standards as the curriculum. Depending on past initiatives and professional development, this may be a small or large shift in thinking for a learning organization's teachers. . . . It is of the essence that administrators and teachers are informed up front that mapping the curriculum does not equal copying a textbook's main teaching points or listed standards connections. If this takes place, curriculum maps would need major revamping during every adoption cycle to match the new textbook's representation of learning. (p. 27)

When including resources in a map, the recorded materials are meant to convey to self and others that which is pertinent to student learning success. It does not mean list everything that is included in a lesson plan. For example, the chapter, chapters, or series of pages from a current textbook; interactive whiteboard lesson references; DVD titles; songs, poems, and other forms of literature; or websites are worthwhile entries. Most online mapping systems have features to link to lesson-plan templates that allow teachers to include daily and weekly resources and their specific usage in general and for differentiation.

Activities/strategies, self-generated by teachers or included in adopted programs, kits, or textbooks, are considered instructional-practice choices. Similar

to assessment and evaluation choices, teachers may or may not come to a collective agreement on instructional methods. Because of this, collaborative maps, such as a Consensus Map, may or may not include agreed-upon activities or strategies.

Response to Intervention (RTI) tier-one, tier-two, and tier-three strategies are often included in Consensus Maps by special education teachers to give classroom teachers options for students who are not meeting learning represented by the content and skills included in the map.

It is important to remember that a curriculum map is a monthly record of learning—not a daily one. Therefore, activities and strategies included in a map are written in an abbreviated version and use intra-alignment coding to the skill or skills they are supporting. If desired, more detailed explanations and information pertaining to an activity or activities can be attached to the map using the selected mapping system's attachment procedure.

A Beginning Frustration

When beginning the map design process, teachers are sometimes frustrated by the fact that, at the onset, the main focus is on curriculum design rather than instructional practice. Teachers love nothing more than to be provided opportunities to get together and share activities and strategies that help their students be successful learners. It is an important shift in thinking that, for a time, curriculum mapping will ask teachers to first focus on design to ensure a horizontally and vertically articulated curriculum.

Once the maps have been reviewed by teachers through the grade levels and they are satisfied with their teacher-designed learning expectations, the ongoing mapping process focuses primarily on curriculum practice, the activities and strategies that ensure all students are successful in reaching independence of the agreed-upon learning expectations (Jacobs, 1997, 2004).

Curriculum Mapping System Library Analogy

Another important shift in thinking coupled with the necessity for all teachers in the district to function as an aspen grove is the systemic nature of an online curriculum mapping system.

At a mapping system training, a teacher expressed her thoughts that a mapping system serves as the soil for all the roots in the aspen grove. This teacher realized what research has proven. Analogies aid learners in conceptually understanding complex concepts (Alvermann & Phelps, 1998).

An analogy that works well to explain how maps and map data are housed within a mapping system is to compare its organization to a public library.

When you walk into a library, you already have an idea of where you want to go based on how a library is traditionally set up. If you want a nonfiction title, you will walk to that section of the library. If you want to find a cookbook, a specific genre of nonfiction, you would refine your search and go to the

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specific area within the nonfiction section. In a curriculum mapping system, teachers or administrators wanting to locate maps can do so based on a particular *school, discipline, or grade level*.

A library is filled with bookcases. In a mapping system, each *course* (e.g., Grade 1 Mathematics; Grade 7 Music Appreciation; Calculus) equals a bookcase. When looking at a particular bookcase in a library, one's eyes scan the titles on the shelves. In a mapping system, each course's *shelves* are the *months* in an academic year.

When scanning a specific shelf in a library, you begin to slow down to read the specific titles on the spines of the books on that shelf. In a mapping system, there are no books. Instead, there are pseudo *binders* wherein a *unit name* has been, figuratively speaking, slipped into the spine's clear sheath. This allows map readers to know in a broad sense what is contained within a map's particular binder. For example, a social studies map may include a unit name titled WESTWARD MOVEMENT: ACROSS THE PLAINS.

The mapping-system binder concept is a way of thinking about managing *units of study*. In most curriculum mapping systems, the map elements cannot be recorded unless there first is a unit name entered to create a shell for containing a unit of study's information. Because of this, it is wise to be proactive and consider developing or at least discussing unit names systemically across the district to ensure the electronic database functions as one system (see Appendix A). When teachers begin to review horizontally, and most importantly, vertically designed curriculum for potential learning gaps, repetitions, and absences, as well as relevancy and vigor, the ability to locate areas of concern and issues becomes easier.

Just as a library has systemic order, a mapping system, to function at its best, needs to be thought of as having a similar systemic order. Early on in the mapping process, it is important that administrators and teacher leaders recognize the selected mapping system as the soil for the aspen grove regardless of the type of curriculum maps housed within the mapping system:

- Essential Maps (a district-level map wherein there are two or more like schools; for example, five elementary schools; three middle schools; two high schools);
- Consensus Maps (a particular school site's collaborative maps); or
- Projected/Diary Maps (operational curriculum evidence in a teacher's personal maps).

Which Map Type Should We Begin Designing?

Districts involved in curriculum mapping for multiple years will have both collaborative maps (Essential Maps and/or Consensus Maps) and personal Projected/Diary Maps. At the onset of many mapping initiatives, strategic planners often deliberate over which type of map to begin with: collaborative or personal. There is no right or wrong answer. Rather, studying a district's culture, history of curriculum work, and its current or potential meeting structures reveals what is best for a district.

Curriculum mapping is a field of study that grows and adapts as educators apply the model and create frameworks addressing ongoing curricular needs. Regardless of direction, from collaborative to personal or personal to collaborative, the critical consideration is that teachers must be actively involved in the curriculum maps' designing process.

When choosing to begin with projected/diary mapping, Jacobs (1997) states,

I suggest the faculty meeting time be provided for teachers to work on maps privately in their classrooms. . . . Once the maps are completed, each teacher becomes an editor for the map for the entire building. First, each faculty member should become familiar with his or her colleagues' curriculum as well as the scope of all the maps. (p. 10–11)

Once map evidence for a full academic year is recorded for a specific discipline, teachers meet to horizontally articulate what they collectively value concerning student learning based on state standards and other forms of data analysis. This process is followed by a collaborative vertical review to articulate the learning over a series of academic years. The results of the collegial curriculum conversations and decision making are evident in the school's Consensus Maps. The process thus far for a given discipline, such as science, may take two to three years.

If a district consists of multiple like schools (e.g., a district with *five* elementary schools; *two* middle schools; and *one* high school), selected teachers are asked to serve on a task force to design systemic Essential Maps based on the like schools' Consensus Maps' learning expectations to serve as the cornerstone for student learning expectations in all of the similar schools. A newly designed Essential Map may affect the current learning included in Consensus Maps and Projected/Diary Maps. Revisions to the maps would take place as needed.

Due to the onset of increased accountability for student performance that often requires teacher-designed curriculum, some districts are choosing to begin the long-term mapping process by having teachers first collegially design collaborative maps (Essential Maps and/or Consensus Maps) before asking teachers to annually document the operational curriculum through Projected/Diary Maps (Tribuzzi, 2009). Jacobs and Johnson (2009) comment,

Some schools elect to start with consensus mapping first and then move to individual maps. Unfortunately, outside pressures can be a contributing factor to rushing the process. Sometimes because of schools' performances on mandated assessments, they feel compelled to start with consensus maps to address major gaps or inconsistencies in what is taught across the grades and subjects. In schools with little or no curriculum anchors, starting with consensus maps can be very effective. (p. 67)

The term *consensus* is often used to generically indicate *coming to agreement*. As mentioned previously, throughout this book, specific map terminology is used for those involved in the collaborative agreement decision-making process: districtwide agreement (Essential Maps) and school-site agreement (Consensus Maps).

A second reason for starting with collaborative mapping is that teachers often become frustrated with the mapping process when asked to first work diligently to independently generate Projected/Diary Maps and then are asked to work interdependently to create collaborative maps that often include a new collegially agreed-upon organizational design. Habits formed when writing personal maps that are changed when collaboratively mapping cause unwanted frustration. When the mapping process flows from Projected/Diary Map to Consensus Map to Essential Map, teachers often voice the question, “Why didn’t we start with collaborative mapping, so we could agree on the organization instead of beginning with us personally mapping?”

When designing collaborative maps first, the process often affects the systemic order for mapping various disciplines. For example, elementary schools often prefer to work collaboratively on one discipline at a time, especially for the first one or two K–12 discipline focuses. Because of this, middle school and high school departments that are not a part of the current K–12 discipline focus can still work collegially concerning their disciplines and design Consensus Maps within their school sites and, if appropriate, Essential Maps for the district. During this time, Grades 6–12 collaborative maps would not be considered teacher-approved systemically until there are articulated and aligned K–12.

Disciplines such as art, music, physical education, and technology can begin to work collegially districtwide early on as there are not as many teachers districtwide as there are in disciplines such as language arts and social studies.

Regardless of whether a district chooses to start with teachers collegially designing collaborative curriculum maps or individually designing Projected/Diary Maps, all teachers must be first provided adequate time to understand the purposes of mapping and become quality curriculum designers and gain confidence in writing maps using the learned design protocols. This practice mapping time often lasts half a school year for teachers to reach a comfort level to begin the official design process.

CONCLUSION

Albert Einstein insightfully conveyed, “Teaching should be such that what is offered is perceived as a valuable gift and not as a hard duty” (ThinkExist.com, 1999–2010). Curriculum mapping can seem a hard duty if administrators and teacher leaders have not given thoughtful planning and support to the systemic nature of this model and strategically premeditated how to shift the thinking of all members districtwide.

Curriculum mapping is meant to affect the entire system and how it functions (Hale, 2008; Jacobs, 1997, 2004; Kallick & Colosimo, 2009; Udelhofen, 2005, 2008). Districts with the greatest success rate have highly visible, engaged leadership at all levels. Administrators and teachers must work together, mobilized by a common mission, vision, goals, and mutual trust and respect during all phases and aspects of a mapping initiative (Udelhofen, 2005).

The remaining chapters focus on providing administrators and teacher leaders with insights into the necessary personal and collaborative considerations when implementing and supporting a curriculum mapping initiative to ensure it reaches sustainability.

REVIEW QUESTIONS

After responding to the following questions and exercise, meet with a colleague or small group to reflect on one another's responses.

1. How has reading this chapter helped you gain insight into the systemic nature of curriculum mapping?
2. Create an analogy to represent and explain curriculum mapping's systemic environment. Share it with your study partner or partners.
3. Does your district function as an oak grove or an aspen grove? (Provide examples to support your response.) How will this affect the systemic implementation and requisite to function interdependently?
4. All those involved in the ongoing curriculum mapping process need to be able to articulate the difference between, as well as synergy of, curriculum design and curriculum practice. What curriculum work examples in your school or district can be used to help define and articulate the two focuses? (*Example: A book study or workshop series on instructional delivery is focusing on curriculum practice; a rubric-creation training series is focused on both curriculum design and curriculum practice; and an in-depth study of newly released state standards is focusing on curriculum design.*)